

April 17, 2017

Ms. Kimberly Martone
Director of Operations
Department of Public Health
Office of Health Care Access
410 Capitol Avenue,
MS#13HCA
P.O. Box 340308
Hartford, CT 06106

RE: Hartford Hospital Increase in Operating Room Capacity

Dear Ms. Martone:

Enclosed please find a Certificate of Need Application for Increase in Operating Room Capacity at Hartford Hospital. Attached is the application in Adobe (.pdf) format and an electronic copy of responses in MS Word (the applications) and MS Excel (the financial attachment).

Please do not hesitate to contact me at 860-972-4231 if you have any questions. Thank you for your time and consideration.

Sincerely,

Barbara A. Durdy

Barbara A. Durdy

Enclosures



**State of Connecticut
Department of Public Health
Office of Health Care Access**

**Certificate of Need Application
Main Form**
Required for all CON applications

Contents:

- Checklist
- List of Supplemental Forms
- Proposal Information
- Affidavit
- Executive Summary
- Project Description
- Public Need and Access to Health Care
- Financial Information
- Utilization

Please be advised that the Office of Health Care Access (OHCA) is in the process of revising its regulations (19-639-3(b)) to enable it to accept new CON filings through an electronic media, either filed via email to OHCA@ct.gov or through use of a USB.

While proceeding through this legal process of changing OHCA's regulations, **OHCA waives the requirement for Applicant(s) to file paper copies pursuant to Sec. 19a-639a-3**. All new CON Applications filed electronically with OHCA should be on a USB or via OHCA@ct.gov with the following:

- a) A scanned copy of each submission in its entirety, including all attachments, properly executed and notarized where necessary, in Adobe (.pdf) format.
- b) An electronic copy of the applicant's responses in MS Word (the applications) and MS Excel (the financial attachment).

Note: Should anyone not have the ability to file electronically, the present paper submission process may still be used.

If you have any questions regarding a CON filing with OHCA, please contact us at OHCA@ct.gov or call us directly at (860) 418-7001.

Checklist

Instructions:

Review each item below and check box when completed. [**Checklist *must* be submitted as the first page of the CON application.**]

- X A completed CON Main Form, including an affidavit signed and notarized by the appropriate individuals. CON forms can be found at [OHCA Forms](#).
- X A completed Supplemental Form specific to the proposal type (see next page to determine which Supplemental Form to include in the application).
- X Attached is the CON application filing fee in the form of a certified, cashier or business check in the amount of \$500 paid to “**Treasurer State of Connecticut.**”
- X Attached is evidence demonstrating that public notice has been published for 3 consecutive days in a newspaper that covers the location of the proposal. Use the following link to help determine the appropriate publication: [Connecticut newspapers](#). **The application must be submitted no sooner than 20 days, but no later than 90 days from the last day of the newspaper notice.**

The following information **must** be included in the public notice:

- A statement that the applicant is applying for a certificate of need pursuant to section § 19a-638 of the Connecticut General Statutes;
- A description of the scope and nature of the project;
- The street address where the project is to be located; and
- The total capital expenditure for the project.

(Please fax (860-418-7053) or email (OHCA@ct.gov) a courtesy copy of the newspaper order confirmation to OHCA at the time of publication.)

- X A completed Financial Worksheet specific to the application type.
 - X All confidential or personally identifiable information (e.g., Social Security number) has been redacted.
 - X Submission includes one USB flash drive containing:
 1. A scanned copy of each submission in its entirety, including all attachments in Adobe (.pdf) format.
 2. An electronic copy of the applicant’s responses in MS Word (the application) and MS Excel (the Financial Worksheet).
- Note: OHCA hereby waives requirement to file any paper copies.**
- X All submissions should be emailed to OHCA@ct.gov.

For OHCA Use Only:

Docket No.: _____ Check No.: _____

OHCA Verified by: _____ Date: _____

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BULLDOG French, English, Blue, Boston, Pomeranian, 900 lbs, 100 lbs, 100 lbs, 100 lbs, 100 lbs, 100 lbs. Call: 860-525-4138.

COCKER SPANIEL - Ruddy, 2/27. Call for price. 860-920-5336

GERMAN SHEPHERD - Ruddy, 2/27. Call for price. 860-920-5336

GERMAN SHEPHERD - Ruddy, 2/27. Call for price. 860-920-5336

PUBLIC NOTICES

CHICAGO AIRPORT
State Project No. 241855 W& 95
Phase 2
Merrillville, IL

INVITATION TO BID
The Capital Region Economic Council (CREC) will accept bids for the purchase of new and used equipment and technology equipment. Bids should be submitted to the CREC at the following address: CREC, 200 Main Street, 3rd Floor, Merrilville, IL 61059. Bids will be opened on March 13, 2017 at 10:00 AM.

STATE OF CONNECTICUT
The State of Connecticut will accept bids for the purchase of new and used equipment and technology equipment. Bids should be submitted to the State of Connecticut at the following address: State of Connecticut, 100 State Street, Hartford, CT 06103. Bids will be opened on March 13, 2017 at 10:00 AM.

THE METROPOLITAN DISTRICTS
GARDEN STREET AREA WATER MAIN REPLACEMENT PROJECT
CONTRACT NUMBER 2016R-11
Invitation to Bid

THE UNIVERSITY OF CONNECTICUT
Invitation to Electrical
Procurement to Offer Proposals
RABBITTE LIMITED ELECTRICAL CONTRACTORS
STURTS COMPANY
PROBATIONER ADDRESS
REBID: Auction No. 2017-200-001
PROBATIONER: March 22, 2017 2:00 PM

THE UNIVERSITY OF CONNECTICUT
Invitation to Electrical
Procurement to Offer Proposals
RABBITTE LIMITED ELECTRICAL CONTRACTORS
STURTS COMPANY
PROBATIONER ADDRESS
REBID: Auction No. 2017-200-001
PROBATIONER: March 22, 2017 2:00 PM

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PROBATIONER: March 22, 2017 2:00 PM

Boating
GOAT WELLCRAFT 23 WA 2002
Call: 860-525-4138

Boating
HOSPITAL BOAT 1500 V800
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SUCCESSIONAL DELIVERY
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Check Date: 04/12/2017	Entity: 30100 - Hartford HealthCare Corp.	Supplier Number: 1000004913	Check No. 072613		
Invoice Number	Invoice Date	Voucher ID	Gross Amount	Discount Taken	Paid Amount
C04101750000	04/10/2017	00028985	\$500.00	\$0.00	\$500.00
COPY					
Totals			\$500.00	\$0.00	\$500.00

THIS CHECK IS VOID WITHOUT A BLUE BACKGROUND

HARTFORD HEALTHCARE
 ATTN: ACCOUNTS PAYABLE
 P.O. BOX 5037
 HARTFORD, CT 06102-5037

BANK OF AMERICA N.A.
 52-153/112

072613

Date 04/12/2017

Pay Amount \$500.00***
 VOID AFTER 120 DAYS

Pay ****FIVE HUNDRED AND 00/100 DOLLARS****

To The Order Of
 TREASURER, STATE OF CONNECTICUT
 DEPARTMENT OF PUBLIC HEALTH
 DIVISION OF HEALTH SYSTEMS REGULATIONS
 PO BOX 1080
 HARTFORD, CT 06143-1080


 Authorized Signature

Supplemental Forms

In addition to completing this **Main Form** and **Financial Worksheet (A, B or C)**, the applicant(s) must complete the appropriate **Supplemental Form** listed below. Check the box of the **Supplemental Form** to be submitted with the application, below. If unsure which form to select, please call the OHCA main number (860-418-7001) for assistance. All CON forms can be found on OHCA’s website at [OHCA Forms](#).

Check form included	Conn. Gen. Stat. Section 19a-638(a)	Supplemental Form
<input type="checkbox"/>	(1)	Establishment of a new health care facility (mental health and/or substance abuse) - see note below*
<input type="checkbox"/>	(2)	Transfer of ownership of a health care facility (excludes transfer of ownership/sale of hospital – see “Other” below)
<input type="checkbox"/>	(3)	Transfer of ownership of a group practice
<input type="checkbox"/>	(4)	Establishment of a freestanding emergency department
<input type="checkbox"/>	(5) (7) (8) (15)	Termination of a service: <ul style="list-style-type: none"> - inpatient or outpatient services offered by a hospital - surgical services by an outpatient surgical facility** - emergency department by a short-term acute care general hospital - inpatient or outpatient services offered by a hospital or other facility or institution operated by the state that provides services that are eligible for reimbursement under Title XVIII or XIX of the federal Social Security Act, 42 USC 301, as amended
<input type="checkbox"/>	(6)	Establishment of an outpatient surgical facility
<input type="checkbox"/>	(9)	Establishment of cardiac services
<input type="checkbox"/>	(10) (11)	Acquisition of equipment: <ul style="list-style-type: none"> - acquisition of computed tomography scanners, magnetic resonance imaging scanners, positron emission tomography scanners or positron emission tomography-computed tomography scanners - acquisition of nonhospital based linear accelerators
<input type="checkbox"/>	(12)	Increase in licensed bed capacity of a health care facility
<input type="checkbox"/>	(13)	Acquisition of equipment utilizing [new] technology that has not previously been used in the state
X	(14)	Increase of two or more operating rooms within any three-year period by an outpatient surgical facility or short-term acute care general hospital
<input type="checkbox"/>	Other	Transfer of Ownership / Sale of Hospital

*This supplemental form should be included with all applications requesting authorization for the establishment of a **mental health and/or substance abuse treatment facility**. For the establishment of other “health care facilities,” as defined by Conn. Gen. Stat § 19a-630(11) - hospitals licensed by DPH under chapter 386v, specialty hospitals, or a central service facility - complete *the Main Form* only.

**If termination is due to insufficient patient volume, or it is a subspecialty being terminated, a CON is not required.

Proposal Information

Select the appropriate proposal type from the dropdown below. If unsure which item to select, please call the OHCA main number (860-418-7001) for assistance.

Proposal Type <small>(select from dropdown)</small>	Increase in operating rooms (2 or more in 3 year period)
Brief Description	Hartford Hospital proposes to increase operating room capacity on its main campus with the addition of two operating rooms.
Proposal Address	80 Seymour Street, Hartford CT
Capital Expenditure	\$ 2,500,000
<p>Is this Application the result of a Determination indicating a CON application must be filed?</p> <p><input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> Yes, Docket Number: Click here to enter text.</p>	

Applicant(s) Information

	Applicant One	Applicant Two* <small>(if applicable)</small>
Applicant: Name & Address	Hartford Hospital	
Parent Corporation: Name & Address <small>(if applicable)</small>	Hartford HealthCare Corp.	
Contact Person: Name, Title, Address	Barbara Durdy	
Company	Hartford HealthCare	
Email Address	Barbara.Durdy@hhchealth.org	
Phone	860.972.4231	
Fax Number		
Tax Status <small>(check one box)</small>	<input type="checkbox"/> For Profit <input checked="" type="checkbox"/> Not-for-Profit	<input type="checkbox"/> For Profit <input type="checkbox"/> Not-for-Profit

**For more than two Applicants, attach a separate sheet with the above information*


FOR OFFICE USE ONLY	
Docket #:	Staff Assigned :
Date Received:	

Affidavit

Applicant: Hartford Hospital

Project Title: Increase Operating Room Capacity

I, Stuart Markowitz, Sr. VP Hartford HealthCare and President of the Hartford Region of Hartford Hospital being duly sworn, depose and state that the Hartford Hospital complies with the appropriate and applicable criteria as set forth in the Sections 19a-630, 19a-637, 19a-638, 19a-639, 19a-486 and/or 4-181 of the Connecticut General Statutes.


Signature _____ Date 4-12-17

Subscribed and sworn to before me on 4.12.17

Notary Public/Commissioner of Superior Court

My commission expires: **MARTHA SANTILLI**
NOTARY PUBLIC OF CONNECTICUT
My Commission Expires 5/31/2019

Executive Summary

The purpose of the Executive Summary is to give the reviewer a conceptual understanding of the proposal. In the space below, provide a succinct overview of your proposal (this may be done in bullet format). Summarize the key elements of the proposed project. Details should be provided in the appropriate sections of the application that follow.

Hartford Hospital (the "Hospital" or the "Applicant") is an 867 bed acute care hospital located in Hartford, CT and is a member of Hartford HealthCare, an integrated health care delivery system. Hartford Hospital provides primary, secondary, and tertiary acute care services to the Greater Hartford region.

Hartford HealthCare has adopted an institute model to advance key service lines throughout the system. As a result of the development of this service delivery model, substantial growth has been realized and continues to be anticipated, particularly within several of the Hospital's institutes including the Ayer Neuroscience Institute, the Heart and Vascular Institute, and the Bone and Joint Institute. Over the last five years, Hartford Hospital has seen an increase in patient surgical volume as the Hospital performs more complex surgical procedures. This increase will only continue as the Hospital expects an increase in physician recruitment and complex cases, and therefore a need to increase surgical capacity.

Given the Hospital's recent and expected growth in surgical cases, the Hospital now seeks approval to add two (2) operating rooms at its main campus so that it may appropriately accommodate the current and expected surgical volume.

Pursuant to Section 19a-639 of the Connecticut General Statutes, the Office of Health Care Access is required to consider specific criteria and principles when reviewing a Certificate of Need application. Text marked with a “§” indicates it is actual text from the statute and may be helpful when responding to prompts.

Project Description

1. Provide a detailed narrative describing the proposal. Explain how the Applicant(s) determined the necessity for the proposal and discuss the benefits to the public and for each Applicant, separately. Include all key elements, including the parties involved, what the proposal will entail, the equipment/service location(s), the geographic area the proposal will serve, the implementation timeline and why the proposal is needed in the community.

General Background: Hartford Hospital (the "Hospital" or the "Applicant") is an 867 bed acute care hospital located in Hartford, CT and is a member of Hartford HealthCare, an integrated health care delivery system. Hartford Hospital provides primary, secondary, and tertiary acute care services to the Greater Hartford region.

Hartford HealthCare has adopted an institute model to advance key service lines throughout the system. As a result of the development of this service delivery model, substantial growth has been realized and continues to be anticipated, particularly within several of the hospital's institutes including the Ayer Neuroscience Institute, the Heart and Vascular Institute, and the Bone and Joint Institute. Over the last five years, Hartford Hospital has seen an increase in patient surgical volume as the Hospital performs more complex surgical procedures. This increase will only continue as the Hospital expects an increase in physician recruitment, complex cases and therefore a need to increase surgical capacity.

The Proposal:

- **The Hospital currently has approval for forty-two (42) operating rooms or "ORs" on its main campus.**
- **Consistent with national best practices, Hartford Hospital has dedicated one (1) OR for trauma purposes, effectively reducing operating room capacity for non-emergent cases. Please see Exhibit 1 for supporting article**
- **Since 2013, the Hospital has experienced a 28% increase in surgical case minutes. Growth in surgical specialties including orthopedic, cardiovascular and complex neurosurgical cases has created and will continue to create the need for additional operating capacity at the Hospital.**
- **Moreover, the hospital is now offering highly specialized, complex surgical treatments in cardiac surgery and soon in neuroscience as described below. The complexity of these new procedures requires significantly more operating room time.**
 - **Hartford Hospital will be expanding its neurosurgical offering to include Deep Brain Stimulation surgery, a highly complex procedure. Each surgery requires 2-3 hours of operating room time for the initial procedure and 60-90 minutes for the follow up procedure.**
 - **Beginning August 2017, the Hospital will have on-boarded a new cardiac surgeon and will open the Robotic Mitral Center, one of only four centers in the country for performing this highly specialized valve repair surgery.**
 - **Hartford Hospital's Trans Aortic Valve Replacement (TAVR) program has experienced growing demand. However due to limited operating room capacity,**

patients experience long wait times causing a back log of patients.

Currently, the Hospital's ORs are operating at approximately 77% capacity. With the projected growth, the Hospital will not be able to accommodate its current and projected surgical volumes. Operating room utilization that is greater than 80% is neither sustainable nor manageable. At utilization rates above 80%, the Hospital will not have the ability and/or flexibility to accommodate patient, physician schedules and the growing number of emergency transfer cases requiring surgery. As shown in the table below there has been a 53.2% increase in surgical transfers from HHC affiliate and non-affiliate hospitals between FY2013 and annualized FY2017 to the Hospital. Given the Hospital's recent and continued expected growth in surgical cases, the Hospital seeks approval to add two (2) operating rooms at its main campus so that it may appropriately accommodate the current and expected surgical volume.

**Hartford Hospital
Summary of Surgical Transfers FY 2013 – FYTD 2017**

Surgical Services	Sept 2013	Sept 2014	Sept 2015	Sept 2016	YTD Through March 2017	2017 Annualized (data through March)
CT Surgery	99	99	97	151	67	134
Hand	62	64	69	80	49	98
Neurosurgery	408	438	428	386	233	466
OMF	103	111	96	71	49	98
Ophthalmology	17	8	16	22	12	24
Orthopedics	112	110	127	130	74	148
Plastics	12	5	10	11	2	4
Surgery	185	259	388	455	210	420
Transplant	29	34	40	25	15	30
Trauma	386	464	586	835	326	652
Vascular	101	129	171	166	123	246
Total Surgical Services	1514	1721	2028	2332	1160	2320

2. Provide the history and timeline of the proposal (i.e., When did discussions begin internally or between Applicant(s)? What have the Applicant(s) accomplished so far?).

Hartford HealthCare's adoption of the institute model in 2013 has led to significant growth in complex surgical cases. The expansion of the institute model to key service lines provided the vehicle and infrastructure necessary to expand specialty services and attract new clinical talent to Hartford HealthCare.

Early in fiscal year 2017, the Hospital realized that its surgical capacity was approaching 80% and planning for an additional two (2) operating rooms began. Construction of the operating rooms is expected to be complete by 8/31/2017 and the new ORs will become operational pending OHCA approval.

3. Provide the following information:
 - a. utilizing [OHCA Table 1](#), list all services to be added, terminated or modified, their physical location (street address, town and zip code), the population to be served and the existing/proposed days/hours of operation;

Not applicable. The Applicant is not adding, terminating or modifying services.

- b. identify in [OHCA Table 2](#) the service area towns (i.e., use only [official town names](#)) and explain the reason for their inclusion (e.g., provider availability, increased/decreased patient demand for service, market share);

Please see OHCA Table 2.

4. List the health care facility license(s) that will be needed to implement the proposal;

Not applicable. There will be no change in licensure or the need for additional licenses as a result of this Proposal.

5. Submit the following information as [attachments](#) to the application:

- a. a copy of all State of Connecticut, Department of Public Health license(s) currently held by the Applicant(s);

Please see Exhibit 2 attached hereto for a copy of Hartford Hospital's license issued by the State of Connecticut Department of Public Health.

- b. a list of all key professional, administrative, clinical and direct service personnel related to the proposal and attach a copy of their Curriculum Vitae;

List of Key Personnel:

- **Stuart K. Markowitz, M.D., FACR (Sr. VP Hartford HealthCare and President of Hartford Hospital and the Hartford Region)**
- **Gerald J. Boisvert (HHC Regional Vice President, Finance & CFO of Hartford Hospital)**
- **Jack Greene (HHC Regional Vice President, Medical Affairs)**
- **Cheryl Ficara (HHC Regional Vice President, Patient Care Services)**

Please see Exhibit 3 for copies of curriculum vitae for key professional and clinical personnel listed above.

- c. copies of any scholarly articles, studies or reports that support the need to establish the proposed service, along with a brief explanation regarding the relevance of the selected articles;

“Dedicated operating room for emergency surgery improves access and efficiency” Marilyn Heng, MD and James G. Wright, MD, MPH.

Summary: A dedicated OR for emergency cases improved quality of care by decreasing cancellations and overruns in elective rooms and increasing the proportion of priority patients who accessed care within the targeted time.

Please see Exhibit 1 for a copy of this article.

- d. letters of support for the proposal;

Please see Exhibit 4 attached hereto for letters in support of the Proposal.

- e. the protocols or the Standard of Practice Guidelines that will be utilized in relation to the proposal. Attach copies of relevant sections and briefly describe how the Applicant proposes to meet the protocols or guidelines.

Not applicable. There are no new Standard of Practice Guidelines that will be utilized in relation to this Proposal.

- f. copies of agreements (e.g., memorandum of understanding, transfer agreement, operating agreement) related to the proposal. If a final signed version is not available, provide a draft with an estimated date by which the final agreement will be available.

Not applicable.

Public Need and Access to Care

§ “Whether the proposed project is consistent with any applicable policies and standards adopted in regulations by the Department of Public Health;”
(Conn.Gen.Stat. § 19a-639(a)(1))

6. Describe how the proposed project is consistent with any applicable policies and standards in regulations adopted by the Connecticut Department of Public Health.

This proposal is consistent with policies and standards in regulations adopted by the Connecticut Department of Public Health because the Proposal will be subject to OHCA's prior approval and the operating room increase will allow the Applicant to provide higher quality surgical services and greater population health outcomes for the Applicant's patients.

§ “The relationship of the proposed project to the statewide health care facilities and services plan;” (Conn.Gen.Stat. § 19a-639(a)(2))

7. Describe how the proposed project aligns with the Connecticut Department of Public Health Statewide Health Care Facilities and Services Plan, available on [OHCA's website](#).

This project aligns with the Statewide Health Care Facilities and Services Plan by ensuring that cost-effective and efficient surgical services are available to support the needs of all the members of the greater Hartford community and to support the advancement of higher quality patient care.

§ “Whether there is a clear public need for the health care facility or services proposed by the applicant;” (Conn.Gen.Stat. § 19a-639(a)(3))

8. With respect to the proposal, provide evidence and documentation to support clear public need:
- a. identify the target patient population to be served;

The population to be served is the same population currently served by the Hospital. This includes patients residing within the Applicant's primary service area as well as patients referred from outside of the Applicant's primary and secondary service areas.

- b. discuss if and how the target patient population is currently being served;

The target population is currently being served by the Applicant.

- c. document the need for the equipment and/or service in the community;

Not applicable as this Proposal is not in reference to or for the approval of new equipment or services.

- d. explain why the location of the facility or service was chosen;

The surgical volumes at the Applicant's main campus have increased and the Applicant identified a need for more operating rooms on its main campus. Therefore, this Proposal is for the increase of two (2) operating rooms on the Hospital's main campus.

- e. provide incidence, prevalence or other demographic data that demonstrates community need;
- **The leading cause of death in Connecticut is heart disease. See page 39 of the Connecticut Department of Public Health Report - "Healthy Connecticut 2020" at http://www.ct.gov/dph/lib/dph/state_health_planning/sha-ship/hct2020/hct2020_state_hlth_impv_032514.pdf**
 - **The second leading cause of hospitalizations in Connecticut is heart disease and the leading cause of hospitalizations for persons 65 and older in Connecticut are issues with the circulatory system. See pages 34 and 36 of Connecticut State Health Assessment: Preliminary Findings, published by the Connecticut Department of Public Health, January 2013 at http://www.ct.gov/dph/lib/dph/state_health_planning/sha-ship/coalition_kickoff/ct_sha_prelim_rev020413.pdf**
 - **"Significant increases from years 2011 to 2014 in Connecticut (Figure 1 A) were observed for the following health indicators: Obesity among adults ($p < 0.05$), with a steady annual increase from 24.5% in year 2011 to 26.3% in year 2014 (Table I), representing a three-year increase of 1.8% of the adult population in Connecticut. This represents an increase of 50,000 residents over a four-year period, with a total of 740,000 obese residents in year 2014." See "CT DPH - FACT SHEET Change in Selected Connecticut Health Indicators from 2011-2014: Results from the Connecticut Behavioral Risk Factor Surveillance System (CT BRFSS)" at http://www.ct.gov/dph/lib/dph/hisr/pdf/health_indicator_trend_ct_brfss_2011-2014.pdf**
 - **"Two out of three Hispanic adults are overweight (32.2%) or obese (32.6%);" and "Three out of four African American adults are overweight (39.2%) or obese (32.8%);" See DPH - What is Obesity? at <http://www.ct.gov/dph/lib/dph/genomics/fnh/Obesity.pdf>**
 - **Connecticut's population continues to age and there were proportionately more residents over the age of 65 in 2010 than in 2000. See page 4 of the Connecticut State Health Assessment: Preliminary Findings, published by the Connecticut Department of Public Health, January 2013 [http://www.ct.gov/dph/lib/dph/state_health_planning/sha-ship/coalition_kickoff/ct_sha_prelim_rev020413 .pdf](http://www.ct.gov/dph/lib/dph/state_health_planning/sha-ship/coalition_kickoff/ct_sha_prelim_rev020413.pdf)**

With the aging of Connecticut's population, coupled with the fact that the incidence of obesity continues to rise in Connecticut, the Applicant expects that the need for orthopedic, and cardiovascular and neurological surgeries to increase.

- f. discuss how low income persons, racial and ethnic minorities, disabled persons and other underserved groups will benefit from this proposal;

Underserved patient populations including low income persons, racial and ethnic minorities, and disabled persons will benefit by having more and better access to medically necessary surgical services. Moreover, as reflected in the response to Question 8.e. above, racial minorities may have an increased need for surgical services resulting from obesity-related issues. All such persons will benefit from having the Hospital offer them the best possible surgical services and access.

- g. list any changes to the clinical services offered by the Applicant(s) and explain why the change

was necessary;

Not applicable. This Proposal is for the addition of operating rooms.

- h. explain how access to care will be affected; and

If this Proposal is approved by OHCA, overall access to surgical services for the Applicant's patients will increase as many of its current operating rooms are operating at or near capacity. Moreover, if this Proposal is not approved, the capacity and access issues will worsen with projected volume growth, resulting in delays for access to care and the progression of care will be negatively affected.

- i. discuss any alternative proposals that were considered.

The Applicant considered the option of alternative surgical hours in the evening and weekends, however this approach was deemed not feasible due to the cost associated with overtime and on-call pay for clinical staff.

§ *“Whether the applicant has satisfactorily demonstrated how the proposal will improve quality, accessibility and cost effectiveness of health care delivery in the region, including, but not limited to, (A) provision of or any change in the access to services for Medicaid recipients and indigent persons; (Conn.Gen.Stat. § 19a-639(a)(5))*

9. Describe how the proposal will:

- a. improve the quality of health care in the region;

The quality of health care in the region will be improved for patients by adding surgical capacity to the Hospital and allowing for surgical care to be provided in the most efficient and effective manner.

- b. improve accessibility of health care in the region; and

If this Proposal is approved by OHCA, overall access to surgical services for the Applicant's patients will increase as many of its current operating rooms are operating at or near capacity. Moreover, if this Proposal is not approved, the capacity and access issues will only worsen with projected volume growth, resulting in delays for access to care.

- c. improve the cost effectiveness of health care delivery in the region.

The Hospital will be able to use operating rooms more efficiently as some of its operating rooms are at or near capacity. If this Proposal is not approved, the Hospital will need to operate more ORs late after hours and on weekends which is not cost effective and not good for patients and their families.

10. How will the Applicant(s) ensure that future health care services provided will adhere to the National Standards on Culturally and Linguistically Appropriate Services (CLAS) to advance health equity, improve quality and help eliminate health care disparities in the projected service area? (More details

on CLAS standards can be found at <http://minorityhealth.hhs.gov/>).

All HHC facilities comply with the National Standards on culturally and Linguistically Appropriate services.

11. How will this proposal help improve the coordination of patient care (explain in detail regardless of whether your answer is in the negative or affirmative)?

This Proposal will allow the patients and the Hospital to better coordinate patient care as the Hospital and the patients will have greater flexibility and less wait time to schedule procedures and associated services.

12. Describe how this proposal will impact access to care for Medicaid recipients and indigent persons.

Hartford Hospital complies with Hartford HealthCare's Charity Care policy which includes the provision of services to Medicaid recipients and indigent persons.

13. Provide a copy of the Applicant's charity care policy and sliding fee scale applicable to the proposal.

Hartford Hospital complies with Hartford HealthCare's Charity Care policy, which is attached as Exhibit 5.

14. If charity care policies will be changed as a result of the proposal, list all changes and describe how the new policies will affect patients.

Not applicable. There will be no changes to the Hospital's charity care policy.

§ "Whether an applicant, who has failed to provide or reduced access to services by Medicaid recipients or indigent persons, has demonstrated good cause for doing so, which shall not be demonstrated solely on the basis of differences in reimbursement rates between Medicaid and other health care payers;" (Conn.Gen.Stat. § 19a-639(a)(10))

15. If the proposal fails to provide or reduces access to services by Medicaid recipients or indigent persons, provide explanation of good cause for doing so.

Not applicable. This Proposal will not reduce access to services for Medicaid patients.

§ "Whether the applicant has satisfactorily demonstrated that any consolidation resulting from the proposal will not adversely affect health care costs or accessibility to care." (Conn.Gen.Stat. § 19a-639(a)(12))

16. Will the proposal adversely affect patient health care costs in any way? Quantify and provide the rationale for any changes in price structure that will result from this proposal, including, but not limited to, the addition of any imposed facility fees.

Not applicable. There will be no changes to the Hospital's price structure as a result of this Proposal.

Financial Information

§ “Whether the applicant has satisfactorily demonstrated how the proposal will impact the financial strength of the health care system in the state or that the proposal is financially feasible for the applicant;” (Conn.Gen.Stat. § 19a-639(a)(4))

17. Provide the Applicant’s fiscal year: start date (mm/dd) and end date (mm/dd).

10/01 to 09/30.

18. Describe the impact of this proposal on the financial strength of the state’s health care system or demonstrate that the proposal is financially feasible for the applicant.

As reflected in Exhibit 6 this Proposal is financially feasible for the Applicant.

19. Provide an estimate of the capital expenditure/costs for the proposal using [OHCA Table 3](#).

Please see OHCA Table 3.

20. List all funding or financing sources for the proposal and the dollar amount of each. Provide applicable details such as interest rate; term; monthly payment; pledges and funds received to date; letter of interest or approval from a lending institution.

The Hospital intends to fund this Proposal from operations.

21. Include as an attachment:

- a. audited financial statements for the most recently completed fiscal year. If audited financial statements do not exist, provide other financial documentation (e.g., unaudited balance sheet, statement of operations, statement of cash flow, tax return, or other set of books). Connecticut hospitals required to submit annual audited financial statements may reference that filing, if current;

The Hospital's most recent audited financial statements are on file with OHCA.

- b. completed **Financial Worksheet A (non-profit entity), B (for-profit entity) or C (§19a-486a sale)**, available at [OHCA Forms](#), providing a summary of revenue, expense, and volume statistics, “without the CON project,” “incremental to the CON project,” and “with the CON project.” **Note: the actual results reported in the Financial Worksheet must match the audited financial statements previously submitted or referenced. In addition, please make sure that the fiscal years reported on the Financial Worksheet are the same fiscal years reported for the financial projections, utilization and payer mix tables (OHCA Tables 4, 6 and 7).**

Please see Exhibit 6 for Financial Worksheet A.

22. Complete [OHCA Table 4](#) utilizing the information reported in the attached Financial Worksheet.

Please see OHCA Table 4.

23. Fully identify and explain all assumptions used in the projections reported in the Financial Worksheet. In providing these detailed assumptions, please include the following:

- a. Identify general assumptions for projected amounts that are estimated to be the same, both with or without this proposed project (i.e., project-neutral increases or decreases that occur between years). Explain significant variances (+/- 25% variances) that occur between years for the project neutral changes;

Several inputs were utilized when developing assumptions. The Hospital reviewed current and historic volumes by service as part of the operating room utilization study. Additionally, interviews were conducted with clinical leadership of each service to understand trends in care delivery and projected growth and declines by service. Finally, the Advisory Board Estimator tool was used to develop local projections over the next five years for inpatient and outpatient services (which factors in the market's anticipated changes in population and care management). Substantial growth is anticipated, particularly within three of the Hospital's institutes including the Heart & Vascular Institute, Ayer Neuroscience Institute, and Bone & Joint Institute.

Please see Exhibit 7 for financial assumptions.

- b. Identify specific assumptions for all projected amounts that are estimated to change as a result of implementation of the proposed project (i.e., project-specific increases or decreases). Address projected changes in revenue, payer mix, expense categories and FTEs. In addition, connect any service, volume (utilization) or payer mix changes described elsewhere in the CON application narrative or tables with these financial assumptions;

Please see Exhibit 7 for financial assumptions.

- c. If the Applicant does not project any specific increases or decreases with the project in the Financial Worksheet, please explain why.

N/A. Please see Exhibit 6 for financial worksheet.

24. Explain any projected incremental losses from operations resulting from the implementation of the CON proposal. Provide an estimate of the timeframe needed to achieve incremental operational gains.

N/A. Please see Exhibit 6 for financial worksheet.

Utilization

§ “The applicant’s past and proposed provision of health care services to relevant patient populations and payer mix, including, but not limited to, access to services by Medicaid recipients and indigent persons;” (Conn.Gen.Stat. § 19a-639(a)(6))

25. Complete [OHCA Table 5](#) and [OHCA Table 6](#) for the past three fiscal years (“FY”), current fiscal year (“CFY”) and first three projected FYs of the proposal, for each of the Applicant’s existing and/or proposed services. **Note: for OHCA Table 6, if the first year of the proposal is only a partial year, provide the partial year and then provide projections for the first three complete FYs. In addition, please make sure that the fiscal years reported on OHCA Table 6 are the same fiscal years reported for the financial projections and payer mix tables (OHCA Tables 4 and 7).**

Please see OHCA Table 5 and Table 6 for historical and projected volumes.

26. Provide a detailed explanation of all assumptions used in the derivation/ calculation of the projected service volume; explain any increases and/or decreases in volume reported in OHCA Table 5 and 6.

The surgical volume projections were based on historical utilization trends by service/specialty with consideration given to additional surgeon recruitments at Hartford Hospital that have been formalized or are in process. New surgical recruits are anticipated in cardiovascular surgery, neurosurgery, orthopedics and spine surgery. In addition, the projections include the growth of the structured heart program (also known as “TAVR” – Trans Aortic Valve Replacement), and the introduction of new highly-specialized, complex surgical programs in cardiac surgery and neuroscience, and incremental outpatient cases that were experienced due to the closure of the Hartford Surgery Center, in December 2015. Also, increasing complexity of case loads and corresponding increase in operating room time needed to accommodate the growth was factored into the analysis.

27. Provide the current and projected patient population mix (number and percentage of patients by payer) for the proposal using [OHCA Table 7 and provide all assumptions](#). **Note: payer mix should be calculated from patient volumes, not patient revenues. Also, current year should be the most recently completed fiscal year.**

Please see OHCA Table 7.

§ “Whether the applicant has satisfactorily identified the population to be served by the proposed project and satisfactorily demonstrated that the identified population has a need for the proposed services;” (Conn.Gen.Stat. § 19a-639(a)(7))

28. Describe the population (as identified in question 8(a)) by gender, age groups or persons with a specific condition or disorder and provide evidence (i.e., incidence, prevalence or other demographic data) that demonstrates a need for the proposed service or proposal. **Please note: if population estimates or other demographic data are submitted, provide only publicly available and verifiable information (e.g., U.S. Census Bureau, Department of Public Health and Connecticut State Data Center) and document the source.**

Not applicable. This Proposal is for the increase of operating rooms and not for the addition of a new service.

29. Using [OHCA Table 8](#), provide a breakdown of utilization by town for the most recently completed fiscal year. Utilization may be reported as the number of persons, visits, scans or other unit appropriate for the information being reported.

Please see OHCA Table 8.

§ “The utilization of existing health care facilities and health care services in the service area of the applicant;” (Conn.Gen.Stat. § 19a-639(a)(8))

30. Using [OHCA Table 9](#), identify all existing providers in the service area and, as available, list the services provided, population served, facility ID (see table footnote), address, hours/days of operation and current utilization of the facility. Include providers in the towns served or proposed to be served by the Applicant, as well as providers in towns contiguous to the service area.

Please see OHCA Table 9.

31. Will this proposal shift volume away from existing providers in the area? If not, explain in detail why the proposal will have no impact on existing provider volumes.

There will be no impact on existing providers as the Hospital is seeking to increase the number of its operating rooms to accommodate its own patients and corresponding surgical volume.

32. If applicable, describe what effect the proposal will have on existing physician referral patterns in the service area.

There will be no change in existing referral patterns as a result of this Proposal.

§ “Whether the applicant has satisfactorily demonstrated that the proposed project shall not result in an unnecessary duplication of existing or approved health care services or facilities;” (Conn.Gen.Stat. § 19a-639(a)(9))

33. If applicable, explain why approval of the proposal will not result in an unnecessary duplication of services.

Not applicable. The Hospital will be increasing the number of operating rooms to serve its existing patient population and to alleviate capacity and scheduling issues and to provide higher quality care at the Hospital.

§ “Whether the applicant has satisfactorily demonstrated that the proposal will not negatively impact the diversity of health care providers and patient choice in the geographic region;” (Conn.Gen.Stat. § 19a-639(a)(11))

34. Explain in detail how the proposal will impact (i.e., positive, negative or no impact) the diversity of health care providers and patient choice in the geographic region.

Not applicable. The Hospital will be increasing the number of operating rooms to serve its

existing patient population and to alleviate capacity and scheduling issues and to provide higher quality care at the Hospital.

Tables

**TABLE 1
APPLICANT'S SERVICES AND SERVICE LOCATIONS**

Service	Street Address, Town	Population Served	Days/Hours of Operation	New Service or Proposed Termination

Not applicable. The Proposal is for the increase in number of operating rooms. The Applicant is not adding, terminating or modifying services.

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**TABLE 2
SERVICE AREA TOWNS**

Town*	Reason for Inclusion
HARTFORD EAST HARTFORD WEST HARTFORD MANCHESTER WETHERSFIELD GLASTONBURY NEWINGTON NEW BRITAIN WINDSOR MERIDEN ENFIELD MIDDLETOWN ROCKY HILL TORRINGTON BLOOMFIELD BRISTOL VERNON SOUTH WINDSOR SOUTHLINGTON WILLIMANTIC NORWICH WALLINGFORD COVENTRY COLCHESTER WINDSOR LOCKS AVON BERLIN FARMINGTON SIMSBURY GRISWOLD CROMWELL ELLINGTON EAST HAMPTON LEBANON PORTLAND PLAINVILLE TOLLAND WATERBURY WINSTED SUFFIELD CANTON COLUMBIA GRANBY MARLBOROUGH BURLINGTON BROOKLYN STAFFORD SPRINGS BOLTON UNCASVILLE CHESHIRE MANSFIELD EAST WINDSOR HEBRON KENSINGTON WINDHAM	<p align="center"> These towns represent approximately 80% of inpatient discharges from FY16 </p>

*List [official town name](#) only - village or place names are not acceptable.

**TABLE 3
TOTAL PROPOSAL CAPITAL EXPENDITURE**

Purchase/Lease	Cost
Equipment (Medical, Non-medical, Imaging)	
Land/Building Purchase*	
Construction/Renovation**	
Other (specify)	
Total Capital Expenditure (TCE)	\$2,500,000
Lease (Medical, Non-medical, Imaging)***	
Total Lease Cost (TLC)	
Total Project Cost (TCE+TLC)	

*If the proposal involves a land/building purchase, attach a real estate property appraisal including the amount; the useful life of the building; and a schedule of depreciation.

**If the proposal involves construction/renovations, attach a description of the proposed building work, including the gross square feet; existing and proposed floor plans; commencement date for the construction/ renovation; completion date of the construction/renovation; and commencement of operations date.

Commencement date for construction: 3/17/17
Completion date for construction: 8/31/2017
Commencement of operations: TBD, following construction completion and dependent upon CON approval

Please see Exhibit 8 for a copy of the floor plan and equipment plan for this proposal.

***If the proposal involves a capital or operating equipment lease and/or purchase, attach a vendor quote or invoice; schedule of depreciation; useful life of the equipment; and anticipated residual value at the end of the lease or loan term.

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**TABLE 4
PROJECTED INCREMENTAL REVENUES AND EXPENSES**

	FY 2018*	FY 2019*	FY 2020*
Revenue from Operations	\$24,168,595	\$ 11,633,020	\$10,532,557
Total Operating Expenses	\$5,397,676	\$3,393,336	\$3,047,592
Gain/Loss from Operations	\$18,770,919	\$ 8,239,684	\$7,484,965

*Fill in years using those reported in the Financial Worksheet attached.

Note: please make sure that the fiscal years reported on the Financial Worksheet are the same fiscal years reported for the financial projections, utilization and payer mix tables (OHCA Tables 4, 6 and 7).

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**TABLE 5
HISTORICAL UTILIZATION BY SERVICE**

Service**	Actual Volume (Last 3 Completed FYs)			CFY Volume*
	FY 2014	FY 2015	FY 2016	FY 2017*
Access	667	670	712	353
Bariatric	424	460	500	230
CV	936	1004	994	495
ENT	938	882	982	541
General	5810	5704	5460	2675
Gyn	2442	2411	2772	1374
Joint	1707	1699	1587	882
Neuro	473	506	538	288
Neuro Spine	-	-	-	334
OMF	203	174	209	99
OP Podiatry	363	272	297	114
Ophthalmology	1290	1490	1557	660
Ortho	2131	1995	2092	1027
Ortho Spine	1005	1083	986	163
Pacer/AICD		248	230	93
Plastic	1676	1726	1711	830
Podiatry	454	446	469	260
PV	1742	1069	1029	565
Robo	1134	1006	1006	502
Structural Heart (TAVR)	71	98	160	112
Thoracic		489	636	311
Urology	464	502	531	307
Total (less Trauma)	23,930	23,934	24,458	12,215
Trauma	181	138	154	75
Total	24111	24072	24612	12290

1) Spine Surgery separated into Neuro Spine & Ortho Spine in October 2016

2) FY2017 time period is October 1, 2016-March 31, 2017

***Surgical volume for FY 2017 (6 months) reflects an increase of more complex surgical cases, requiring longer operating room times.**

*For periods greater than 6 months, report annualized volume, **identify the months covered** and the method of annualizing. For periods less than 6 months, report actual volume and **identify the months covered**.

**Identify each service type and level adding lines as necessary. Provide the number of visits or discharges as appropriate for each service type and level listed.

***Fill in years. If the time period reported is not *identical* to the fiscal year reported in Table 4 of the application, provide the date range using the mm/dd format as a footnote to the table.

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**TABLE 6
PROJECTED UTILIZATION BY SERVICE**

Service**	Projected Volume		
	FY 2018	FY 2019	FY 2020
Access	654	654	654
Bariatric	482	498	515
CV	991	1016	1066
ENT	1200	1220	1250
General	5376	5376	5376
Gyn	2880	2880	2880
Joint	2546	2625	2704
Neuro	656	668	682
Neuro Spine	808	808	808
OMF	239	244	249
OP Podiatry	-	-	-
Ophthalmology	1332	1332	1332
Ortho	1607	1703.42	1737.488
Ortho Spine	302	352	375
Pacer/AICD	260	299	341
Plastic	1781	1781	1781
Podiatry	538	554.05	560
PV	1152	1152	1152
Robo	1002	1002	1002
Structural Heart (TAVR)	240	260	280
Thoracic	678	678	678
Urology	651	681	711
Total (Less Trauma)	25375	25783	26133
Trauma	147	147	147
Total	25522	25930	26280

Surgical volume is expected to increase by 758 cases (3%) from FY2018 to FY 2020 driven largely by increases in complex cardiovascular, neurosurgery, and orthopedic cases.

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**TABLE 7
 APPLICANT'S CURRENT & PROJECTED PAYER MIX**

Payer	Last Completed FY 2016*		CY 2017		Projected					
					FY 2018**		FY 2019**		FY 2020**	
	Discharges	%	Discharges	%	Discharges	%	Discharges	%	Discharges	%
Medicare*	0	35.00%	4302	35.00%	8933	35.00%	9076	35.00%	9198	35.00%
Medicaid*	2855	11.60%	1426	11.60%	2961	11.60%	3008	11.60%	3048	11.60%
Other Government	197	0.80%	98	0.80%	204	0.80%	207	0.80%	210	0.80%
Total Government	11666	47.40%	5825	47.40%	12097	47.40%	12291	47.40%	12457	47.40%
Commercial Insurers	12380	50.30%	6182	50.30%	12838	50.30%	13043	50.30%	13219	50.30%
Uninsured**	566	2.30%	283	2.30%	587	2.30%	596	2.30%	604	2.30%
Workers Compensation	0	0%	0	0%	0	0%	0	0%	0	0%
Total Non-Government	12946	52.60%	6465	52.60%	13425	52.60%	13639	52.60%	13823	52.60%
Total Payer Mix	24612	100%	12290	100%	25522	100%	25930	100%	26280	100%

*Includes managed care activity.

CY 2017 represents October 1, 2016-March 31, 2017

Fill in years. Current year should be the most recently **completed fiscal year. Ensure the period covered by this table corresponds to the period covered in the projections provided. New programs may leave the "current" column blank.

Note: please make sure that the fiscal years reported on the Financial Worksheet are the same fiscal years reported for the financial projections, utilization and payer mix tables (OHCA Tables 4, 6 and 7).

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**TABLE 8
UTILIZATION BY TOWN**

Town	Inpatient Discharges FY 2016
HARTFORD	2602
EAST HARTFORD	1101
WEST HARTFORD	1032
MANCHESTER	803
WETHERSFIELD	726
GLASTONBURY	833
NEWINGTON	670
NEW BRITAIN	636
WINDSOR	559
MERIDEN	529
ENFIELD	495
MIDDLETOWN	492
ROCKY HILL	471
TORRINGTON	460
BLOOMFIELD	439
BRISTOL	439
VERNON	388
SOUTH WINDSOR	386
SOUTHINGTON	433
WILLIMANTIC	343
NORWICH	333
WALLINGFORD	293
COVENTRY	274
COLCHESTER	271
WINDSOR LOCKS	255
AVON	245
BERLIN	223
FARMINGTON	306
SIMSBURY	200
CROMWELL	189
ELLINGTON	189
EAST HAMPTON	181
LEBANON	181
PORTLAND	178
PLAINVILLE	176
TOLLAND	176
WATERBURY	170
WINSTED	141
SUFFIELD	136
GRISWOLD	130

CANTON	128
COLUMBIA	128
GRANBY	128
MARLBOROUGH	128
BURLINGTON	117
BROOKLYN	109
STAFFORD SPRINGS	109
BOLTON	104
UNCASVILLE	98
CHESHIRE	96
MANSFIELD	192
EAST WINDSOR	93
HEBRON	93
KENSINGTON	93
WINDHAM	90
All other	4829
Total	24,621

*List inpatient/outpatient/ED volumes separately, if applicable

Fill in most recently **completed fiscal year.

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**TABLE 9
SERVICES AND SERVICE LOCATIONS OF EXISTING PROVIDERS**

Service or Program Name	Population Served	Facility ID*	Facility's Provider Name, Street Address and Town	Hours/Days of Operation	Current Utilization
**					

*Provide the Medicare, Connecticut Department of Social Services (DSS), or National Provider Identifier (NPI) facility identifier and label column with the identifier used.

****To the best of the Applicant's knowledge, the following non-Hartford HealthCare providers have operating rooms in the Applicant's primary service area. We do not have access, however, to the data requested in Table 9 for these providers.**

- **John Dempsey Hospital**
- **Eastern Connecticut Health Network**
- **Bristol Hospital**
- **Middlesex Hospital**
- **Saint Francis Hospital**

List of Exhibits:

Exhibit 1: Copy of an article related to this proposal

Exhibit 2: Copy of Hartford Hospital's license

Exhibit 3: Copies of curriculum vitae

Exhibit 4: Copy of letters of support

Exhibit 5: Copy of Hartford HealthCare's Charity Care Policy

Exhibit 6: Copy of financial worksheet A

Exhibit 7: Copy of financial assumptions

Exhibit 8: Copies of the floor plan and equipment plan

Exhibit 1: Copy of an article related to this proposal

Dedicated operating room for emergency surgery improves access and efficiency

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Accepted for publication
May 22, 2012

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DOI: 10.1503/cjs.019711

Background: Scheduling emergency cases among elective surgeries often results in prolonged waits for emergency surgery and delays or cancellation of elective cases. We evaluated the benefits of a dedicated operating room (OR) for emergency procedures available to all surgical services at a large children's hospital.

Methods: We compared a 6-month period (January 2009 to June 2009) preimplementation with a 6-month period (January 2010 to June 2010) postimplementation of a dedicated OR. We evaluated OR use, wait times, percentage of cases done within and outside of access targets, off-hours surgery, cancellations, overruns and length of stay.

Results: Preimplementation, 1069 of the 5500 surgeries performed were emergency cases. Postimplementation, 1084 of the 5358 surgeries performed were emergency cases. Overall use of the dedicated OR was 53% (standard deviation 25%) postimplementation. Excluding outliers, the average wait time for priority 3 emergency patients decreased from 11 hours 8 minutes to 10 hours 5 minutes ($p = 0.004$). An increased proportion of priority 3 patients, from 52% to 58%, received surgery within 12 hours ($p = 0.020$). There was a 9% decrease in the proportion of priority 3 cases completed during the evening and night ($p < 0.001$). The elective surgical schedule benefited from the dedicated OR, with a significant decrease in cancellations (1.5% v. 0.7%, $p < 0.001$) and an accumulated decrease of 5211 minutes in overrun minutes in elective rooms. The average hospital stay after emergency surgery decreased from 16.0 days to 14.7 days ($p = 0.12$) following implementation of the dedicated OR.

Conclusion: A dedicated OR for emergency cases improved quality of care by decreasing cancellations and overruns in elective rooms and increasing the proportion of priority 3 patients who accessed care within the targeted time.

Contexte : Ajouter des chirurgies urgentes à l'horaire des chirurgies non urgentes prolonge souvent l'attente pour les premières et entraîne des retards ou des annulations pour les secondes. Nous avons évalué les avantages d'un bloc opératoire dédié aux urgences et accessible à toutes les spécialités chirurgicales dans un grand hôpital pédiatrique.

Méthodes : Nous avons comparé 2 périodes de 6 mois chacune, soit avant la création du bloc opératoire dédié (de janvier 2009 à juin 2009) et après sa création (de janvier 2010 à juin 2010). Nous avons évalué l'utilisation du bloc opératoire, les temps d'attente, le pourcentage de cas réglés à l'intérieur et à l'extérieur des temps cibles, les chirurgies effectuées en dehors des heures normales, les annulations, les dépassements du temps prévu et la durée des séjours hospitaliers.

Résultats : Avant, 1069 chirurgies sur les 5500 effectuées ont été des interventions d'urgence. Après, 1084 chirurgies sur les 5358 effectuées ont été des interventions d'urgence. Globalement, le recours au bloc opératoire dédié a été de 53 % (écart-type 25 %) après son ouverture. À part les cas particuliers, le temps d'attente moyen pour les urgences de niveau 3 est passé de 11 heures 8 minutes à 10 heures 5 minutes ($p = 0,004$). Pour une plus grande proportion (de 52 % à 58 %) des patients prioritaires de niveau 3, la chirurgie nécessaire a été effectuée en l'espace de 12 heures ($p = 0,020$). On a observé une baisse de 9 % de la proportion des cas de niveau 3 réglés le soir et la nuit ($p < 0,001$). L'horaire des chirurgies non urgentes a bénéficié du bloc opératoire dédié, comme en témoigne une baisse significative du nombre d'annulations (1,5 % c. 0,7 %, $p < 0,001$) et une réduction cumulative de 5211 minutes des dépassements du temps prévu dans les blocs opératoires destinés aux chirurgies non urgentes. Le séjour hospitalier moyen après les chirurgies urgentes est passé de 16,0 jours à 14,7 jours ($p = 0,12$) après l'ouverture du bloc opératoire dédié.

Conclusion : La création d'un bloc opératoire dédié a amélioré la qualité des soins en réduisant le nombre d'annulations et les dépassements dans les blocs opératoires destinés aux chirurgies non urgentes et en augmentant la proportion de patients prioritaires de niveau 3 qui ont eu accès aux soins à l'intérieur des délais cibles.

Quality of care is critically important for patients and physicians. The Institute of Medicine in 2001 identified 6 components of quality care: safe, timely, effective, efficient, equitable and patient-centred (STEEEP).¹ For a patient requiring surgery, access to care is critical, including timely visits to a primary care physician, appropriate consultation with a surgeon, and access to the hospital and operating room (OR).

Patients requiring emergency surgery are particularly prone to delays, with the potential for serious adverse events.²⁻⁴ Scheduling these patients is complex, given that emergency (or unscheduled) surgeries are unpredictable in both occurrence and duration. Emergency cases often wait for many hours until elective cases for the day are finished. Alternatively, life- or limb-threatening emergencies bump scheduled elective cases, resulting in delays, cancellations or overruns.⁵ A dedicated OR for unscheduled cases has the potential to reduce competition between elective and emergency surgery, thereby increasing efficiency and improving quality of care. While a few studies have evaluated the benefits of a dedicated OR for emergency surgical patients, these studies have either focused only on a single surgical service (e.g., an orthopedic trauma room^{6,7}) or have used a computer simulation model.⁸ The purpose of this study was to evaluate the benefits of a dedicated OR for emergency procedures available to all surgical services at a large children's hospital.

METHODS

The Hospital for Sick Children (SickKids), Canada's largest pediatric hospital, serves as the pediatric level 1 trauma centre for Toronto, Ont., and the surrounding region. With 16 ORs, the hospital caseload is about 11 000 procedures annually. The OR is used by surgeons from cardiovascular surgery, dentistry, general and thoracic surgery, gynecology, neurosurgery, ophthalmology, orthopedic surgery, otolaryngology, plastic surgery, urology and several pediatric medicine subspecialties. The SickKids Quality and Risk Management Department approved our study.

At SickKids, the surgical schedule for the next day is finalized by 3:00 pm. Any procedure added to the schedule after this time is categorized as an "add-on" case. For the purpose of our study, we defined emergency procedures as those that needed to be performed within 12 hours of presentation. Prior to Jan. 4, 2010, add-on cases bumped elective cases, were inserted into the elective schedule or waited until the end of scheduled lists. Starting Jan. 4, 2010, an "add-on room," defined as a fully staffed dedicated OR for emergency cases during daytime hours, was established and added into the regular OR schedule. Given the seasonal variation in types of cases, we performed a historical comparison of a 6-month period in the year before and in the year after implementation of the dedicated OR (January-June 2009 v. January-June 2010). Procedures performed

outside the main OR suites (image-guided therapy, magnetic resonance imaging, clinics) were excluded. Data regarding every surgical case, primarily recorded by the surgical circulating nurses, are gathered in the hospital's Surgical Information System database (SIS 4.7.10a, Surgical Information Systems LLC). These data include the booking time of the case, the priority level assigned, the start and stop time of each procedure and the procedure performed.

To estimate the required number of add-on rooms at SickKids, we used freeware software (Queuing Theory Software Plus Toolbox 3.0, 2000-2008) to create a multiserver Markov queuing model for 3 priority classes (Table 1). The queuing model for the OR was based on 6 months of data (January-June 2009, Monday to Friday, 8:00 am to 5:30 pm). The model assumed that the arrivals of emergency patients were independent and random. We used the booking time of each procedure as the surrogate for arrival time. Priority 1 and 2 patients were assumed to have undergone surgery once the next OR became available. Priority 3 patients arriving after 11:00 pm were assumed to have joined the queue the next morning at 8:00 am. Once a procedure is started in an OR, it must finish before the next procedure can start in that same OR. In the model, there was no limit to the number of patients waiting. The service time entered into the model was the average plus 30 minutes of all the case durations for that time period.

For each case performed during the 2 study periods, we noted the priority level, the booking date/time, the surgical start date/time and the duration of the surgery. Priority level (Table 1) was classified as 1-3. Start time was defined as the time the patient entered the OR. Wait time for surgery was calculated as the time lapse from booking to the start of surgery; we categorized wait time for surgery as "within the priority window" or "not within the priority window," and the windows were defined according to the priority class.

Each add-on case was classified according to the time of day during which the surgery took place. Daytime cases were those that proceeded between 7:55 am and 5:30 pm. To be considered a daytime case, the surgery must have been completed by 5:30 pm. We considered any procedures that ran beyond that time to be evening cases. The evening period was from 5:30 pm to 11:00 pm. Procedures performed between 11:00 pm and 7:55 am were considered to be nighttime cases. Regardless of the start or finish time, if any portion of a procedure occurred in the OR between 11:00 pm and 7:55 am it was considered a nighttime case.

Table 1. Priority window targets

Priority level	Wait time within priority window	
	Yes	No
Priority 1	≤ 1 h	> 1 h
Priority 2	≤ 4 h	> 4 h
Priority 3	≤ 12 h	> 12 h

Elective surgery delays, overruns in elective rooms and cancellation of scheduled elective surgeries owing to emergency cases were recorded by the nurses. Only cancellations for which the recorded reason was “due to an emergency case” were included. An elective case was considered to be delayed if it was preceded by an emergency case that was added to the OR schedule and resulted in a delay of 30 minutes or more to the scheduled start time of the elective case. An overrun in an elective room referred to the time in minutes that the last case of the day continued beyond the scheduled block end time if an emergency case was added to the schedule for that OR. Use of the add-on room was defined as $(\text{OR occupancy} + \text{turnover time}) \div \text{allocated OR time}$.^{9,10} Time used beyond the budgeted OR time (i.e., overrun time for the add-on room) was not credited in the use calculation. We obtained data on the length of stay in hospital from the patients’ electronic records.

Outliers were defined as cases where the frequency of the duration of wait time was less than 1% of the total number of cases (Fig. 1).

RESULTS

Queuing model

The model for daytime (7:55–5:30) hours is displayed in Table 2. With just 1 dedicated add-on OR, the model estimates a use of 136% (when the use is more than 100%,

expected wait times are not returned; these values would be inaccurate because the model is unstable). Based on the volume of unscheduled cases at SickKids, the model estimates that 1 add-on room would not be sufficient to complete all the cases within the window. The model estimates that 2 add-on ORs would yield a server use of 68%, with expected average wait times within the predetermined target access windows for each priority class.

Use

During the 6-month period from January 2009 to June 2009, 5500 procedures were performed in the main ORs at SickKids. Almost 20% of them were add-ons. In 2010, overall throughput of surgical cases for the same time period decreased only slightly to 5358 cases.

The percentages of add-on cases that were performed during each time of day period are shown in Figure 2. Also depicted are the changes in percentage of cases completed during daytime hours that were achieved after implementation of the add-on room. For priority 3 cases, there was a statistically significant increase in the proportion of add-on cases performed during daytime hours, with a concomitant decrease in those performed in the evening and night.

Although most services, as shown in Figure 3 and Table 3, used the add-on room, the most frequent users of the add-on room were general surgery, orthopedics and neurosurgery.

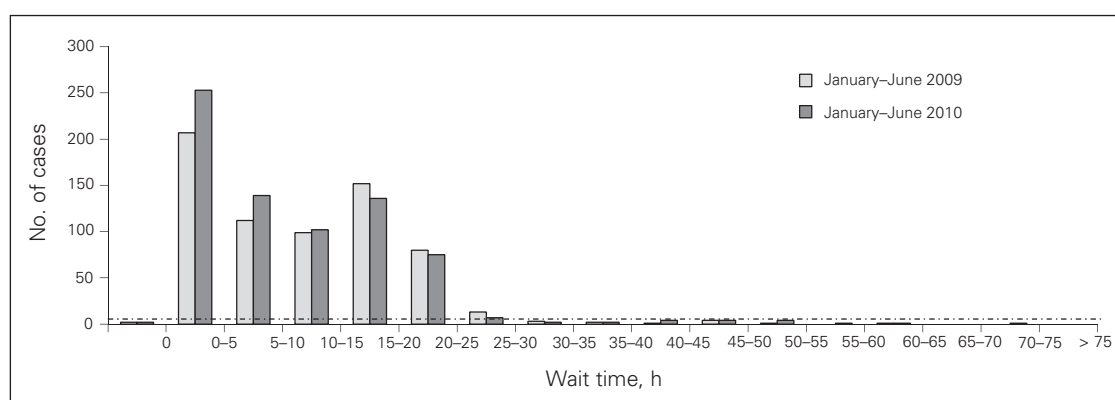


Fig. 1. Histogram of priority 3 wait times. Cases below the dotted line were excluded as they were considered to be outliers (i.e., frequency of wait time duration less than 1% of total cases).

Table 2. Daytime (7:55 am to 5:30 pm weekdays) queuing model

Measure	Input, mean arrival rate*	Output, expected waiting time in the queue*		
		1 add-on room	2 add-on rooms	3 add-on rooms
Add-on room use, %		136	68	45.5
Priority 1	0.03 cases/h	No value	0.798 h (48 min)	0.181 h (11 min)
Priority 2	0.10 cases/h	No value	0.973 h (58 min)	0.206 h (12 min)
Priority 3	0.36 cases/h	No value	2.96 h (2 h, 58 min)	0.37 h (22 min)
Overall mean case duration, including turnover time	2.8 h			

*Unless otherwise indicated.

During the 6-month period from January to June 2010, 270 surgeries were completed in the add-on room. Daily use of the add-on room ranged from 0% to 100%. Average

monthly use ranged from 49% to 67%. Overall use for this period was 53% (standard deviation 25%).

Effect on emergency patients

Prior to the use of an add-on room, priority 1, 2 and 3 patients waited on average 51 minutes, 2 hours 43 minutes, and 11 hours 41 minutes, respectively, for their surgery. After the use of an add-on room, waiting times

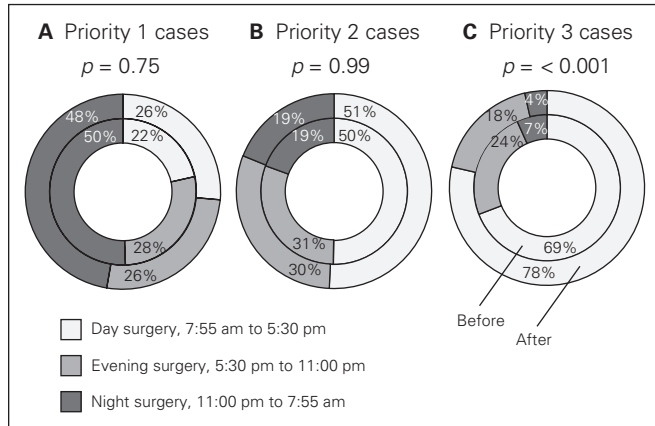


Fig. 2. Change in time of day operating pattern.

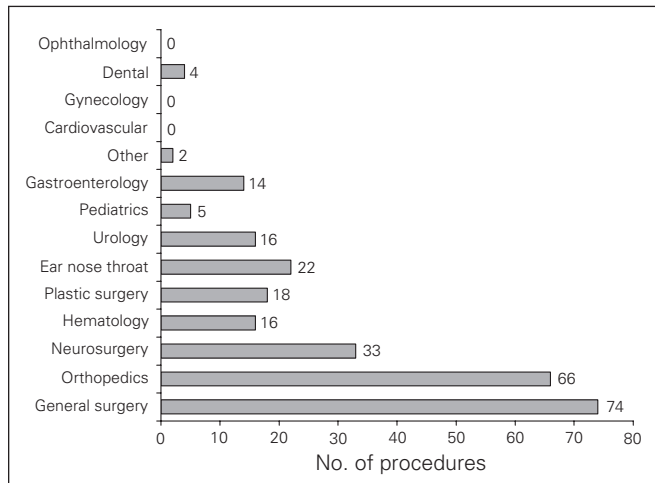


Fig. 3. Users of add-on room.

Measure	Year; no. (%)	
	2009	2010
Volume of add-on cases		
Priority 1	97 (9.1)	95 (8.8)
Priority 2	295 (27.6)	256 (23.6)
Priority 3	677 (63.3)	733 (67.6)
Total add-on cases	1069 (100)	1084 (100)
Add-on versus elective cases		
Add-on cases	1069 (19.4)	1084 (20.2)
Elective cases	4431 (80.6)	4274 (79.8)
Total cases	5500 (100)	5358 (100)
Add-on cases by service		
General surgery	291 (27.2)	301 (27.8)
Orthopedics	227 (21.2)	258 (23.8)
Ear nose throat	123 (11.5)	105 (9.7)
Neurosurgery	98 (9.2)	132 (12.2)
Cardiovascular surgery	94 (8.8)	63 (5.8)
Plastic surgery	44 (4.1)	55 (5.1)
Hematology	43 (4.0)	36 (3.3)
Gastroenterology	41 (3.8)	26 (2.4)
Ophthalmology	30 (2.8)	31 (2.9)
Dental	21 (2.0)	11 (1.0)
Urology	30 (2.8)	34 (3.1)
Other*	27 (2.5)	32 (2.9)

*Includes pediatric internal medicine, gynecology, neurology and respirology.

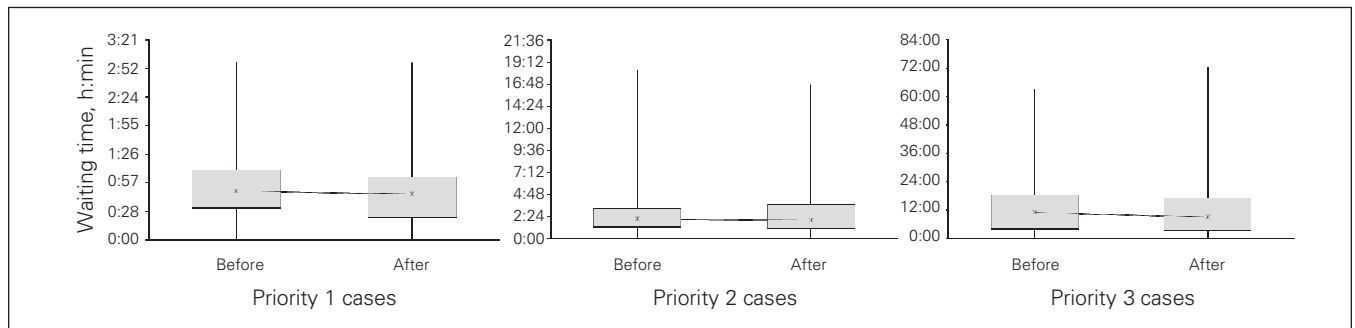


Fig. 4. Wait time before and after implementation of the add-on room.

Wait time	Priority 1		Priority 2		Priority 3	
	2009	2010	2009	2010	2009	2010
Average	51 min	45 min	2 h 43 min	2 h 41 min	11 h 41 min	11 h 1 min
Average beyond target for out of window patients	29 min	23 min	2 h 38 min	2 h 16 min	7 h 10 min	7 h 51 min

were 45 minutes, 2 hours 41 minutes, and 11 hours 1 minute, respectively. We found no significant difference in the average waiting times before and after the add-on room was established (priority 1, $p = 0.12$; priority 2, $p = 0.43$; priority 3, $p = 0.09$; Fig. 4).

Table 4 and Figure 5 compare the proportion of patients who received surgery within the target access window of 1 hour, 4 hours and 12 hours for priority 1, 2 and 3, respectively, between January and June 2009 and between January and June 2010. The proportion of priority 3 patients who received their surgery “in window” significantly increased statistically following implementation of the add-on room ($p = 0.021$).

From January to June 2009, 975 emergency patients received 1069 operations. The average length of stay in hospital was 16.0 days. From January to June 2010, 1084 add-on surgeries were performed on 1013 patients who had an average length of stay of 14.2 days ($p = 0.12$).

Effect on elective surgical schedule

From January to June 2009, 65 (1.5%) elective procedures were cancelled on the day of surgery to accommodate an emergency case. With an add-on room in the period from January to June 2010, the number of elective cancellations owing to emergency cases decreased to 28 (0.7%; $p < 0.001$). The total number of overrun minutes in elective rooms after an add-on was completed decreased by 5211 minutes. Table 5 summarizes the number of elective case cancellations and delays caused by add-on cases as well as the total number of minutes of overrun in elective rooms where an add-on case was inserted into the schedule.

DISCUSSION

Hospitals that provide emergency surgery have an important challenge in ensuring patients receive timely care.

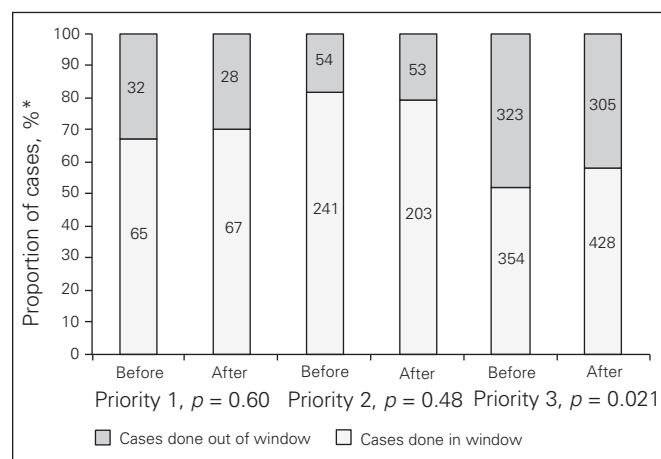


Fig. 5. Wait time in and out of window, by priority level. *The number of patients receiving surgery within versus outside the window indicated in the chart.

Hospitals use different methods to handle these emergency cases, including completing emergency cases at the end of the elective list, requiring each service to schedule unbooked “urgent” time within their elective blocks, and/or designating a dedicated add-on room. Ideally, urgent and emergent surgical cases should be coordinated within the regular surgical schedule instead of being left for the end of the day.¹¹ There are reports in the literature about the use of a dedicated OR for emergency cases in adult hospitals. In large adult trauma centres, orthopedic trauma represents a large portion of the emergency caseload. In these situations, a dedicated orthopedic trauma room has been established and has shown benefits such as less after-hours surgery, fewer scheduling disruptions and more frequent fracture care by subspecialty-trained orthopedic traumatologists.^{6,7} The advent of integrated emergency/trauma services in general surgery has led to the creation of a dedicated team of a surgeon and trainees whose sole responsibility is to care for emergent general surgery patients. This allows an assigned surgeon to always be available for emergency cases during the day.^{12,13} Other adult hospitals have used a general emergency OR and have also shown benefits of decreased after-hours surgery and enhanced senior surgeon supervision, and they have reported no significant increase in complications.¹⁴ While having a dedicated surgical team available for an emergency department addresses the issue of surgeon availability, for our hospital and many others there is insufficient care volume to justify a dedicated room for a single service. Despite this limitation, our study showed that a dedicated OR for emergency cases serving multiple services had several benefits, including accommodating more surgeries during regular daytime hours, greater percentages of patients receiving surgery within target wait times and decreased cancellations and overruns in elective rooms caused by add-on cases.

Queuing theory is a tool that can be used to develop an operational model to guide planning. Based on the volume and arrival rates of add-on cases for the period of January–June 2009, we developed a non-pre-emptive multipriority queuing model for a dedicated add-on room between the hours of 7:55 am and 5:30 pm. Our model estimated that the volume of unscheduled cases at SickKids required 2 add-on rooms. This estimation presented some difficulty because one of the largest obstacles to this initiative was the appropriation of OR time to run a daily add-on room.

Table 5. Cancellation delays and overruns owing to add-on cases

Measure	2009	2010
Elective cases	4 431	4 274
Add-on cases during daytime hours	597	651
Elective cases cancelled owing to an add-on case	65	28
Delayed elective cases owing to an add-on case	97	99
Total overrun time in elective rooms, min	11 956	6 745

Without the option to add resources (i.e., build a new OR and hire new nursing staff), this required reallocating elective block time as add-on block time. The divisions of general surgery, orthopedics, neurosurgery and urology each provided the equivalent of 1 elective operating day block per week; plastic surgery and otolaryngology each provided 1 elective operating day block every 2 weeks. These services were chosen because they historically released equivalent amounts of OR time and because they frequently have emergency cases. Repossessing elective OR time for a second add-on room would have created substantial resistance by the surgical divisions. Thus, the decision was made to start with 1 add-on room every day of the work week.

The observed use of the add-on room from January to June 2010 was 53%, which falls within the ideal range of 40%–60% use. Overall use of an add-on room is expected to be less than the use of electively scheduled ORs to allow the flexibility to meet access targets, particularly for priority 1 cases. Use exceeding 80% in an add-on room would suggest that wait times for emergency patients are excessive.¹⁵ While our model predicted the need for 2 add-on rooms, 1 add-on room was sufficient for 2 reasons. First, during the study period some add-on cases continued to be accommodated within the elective schedule. Second, add-on cases were frequently completed in time released back to the OR from under scheduled elective rooms, effectively functioning as an occasional second add-on room.

Litvak and Long⁵ have proposed that one of the greatest benefits of a dedicated OR for emergency cases is the effect it will have on the elective surgical schedule. Their theory is that by separating out the inherent variability from unscheduled emergency cases, use of elective ORs can be maximized to increase throughput of elective surgical cases. Our study demonstrated relatively little effect on access to the OR for priority 1 and priority 2 cases. Presumably before the establishment of the add-on room, this occurred through cancellations, delays and overruns of elective surgery. Our study demonstrated that with the implementation of an add-on room, the cancellation of elective cases owing to an emergency case decreased significantly from 65 to 28 between the study periods. In addition, the amount of overrun time observed in elective ORs was significantly less in the postimplementation period; there was a total difference of 5211 minutes (86.86 h) of overrun time between the 2 periods. Decreasing the amount of unpredictable overtime may result in cost savings and allow for better budget planning and staffing for the OR. More importantly, by decreasing the incidence of cancellation for elective patients and increasing the throughput of elective procedures, an add-on room can improve access to care for elective and emergency surgery patients. Elective surgery wait lists are likely influenced by several factors in addition to cancellations for emergency surgery; however, a potential further study would be to investigate and quantify the impact an add-on room can have on wait lists for elective surgery. Although we did

not perform a formal analysis, after the loss of elective time to create an add-on room the wait list at SickKids increased for 1 service while the others stayed the same or decreased.

As noted, our study did not show a significant difference in the average wait times or median wait times for priority 1 or 2 patients. This was expected, as one would assume that even without an add-on room, priority 1 and 2 cases, life- or limb-threatening situations, should proceed as soon as possible (bumping an elective case if required). While the average wait time for priority 3 patients did not change significantly (11 h 41 min v. 11 h 1 min), there was a more than 2-hour decrease in the median wait time for priority 3 patients after implementation of the add-on room (8 h 48 min v. 10 h 54 min). Consistent with this finding, more priority 3 patients received surgery within the target access window. The explanation for this result is that more outliers during the period of January–June 2010 influenced the wait time average. By excluding outliers (Fig. 1), the change in average wait time from preimplementation to postimplementation of the add-on room is now a statistically significant difference (from 11 h 8 min to 10 h 5 min; $p = 0.004$).

Most patients who present to hospital requiring emergency surgery are admitted until they receive their operation. Presumably, especially in the cases of patients with fractures or those requiring uncomplicated appendectomy, the sooner the patient receives surgery, the sooner they will be able to leave hospital. Although our study did not show a statistically significant difference in the average length of stay between the 2 periods (16.0 d v. 14.7 d, $p = 0.12$), the length of stay did drop, which was consistent with our hypothesis that receiving emergency surgery earlier in the day may reduce the length of stay by about 1 day. Length of stay is influenced by many different factors, including acuity of disease, access to in-hospital resources like the OR, and timeliness of discharge planning and resources. A potential area of further study would be to investigate whether an add-on room can significantly decrease the length of stay for these specific populations of patients.

Surgery performed outside of normal working hours has the potential to increase risk of complications and adverse events. Surgery performed during the day has the advantage of expertise and back-up for unanticipated events. One study identified a significant association between surgery performed after-hours (6:00 pm to 8:00 am) and early postoperative complications.¹⁶ Bhattacharyya⁶ found a significant increase in minor surgical complications for femoral nailings performed after 5:00 pm. These complications included prominently placed distal locking screws, malrotation and a femoral neck fracture that the author believed was missed on preoperative radiographs. A prospective study by Ricci and colleagues¹⁷ also demonstrated an increase in minor surgical complications requiring removal of painful hardware when intramedullary femoral nailings were performed at night. The nature of these complications suggests that after-hours surgery may result in less strenuous attention to detail in technique or work-up that

may be attributable to fatigue and nonideal conditions after hours. Decreasing the number of operations performed during the night may decrease the potential for adverse events owing to fatigue both during the night and the following day. Less operating at night may also have benefits in terms of staff well-being and job satisfaction. Anecdotally, we observed less stress among surgeons and staff nearing the end of each day, possibly attributed to the fact that they knew the add-on board was not overloaded with cases waiting to be performed through the evening and night.

While the add-on room was available for use by all specialties, we found that using the add-on room was not practical for certain procedures, particularly cardiovascular surgery. Owing to the highly specialized nature of cardiovascular surgery with respect to equipment, anesthesia and nursing, the impetus to perform these cases in a dedicated cardiac surgery OR was high. During the study period, of the 48 cardiovascular add-on cases performed, none was completed in the add-on room. The cardiovascular surgery division continued to manage their own add-on cases within their elective block times. In addition, liver and kidney transplant cases were often performed in the add-on room; their unpredictability with respect to start time and long duration often paralyzed the add-on room for the day prompting other add-on cases to be performed in elective rooms or OR administration time. Other hospitals need to assess which services or procedures, like cardiovascular or transplant surgeries, would require alternate planning from an all-purpose add-on room.

Limitations

This study has several potential limitations. First, it was performed at a single large pediatric level 1 trauma hospital. The results cannot necessarily be generalized to hospitals with different volumes, different service mixes and different operational capacities. However, an assessment of a hospital's current state of operations and modelling with queuing theory should allow other institutions to assess the potential for benefit. Second, the design of the study was limited by feasibility. This study was a before-and-after nonrandomized trial. Individual randomization of patients in this study would be impossible, thus the only other design option would have been cluster randomization of many hospitals to the use of an add-on room versus no use of an add-on room. However, the logistics of organizing 20–30 centres for a cluster randomized controlled trial would have been extremely difficult. Third, the implementation of this project required a substantial paradigm shift from perioperative staff and surgeons regarding handling of emergency cases. It took time before the add-on room was being used to its full potential. For example, to maximize use of an add-on room, a surgeon must be available to operate when time in the add-on room is available. This is particularly important

when multiple services use a room rather than a room being dedicated to a single service. Solutions that have worked at SickKids have included arrangements so that a surgeon or clinical fellow is assigned daily to cover the add-on room, or that individual surgeons rearrange their daily schedules when they are on call. Furthermore, the OR manager at SickKids could juggle the add-on room list to accommodate surgeons' schedules, and this was almost always successful. Another required systems change needed to optimize use of the add-on room involved the 7:55 am start. Prior to the use of an add-on room, all elective rooms were started and running smoothly before attempting to start an add-on case. After the establishment of the add-on room, starting an add-on case at 7:55 am required procedural changes, including having the night nurses determine the most appropriate add-on case to proceed as the first case of the day, allowing the OR to notify the ward and the surgical team to have the patient in the OR by 7:55 am. However, this delay in addressing the procedural challenges of an add-on room would have biased our results against the benefits of the add-on room.

CONCLUSION

Implementation of a weekday add-on room resulted in more emergency surgeries being performed during regular working hours, decreased cancellations and overruns in elective rooms, and increased proportion of priority 3 cases completed within target access times. The queuing theory model can be used to predict the expected outcome of a dedicated emergency OR based on the specific volumes and rates seen in an individual hospital. Within 6 months of implementation, adequate data can be obtained to assess the advantages of maintaining an add-on room. Important factors in the implementation of an add-on room include collaboration among several surgical services to contribute OR time for an add-on room when increasing the budget for more OR resources is not possible and buy-in from all involved parties in surgical patients' care (i.e., surgical nurses, ward nurses, surgeons) to ensure that patients and surgeons are ready and available for the OR when time in the add-on room is available. Long, complicated emergency cases, such as transplant or cardiovascular surgeries, should not be considered for this type of room.

Competing interests: Research support was provided in part by The Robert B. Salter Chair in Surgical Research. The authors declare no other potential competing interests.

Contributors: Both authors designed the study, analyzed data, wrote the article and approved its publication. M. Heng acquired the data, and J.G. Wright reviewed the article.

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 17. Ricci WM, Gallagher B, Brandt A, et al. Is after-hours orthopaedic surgery associated with adverse outcomes? *J Bone Joint Surg Am* 2009;91:2067-72.

FORUM canadien de chirurgie

La réunion annuelle du FORUM canadien de chirurgie aura lieu du 19 au 22 septembre 2013 à la Ville de Calgary, Alberta. Cette réunion interdisciplinaire permet aux chirurgiens de toutes les régions du Canada qui s'intéressent à la pratique clinique, au perfectionnement professionnel continu, à la recherche et à l'éducation médicale d'échanger dans un climat de collégialité. Un programme scientifique intéressera les chirurgiens universitaires et communautaires, les résidents en formation et les étudiants.

Les principales organisations qui parrainent cette réunion sont les suivantes :

- L' Association canadienne des chirurgiens généraux
- La Société canadienne des chirurgiens du côlon et du rectum
- La Société canadienne de chirurgie thoracique
- La Société canadienne d'oncologie chirurgicale

Le *American College of Surgeons*, l'Association canadienne des médecins et chirurgiens spécialistes de l'obésité, l'Association québécoise de chirurgie, le *Canadian Association of University Surgeons*, le *Canadian Hepato-Pancreato-Biliary Society*, le *Canadian Undergraduate Surgical Education Committee*, le *James IV Association of Surgeons* et l'Association canadienne de traumatologie sont au nombre des sociétés qui appuient cette activité.

Pour vous inscrire ou pour plus de renseignements, veuillez consulter le site www.cags-accg.ca.

Exhibit 2: Copy of Hartford Hospital's license

STATE OF CONNECTICUT

Department of Public Health

LICENSE

License No. 0046

General Hospital

In accordance with the provisions of the General Statutes of Connecticut Section 19a-493:

Hartford Hospital of Hartford, CT d/b/a Hartford Hospital is hereby licensed to maintain and operate a General Hospital.

Hartford Hospital is located at 80 Seymour Street and 200 Retreat Avenue, Hartford, CT 06106.

The maximum number of beds shall not exceed at any time:

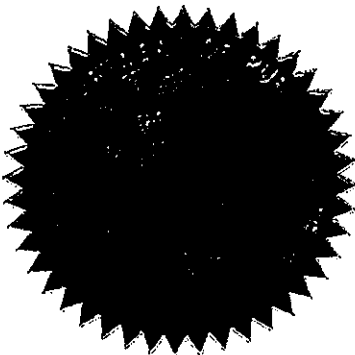
48 Bassinets
819 General Hospital Beds

This license expires **December 31, 2017** and may be revoked for cause at any time.

Dated at Hartford, Connecticut, January 1, 2016. RENEWAL.

Satellites:

West Hartford Surgery Center, 65 Memorial Road, Suite 500, West Hartford
Hartford Hospital, 505 Willard Avenue, Bldg. 3, Newington
Duncaster Primary Care Satellite, 40 Loeffler Road, Bloomfield



Jewel Mullen, MD

Jewel Mullen, MD, MPH, MPA
Commissioner

Exhibit 3: Copies of curriculum vitae

Stuart K Markowitz, MD, FACR

Education

Yale University and University of Pennsylvania: Visiting Fellowships in Gastrointestinal Radiology	July-October 1985
Hartford Hospital: Diagnostic Radiology Residency	1982-1985
Hartford Hospital: Flexible Internship	1981-1982
University of Health Sciences – The Chicago Medical School Degree: M.D.	1977-1981
University of Pennsylvania – Degree: B.A.	1973-1977

Professional Work Experience

Hartford Hospital: President, Hartford Hospital & Hartford Region	2013 - present
Hartford Hospital: Chief Medical Officer and Vice President	2012-2013
Jefferson Radiology: Radiologist	1985-2011

Administrative and Professional Activities

Board of Directors, VNA Healthcare	2012-present
Board of Directors, HPA and HPHO, Hartford Hospital	2012-present
Hartford Healthcare Board Quality and Safety Committee	2010-present
Hartford Hospital Board Credentialing and Quality Committee	2010-present
Board of Directors, Hartford Hospital	2010-2011
Vice President, Medical Staff, Hartford Hospital	2010-2011
Chairman, Department of Radiology, Hartford Hospital	1995-2011
Vice Chair, Department of Radiology, Hartford Hospital	1992-1995
Medical Director, Radiology Technology Program, Hartford Hospital	1990-2011
Section Chief, Gastrointestinal Radiology, Hartford Hospital	1985-2011
Section Chief, Emergency Radiology, Hartford Hospital	1992-2007
Full Time Instructor in the Diagnostic Radiology Residency Program at Hartford Hospital	1985-present

Partner, Jefferson Radiology (Jefferson X-Ray Group)	1986-2011
Board of Directors, Jefferson Radiology	1988-2011
President, 937-941 Farmington Avenue Limited Partnership	1991-2011
American College of Radiology Practice Certification Reviewer	1985-1990
Statewide Healthcare Facilities Planning Advisory Body, Department of Public Health, CT	2010-present
Office of Healthcare Access CON Task Force	2009-present
Connecticut State Radiology Society Legislative Committee	2005-2009
Hospital Committee Experience : Medical Staff Council, Executive Committee of the Medical Staff, Joint Conference Committee, Mead Fund Committee, Library Committee, Credentials Committee, Radiation Safety Committee, Radiology Management Committee, Radiology Quality Council, Risk Management Committee, Claims Review Committee, Radiology/IT Steering Committee, Reimbursement Committee, Technology Advisory Group, Endovascular Credentialing Committee, OR Committee, EMR Committee, IS Physician Advisory Committee, Tumor Board	
Hartford Hospital CEO Advisory Body	2009-present

Certifications

Medical License – State of Massachusetts	2011
Fellowship in the American College of Radiology: FACR	2009
American Board of Radiology	1985
Medical License – State of Connecticut	1983
National Board of Medical Examiners	1982

Hospital Appointments

Hartford Hospital, Senior Attending Staff – Hartford, Connecticut
Connecticut Children’s Medical Center, Attending Staff – Hartford, Connecticut
University of Connecticut Health Center, Assistant Clinical Professor – Farmington, Connecticut
Johnson Memorial Hospital, Attending Staff – Stafford Springs, Connecticut
Windham Hospital, Attending Staff – Willimantic, Connecticut
Day Kimball Hospital, Attending Staff – Putnam, Connecticut
Noble Hospital, Attending Staff – Westfield, Massachusetts

Current Memberships

Society of Chairman of Academic Radiology Departments
American College of Radiology
American Society of Emergency Radiology – Fellow
Radiologic Society of North America
American Roentgen Ray Society
Connecticut State Radiology Society
Society of Breast Imaging – Fellow
American College of Physician Executives

Publications

ZITER FMH, MARKOWITZ SK, ZAMSTEIN J. LARGE RENAL PELVIC DEFECTS CAUSED BY SOUGHED PAPILLA. APPLIED RADIOLOGY, NOV. 1987.

PISTOIA F AND MARKOWITZ S. SPLENIC LYMPHANGIOMATOSIS: CT DIAGNOSIS. AJR 150: 121-22, JANUARY 1988.

MARKOWITZ S AND ZITER F. THE LATERAL CHEST FILM AND PNEUMOPERITONEUM. ANNALS OF EMERGENCY MEDICINE 15:4 APRIL 1986.

JACOBS J AND MARKOWITZ S. CT DIAGNOSIS OF UTERINE LIPOMA. AJR 150:1335-1336, JUNE 1988.

WOLF S AND MARKOWITZ S. SPONTANEOUS GAS FORMATION IN A STERILE RENAL CELL CARCINOMA. UROLOGIC RADIOLOGY 9:222-224, 1988.

PISTOIA F, MARKOWITZ S, SUSSMAN S. CONTRAST MATERIAL IN POSTERIOR VAGINAL FORNIX MIMICKING BLADDER RUPTURE: CT FEATURES. JCAT 13(1):153-155 JAN/FEB 1989.

MILICI L AND MARKOWITZ S. INTRAMURAL GASTRIC PSEUDOCYST: CT DIAGNOSIS. GASTROINTESTINAL RADIOLOGY, VOL 14:113-114, 1989.

TREEM WR, MARKOWITZ SK, SULLIVAN BM, HYAMS JS. DEFECOGRAPHY IN CHILDREN WITH PROLONGED CONSTIPATION. ABSTRACT SUBMITTED AT THE NORTH AMERICAN SOCIETY FOR PEDIATRIC GASTROENTEROLOGY AND NUTRITION, 1990.

MARKOWITZ SK, ZITER FMH. RADIOLOGIC DIAGNOSIS OF BOWEL OBSTRUCTION. IN: BOWEL OBSTRUCTION, CLINICAL DIAGNOSIS AND MANAGEMENT. J. WELCH, ED. SAUNDERS, 1990.

SAWHNEY R, REES JH, MARKOWITZ SK. CLOSTRIDIAL GAS GANGRENE COMPLICATING LEUKEMIA. ABDOMINAL IMAGING 19:45102, 1994.

SCAPPATICCI F AND MARKOWITZ SK. INTRAHEPATIC PSEUDOCYST COMPLICATING ACUTE PANCREATITIS: IMAGING FINDINGS. AJR, 1995; 165:873-4.

MARKOWITZ SK. DELAYED RUPTURE OF THE GALLBLADDER: DIAGNOSIS BY ERCP. SUBMITTED FOR PUBLICATION.

MARKOWITZ SK. BILIARY OBSTRUCTION DUE TO DUODENAL DIVERTICULUM: DIAGNOSIS BY CT AND ERCP. SUBMITTED FOR PUBLICATION.

MARKOWITZ SK. LONG TERM ALIMENTATION: COMPARISON

OF INTRAVENOUS AND NASOENTERIC ALIMENTATION. WORK IN PROGRESS.

ALLMENDINGER N, HALLISEY MJ, MARKOWITZ SK, ET AL. BALLOON DILATION OF ESOPHAGEAL STRICTURES IN CHILDREN. J. OF PEDIATRIC SURGERY, VOL 31, No 3, P334-6, MARCH 1996.

CIRAULO DL, NIKKANEN HE, PALTER M, MARKOWITZ S, ET AL. CLINICAL ANALYSIS OF THE UTILITY OF REPEAT COMPUTED TOMOGRAPHIC SCAN BEFORE DISCHARGE IN BLUNT HEPATIC INJURY. JOURNAL OF TRAUMA 41(5):821-824, NOVEMBER 1996.

MARKOWITZ SK, KIRECZYK W. RADIOLOGIC EVALUATION OF DIVERTICULAR DISEASE OF THE SMALL AND LARGE INTESTINES. IN DIVERTICULAR DISEASE: MANAGEMENT OF THE DIFFICULT SURGICAL CASE. J. WELCH, ED. WILLIAMS AND WILKINS, 1997.

**Recognitions
Awards**

Best Doctors in Hartford, Hartford Magazine	2004-2012
Best Doctors in Connecticut, Connecticut Magazine	2010-2012

Gerald J. Boisvert - continued

Community Service - continued

Former President and former Treasurer of Southside Institution Neighborhood Alliance (SINA) and former Chairman of the Board of The Learning Corridor Corporation; former Finance Chairman and Personnel Chairman of Canon Greater Hartford Open (PGA Tournament); former member of Vernon, Connecticut Economic Development Commission; and former Treasurer and Director of Sunshine Project, Inc. (a non-profit organization involved in housing and support services for the psychiatrically disabled).

Recognized as CFO of the year by Hartford Business Journal - 2011

Other Interests: Enjoy sailing, skiing, running, tennis and golf.

CURRICULUM VITAE

JOHN FRANCIS GREENE, JR., M.D.

EDUCATION

Bowdoin College
Bachelor of Arts 1979
Summa Cum Laude
Phi Beta Kappa

State University of New York at Buffalo
Doctor of Medicine 1983

Residency

Obstetrics and Gynecology Internship and Residency
Hartford Hospital 1983 - 1987
80 Seymour Street
Hartford, CT 06102-5037

John Leonard Fellowship 1987 – 1988
Hartford Hospital
80 Seymour Street
Hartford, CT 06102-5037

Certification

American Board of Obstetrics and
Gynecology 1989
- Most Recent Recertification 2011

Graduate

Physician Leadership Institute 2012
Hartford Hospital

SOCIETIES

Fellow – *American College of Obstetrics and Gynecology*

Member – *Hartford County Medical Association*

Member – *APGO/CREOG*

HONORS AND DISTINCTIONS

Medical Staff Quality and Safety Award 2012
Hartford Hospital
For outstanding commitment to quality improvement, safety and
learning directed toward enhancing the patient experience, improving
clinical outcomes and making our workplace a safer environment.

MD Gold Ribbon Award 2011
Hartford Hospital Lactation Committee
Physician Leadership in Promotion of
Breast Feeding

Top Doctors (Hartford) 2011, 2014

2011 Best Physicians

2014 Best Physicians

Third Place Oral Presentation 2009
Annual Meeting of APGO-CREOG,

American Board of Obstetrics and Gynecology 2005- Present
Oral examiner

American Journal of Obstetrics and Gynecology 2005- Present
Ad Hoc Reviewer

Strathmore's Who's Who 2001

APGO Excellence in Teaching Award 2000

CREOG National Faculty Award 1999
Resident Teaching Award

Joseph Millerick Teaching Award 1998; 2005
Hartford Hospital
Resident Teaching Award
Best Teacher of Chief Resident Class

Best Doctors in America 1997
Northeast Region

Joseph Klein Book Award 1987
Hartford Hospital Residency
Outstanding Resident in Obstetrics
and Gynecology

POSITIONS

Vice President, Medical Affairs 10/2013-Present
Hartford Region, Hartford Healthcare
Hartford Hospital
80 Seymour Street
Hartford, CT

Chief Medical Officer 4/2013 – Present
MidState Medical Center
435 Lewis Avenue
Meriden, CT 06451

Professor 2011 – Present
University of Connecticut School of Medicine
263 Farmington Avenue
Farmington, CT 06030

Mentor

Glastonbury High School Health 2004 – Present
 Trinity College Health Fellowship 2001 – 2003

Associate Professor

2003 – 2011

Ob/Gyn Residency Program Director

UCONN School of Medicine 2001 – Present
 263 Farmington Avenue
 Farmington, CT 06030

Adjunct Lecturer

2001 – Present

Trinity College
 Hartford, CT

Associate Director

2000 – Present

Women's Health Services
 Hartford Hospital
 80 Seymour Street
 Hartford, CT

Facilitator Correlated Problem Medical Solving

1st Year Medical Students 1998 – 1999
University of Connecticut School of Medicine
 Farmington, CT

Medical Student Educator

1997 – Present

3rd Year Medical Students – Preceptor & Lecturer**Co-Director**

1997 – 2008

Women's Ambulatory Health Services
 Hartford Hospital

Director

Urogynecology Clinic 1987 - 1997
 Hartford Hospital

Attending Physician

1987 - Present

*Hartford Hospital****Connecticut Multispecialty Group***

1987 - 1997

Division of Obstetrics and Gynecology
 85 Seymour Street
 Hartford, CT 06106

Assistant Clinical Professor

1987 – 1997

COMMITTEES**Chairman**

2012-Present

Committee on Medical Staff Quality
 Hartford Hospital

Chairman 2012-Present
Committee on Continuing Medical Education
 American College of Obstetricians & Gynecologists

Chairman, Editorial Task Force
PRECIS; Gynecology, 4th Edition
 American College of Obstetricians & Gynecologists
 Washington, DC

Vice Chair 2010-Present
Committee on Continuing Medical Education
 American College of Obstetricians & Gynecologists
 Washington, DC

District 1 Representative 2009-2013
Committee on Continuing Medical Education
 American College of Obstetricians & Gynecologists
 Washington, DC

Board Quality Committee 2008-Present
 Physician Member
 Hartford Hospital

Task Force Member
PROLOG, Gynecology – 5th Edition
 American College of Obstetricians & Gynecologists
 Washington, DC

Co-Chairman
PROLOG, Gynecology – 6th Edition
 American College of Obstetricians & Gynecologists
 Washington, DC

Co-Chairman
PROLOG, Gynecology – 7th Edition
 American College of Obstetricians & Gynecologists
 Washington, DC

Chairman
Research Committee, Generalist 2000 – present
Division
 University of Connecticut

Chairman
GYN QA Committee 1999 – 10/01
 Hartford Hospital, Department of OB/GYN

Member
Women and Children's Health Network,

City of Hartford – Women’s Health Team Hartford, CT	2001 – 2005
Resident Education Committee University of Connecticut	2000 – present
Medicaid Managed Care Women’s Health Subcommittee	6/98 – present
OB QA Committee Hartford Hospital, Department of OB/GYN	1987 – 1997
Medical Staff Council Hartford Hospital	1995 – 1997
<u>Reviewer, Abstracts</u> American College of Obstetricians and Gynecologists Annual Clinical Meeting	2004 – present
Council on Resident Education in Obstetrics and Gynecology Annual Meeting	2006

PRESENTATIONS

“Getting Physicians “On Board” with Risk Management”

24th Annual New England Regional Healthcare Risk Management Conference (May/2014)

“Engaging Providers and Patients to Reduce OB Adverse Events and Patient Education”

Maternal Health Affinity Group Webinar (July/2013)

“Engaging Providers and Patients to Reduce OB Adverse Events and Patient Education”

Connecticut Hospital Association (May/2013)

“Uterine Fibroid Embolization: Who, Why, Where and When.” (May/2010)

Annual Clinical Meeting, The American College of Obstetricians and Gynecologists San Francisco, CA

“Uterine Fibroid Embolization: Who, Why, Where and When.” (May/2009)

Annual Clinical Meeting, The American College of Obstetricians and Gynecologists Chicago, IL

“Uterine Fibroid Embolization: Who, Why, Where and When.” (2008)

Annual Clinical Meeting, The American College of Obstetricians and

Gynecologists. New Orleans, LA

“Maintaining A Women’s Ambulatory Center of Excellence in Difficult Fiscal Times: Creative Partnering” (6/2006)

Building and Integrating Women’s Health Centers of Excellence, Washington, DC

“Alumni Pearls” (5/2003, 5/2004, 5/2005)

CREOG School for Program Directors, Chicago, IL

“Menopause & Hormone Replacement Therapy” (9/2000)

Tri-State’s Women’s Symposium on Health Care Issues
Acqua Turf, Southington, CT

“Uterine Artery Embolization for Fibroid Uterus” (3/2000)

St. Vincent’s Hospital, Bridgeport, CT

“An Innovative Model for Resident Education in an Ambulatory Managed Care Environment” (3/2000)

APGO/CREOG Annual Meeting, New Orleans, LA

“Postpartum Self-Medication Program: Effect on Narcotic Utilization” (10/1999)

ACOG District I Annual Meeting, Burlington, VT

“Management of ASCUS and AGCUS” (9/1999)

New Britain General Hospital, New Britain, CT

“Management of ASCUS and AGCUS” (3/1999)

Johnson Memorial Medical Center, Stafford Springs, CT

“Women’s Health Procedures” (9/1998)

Connecticut Pharmacists Association at the
University of Connecticut School of Medicine, Farmington, CT

“Gynecologic Procedures” (1/1998)

Emergency Department, Hartford Hospital, Hartford, CT

“Update on Vaginitis” (1/1998)

Johnson Memorial Hospital, Stafford Springs, CT

“Workup of the Incontinent Female” (9/1996)

Waterbury Hospital, Waterbury, CT

“Workup of the Incontinent Female” (4/1995)

Hartford Hospital, Hartford, CT

PUBLICATIONS

Feldman, D, Greene, J, Management of the Pregnant Woman, Skeletal trauma: basic science, management, and reconstruction, fifth edition, 2015

Brazell H, O'Sullivan D, Forrest A, Greene J, Effect of a Decision Aid on Decision Making for the Treatment of Pelvic Organ Prolapse, Female Pelvic Medicine & Reconstructive Surgery, December 17, 2014

Johnson AM, Corell A, **Greene J**, Barriers to Breastfeeding in a Resident Clinic. Breastfeeding Medicine, accepted June 2012, in press

Dornelas E, Oncken C, **Greene JF**, Kranzler H., Major Depression and PTSD in Hispanic and Non-Hispanic Pregnant Smokers Enrolled in Nicotine Gum Treatment Trial, American Journal on Addictions

Greene JF, Feldman, D., The Obstetrical Patient, Musculoskeletal Emergencies 1st Edition. Pages 59 – 63, May 2011

Chairman, Editorial Task Force
PRECIS; Gynecology, 4th Edition
American College of Obstetricians & Gynecologists
Washington, DC

Werden J. Schnatz PF. Mandavili S. Allen G. Murphy JL. **Greene JF**. Egan JF. Sorosky JI. Prevalence of the Human Papillomavirus in an Inner-City Indigent Population with Previously Normal Pap Tests. Journal of Lower Genital Tract Disease. 12(4):287-92, October 2008

Oncken, C., Dornelas, E., **Greene, J.**, Sankey, H., Glasmann, A., Feinn, R., Krnazler, H.R. Nicotene gum for pregnant smokers: A randomized controlled trial. Obstetrics & Gynecology 112, 859-867, October 2008

Werden J, Schnatz PF, Mandavilli S, Allen G, **Greene JF**, Sorosky JI. Prevalence of the Human Papillomavirus in an Inner City Indigent Population with Previously Normal Pap Tests. Annual ACOG District I meeting in Newport, Rhode Island, September 2007

Bobrowski R, **Greene JF**, Sorosky J Obstetrics. Hospital Preparation for Bioterror. Elsevier Publishing 2006

Dornelas E, Magnavita J, Beazoglou T, Fischer E, Oncken C, Lando H, **Greene J**, Barbagallo J, Stepnowski R, Gregonis E. Efficacy and Cost-Effectiveness of a Clinic-Based Counseling Intervention Tested in an Ethnically Diverse Sample of Pregnant Smokers. Patient Education and Counseling 2006 December; 64(1-3):342-9.

Sharpless KE, Schnatz PF, Mandavilli S, **Greene JF**, Sorosky JI. Dysplasia Associated with Atypical Glandular Cells on Cervical Cytology. Obstet & Gynecol. Vol. 105, No. 3. 3/2005.

Sharpless KE, Schnatz PF, Mandavilli S, **Greene JF**, Sorosky JI. Lack of Adherence to Practice Guidelines for Women with Atypical Glandular Cells on Cervical Cytology. Obstet & Gynecol [In Press].

Ryan K, Schnatz PF, **Greene JF**, Curry SL. Change in Cesarean Section Rate as a Reflection of the Present Malpractice Crisis. Connecticut Medicine. Vol. 69, No. 3. March 2005; pp 139-141.

Schnatz PF, Achong MN, **Greene JF**, and Sorosky JI. Questions Physicians Ask: Challenging Problems in Gynecologic Infections. Infections in Medicine. February 2005; pp 67-72.

Schnatz PF, Banever AE, **Greene JF**, and O'Sullivan DM. Pilot Study of Menopausal Symptoms in a Clinic Population. Menopause: The Journal of the North American Menopause Society. Vol. 12, No. 5, pp623-629. 2005

Omrani A, Schnatz PF, Qi J, **Greene JF**, Curry SL. Lung Cancer Metastatic to a Cervical Polyp. Gynecologic Oncology 2004; 92(1): 22-24.

DiGiorgi S, Schnatz PF, Mandavilli S, **Greene JF**, Curry SL. Transitional Cell Carcinoma Presenting as Clitoral Priapism. Gynecologic Oncology 2004; 93(2): 540-542.

Allen L, Maxwell S, **Greene JF**: Building an Award-Winning Women's Health Ambulatory Service and Beyond. J Ambulatory Care Management, Vol 26, No. 3 (pp186-198) – 2003.

Greene JF*, DeRoche M, Curry S, Ingardia C. Large Myomatous Uterus Complicating Pregnancy. BJOG: an International Journal of Obstetrics and Gynaecology. Vol. 109 (pp 1189-1191) – 10/2002.

Greene JF: Abdominal and Vaginal Hysterectomy, Operative Gynecology. Operative Gynecology, 2nd Edition. Pages 498 – 509, 2001.

Maxwell S, Maljanian R, Horowitz S, Pianka MA, Cabrera Y, **Greene J.** Effectiveness of Reminder Systems on Appointment Adherence Rates. Journal of Health Care for the Poor and Underserved. Vol. 12, #4 (pp504 – 514) 2001.

Althausen AM, Kowalski DP, Ludwig ME, Curry SL, **Greene, JF***. Granular Cell Tumors: A Clinically Important Histologic Finding. Gynecologic Oncology 77 (pp 310-313) 2000.

Navitsky J, **Greene JF**, Curry SL. The Onset of Human Labor: Current Theories. Primary Care Update for Ob/Gyns. Vol. 7, #5, 2000.

Greene JF*, Kuiper O, Morosky M, Wightman S, Curry SL: A Post-Partum Self-Medication Program: Effect on Narcotic Utilization. Journal of Women's Health & Gender-Based Medicine. Vol. 8, #8 (pp1073 – 1076) – 1999.

ABSTRACTS

Johnson AM, **Greene JF**, Sorosky J, Gruessner L, Bieraguel K, O'Sullivan D: Is there a subset of high risk adolescents who should undergo Pap screening prior to age 21?, May 2011

Schnatz PF, Werden J, Nasir A, Violano C, **Greene J**, Tsongalis G, Mandavilli S: Significance of High-Risk (HR) Human Papilloma Virus (HPV) Positivity in Women With Negative PAP Smear Cytology. *Acta Cytologica* (presentation)

Oncken C, Dornelas E, **Greene J**, Kranzler H. Pharmacotherapy for Smoking Cessation During Pregnancy. International Society for Addiction Medicine (ISAM) – NIDA sponsored symposium. Helsinki, Finland. June 2004.

Schnatz PF, Kazi F, Kelsey AM, **Greene JF**, Curry SL: Pilot Study of Menopausal Symptoms in a Clinic Population. *Menopause* 2003; 10(6):595 (presentation)

LaPrarie D, **Greene JF**, Olivar G: Disciplinary Action in Ob/Gyn Residency Programs. Annual APGO-CREOG Meeting (presentation 2/2003.)

Maxwell S, **Greene J**: The 11th Annual Congress on Women's Health Issues. Disease Management Program in an Urban Setting. (presentation 1/2000.)

Holt G, Curry S, DeRoche M, **Greene JF**: Complete Compression of IVC in Pregnancy. ACOG District I Annual Meeting, 2000.

RESEARCH

An Institutional Ethnography of the Practice of Male Neonatal Circumcision. (2008-2009)

Hallssey, M, **Greene J**: Uterine Artery Embolization for the Treatment of Fibroid Uterus. (3/1999 - Ongoing)

Participant, multi-center trial of new antibiotic for the treatment of acute pelvic infections. (5/2001 – 5/2003)

Cigarette Smoking and Effects on Infant/Child Health. UCHC, \$37,025.
Resident Education Research Blanket Protocol. Statistical Analysis supported through Hartford Hospital Small Grant.

Cheryl Ficara, RN, MS, NEA-BC

Summary of Qualifications

Twenty-seven years of progressive health care experience in Patient Care Services and Nursing Leadership, with proven track record in visionary strategic leadership, organizational culture building, and operating performance improvement in challenging and rapidly changing health care environments.

PROFESSIONAL EXPERIENCE

Hartford HealthCare Corporation

Fall 2014-Present

Hartford, Connecticut

Hartford HealthCare is an integrated health care system in Connecticut, with more than 18,000 employees and \$2.4 billion in net revenue. The system offers the full continuum of care with five acute-care hospitals, the state's only air-ambulance service, behavioral health and rehabilitation services, a large physician group and clinical integration organization, skilled-nursing and visiting-nurse services, a laboratory system that spans the state, and a number of services for seniors, including senior-living facilities.

HHC Regional Vice President, Patient Care Services, Chief Nursing Officer

Provide leadership to Patient Care Services and Perioperative and Procedural Services of an 867 bed organization with approximately 689 million in revenue and 2500 FTEs.

Significant Accomplishments:

- Fully executed the development and implementation of the Nursing Professional Practice Model and Shared Governance Structure expanding it system wide to Hartford HealthCare.
- Implemented and Chair of the System Nurse Executive Council.
- Increased hand hygiene compliance from 20% to a high of 92% for the RN caregiver. Overall Hartford Hospital is at 90%
- Improved throughput of patient flow across institutional continuum through implementation of lean standard work and Executive Rounds.
- Strategized, implemented and executed Director and Medical Chief weekly rounding of staff in inpatient units.

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Hartford Hospital

2011-2014

Hartford, Connecticut

Hartford Hospital is central Connecticut's tertiary medical center with supported by over 7,000 extraordinary nurses and staff members. Hartford Hospital is the only Level 1 Trauma Center in the region, and operates the state's only air ambulance system, LIFE STAR. As the major teaching hospital affiliated with the University of Connecticut Medical School, serving the New

England region our reputation for providing complex and innovative care to those in need is built on the foundation of excellence in patient care, teaching and research.

Vice-President of Patient Care Services, Chief Nursing Officer

Significant Accomplishments:

- Length of stay improvement from 6.0 days in 2012 to 5.5 in 2014
- Increased the HCAHPS overall top box score year over year from 59 to a high of 70.5.
- Increase in Transfer center volume from 3501 in 2012 to 4,722 in 2014
- Year over year decrease in RN turnover
- Improved ED left without being seen from 3.88% in 2011 to 2.0% in 2014
- Implemented Executive leadership rounding and rounding to influence leading to improved staff engagement
- Lowered cost structure and improved efficiency by managing productivity saving over 3.4 million in FY2013
- Reduced the use of continuous observers with an annual savings of \$850,000
- In 2012 created and implemented a Nursing Professional Practice model in concert with our Nursing Shared Governance councils

Active Board Member appointments:

- Glastonbury GI Endoscopy Board
- Glastonbury Surgery Center Board
- Newington Eye Center Board
- HHC Hartford region Patient Advisory Board
- Bone and Joint Institute Board
- Greater Hartford Lithotripsy Board

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Hartford Hospital

Hartford, Connecticut

2006-June 1, 2011

Director of Perioperative Services

Provide leadership in collaboration physician partners for the delivery of high quality surgical care across the Perioperative continuum. Areas of oversight include Central Sterile, Preadmission Testing Center, Interventional Short Stay Unit, and 41 Operating Rooms Suites, with 9 being outpatient-focused, Inpatient and Outpatient Post Anesthesia Care Units, Tissue Bank, GI Endoscopy Unit, and Vascular laboratory, Ambulatory Eye Centers. Accountable for an operational budget of \$250 million in revenue, \$207 million in expenses, 415.63FTE's and 499 staff members.

Significant Accomplishments:

- Leading facilities planning and development team in building new Operating rooms, with focus on endovascular hybrid, orthopedic and robotic specialties.
- Participated and provided leadership in the National VHA initiative, Transformation of the Operating Room.

- Resulted in improved On Time Starts from 20% to 65% in 6 months, decrease in OR/PACU holds by 95.4% in 3 months. Implementing Executive culture of safety rounds, in 3 months implemented Executive rounds.
- Member of the steering group responsible for opening on additional HH ambulatory surgical center in outlying community.
- Pioneer in Shared Governance, designed and implemented, whole systems interdisciplinary model. Mentor of the team.
- Provided leadership and oversight to the reimplementation of the Surgical Information System in Perioperative Services.
- Eliminated 13 RN FTE's of Agency personnel through the application of retention strategies and the implementation of the Perioperative Nursing Core Curriculum Program.
- Consistently on budget or below while achieving excellence in outcomes
- Development of GI and Perioperative Services Quality dashboards including volume statistics, room utilization, turnover time, on time starts, STAT list outcomes and SCIP measures.

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Hartford Hospital
Hartford, Connecticut

Oct. 1999-2006

Nursing Director General Surgery Administration

Managed a total of 197.89 FTE's including an expanded realm of clinical /fiscal leadership responsibilities to include: inpatient/outpatient surgery, general surgery clinical administration, vascular laboratory, a 42 bed general surgery unit, a 12 bed surgical trauma intensive care unit, a 6 bed surgical step-down, a 24 bed vascular thoracic unit and C8/C11 interventional short stay unit.

Significant Accomplishments:

- Responsible for aligning the Nursing Shared Governance structure with the Hospitals Administrative structure
- Member of Magnet Accreditation Steering Group receiving Magnet designation in January 2004
- Led the roll out of the National Transformation of the ICU initiative (IHI/VHA) in all Hartford Hospital critical care units
- Implementation of Hospital wide Bed Management system
- Lead Hospital wide implementation of a centralized telemetry center increasing Patient safety while decreasing dollars spent
- Responsible of strategic expansion plan and implementation of critical care beds at Hartford Hospital including on 8 bed Respiratory unit, and 12 additional Med/Surgical step-down beds.
- Instrumental Role in Hartford Hospitals receiving the VHA Presidents Awards of Excellence in 2005.

....

Hartford Hospital
Hartford, Connecticut

April 1996-October 1999

Nurse Director, Surgery

- Co-lead an institutional wide-re-engineering project for the purpose of redesigning the Patient Care Delivery System to assure quality and cost effective outcomes
- Responsible for the clinical and fiscal leadership of a 12 bed surgical trauma intensive care unit, 24 bed vascular thoracic unit, 4 bed step-down unit, and over 82.5 FTE’s and an operating budget of 4.5 million
- “Model Continuum” for first Patient Governance Redesign Initiative
- Transitioned unit operations to Shared Governance Structure and philosophy
- Developed staff mentoring program
- Assisted in the creation and implementation of patient pathways for multiple DRG’s
- Co-lead Hartford Hospital focus group work regarding patient/family satisfaction outcomes

....

Hartford Hospital

December 1990-April 1996

Hartford, Connecticut

Nurse Manager, Surgical/Trauma Intensive Care Unit

Responsible for the clinical and fiscal leadership of a 12 bed surgical intensive care unit with 42 FTE’s and an operations budget of 2.5 million

Significant Accomplishments:

- Facilitated the transition from closed to “open” flexible visitation in all five adult critical care units
- Assisted in the development of the Hartford Hospital In-patient Satisfaction Survey
- Developed with Value Enhancement Team the Family Satisfaction Survey post card for all adult critical care units
- CO-developed the “Families in Crisis” competency, incorporated into core curriculum training for all new critical care nurses.
- Facilitated the utilization of nursing research into day-to-day clinical practice at the bedside.

....

Mount Sinai Hospital

May 1987-May 1990

Hartford, Connecticut

Nurse Manager, Coronary Care Unit

Responsible for the clinical and fiscal management of a 6 bed coronary care unit including the overall staffing for the critical care division of Nursing. Facilitated a “shared governance” model for unit operations which enable RNs to assume greater responsibility and authority for their practice.

....

Mount Sinai Hospital

November 1986-May 1989

Hartford, Connecticut

Assistant Nurse Manager, Medical Unit

Coordinated activities and daily operations of a 44 bed medical /oncology unit. Including twenty-four hour accountability for coordination of patient care, divisional staffing, organized scheduling, assisted in performance appraisals, and staff hiring, training, and development.

••••

EDUCATION

1991 University of Connecticut

Master of Science

1983 University of Connecticut

Baccalaureate of Science Degree in Nursing

Magna Cum laude Graduate

CERTIFICATION

- Board Certified in Nursing Administration
- October 2004, The Wharton School and the Leonard Davis Institute of Health Economics of the University of Pennsylvania certification completion of the Wharton Nursing Leaders Program

PRESENTATIONS/ABSTRACTS

- “Surgical Assessment Value Enforcement: A model of increasing operative efficiency and productivity.” A Steinberg, C Ficara, D Norman, M Gilgenbach, S Shichman. Submittal Society of Gynecologic Surgeons.
- “60 Day Hire Initiative, Checking the Pulse of New Nurse Hires.” Heather Machado, Cheryl Ficara, Maria Tackett and Nursing Recruitment and Retention Team 2014.
- “Managing Staffing Expense by Monitoring Productivity.” Poster Presentation at the American College of Healthcare Executives. March 24, 2014, Congress on Healthcare Leadership.
- “Shared Governance,” Bridgeport Hospital, Bridgeport, CT, May 1, 2007
- Implementing New Ways of working; Strategies to Encourage the Interdisciplinary Team” National VHA’s presentation, San Diego, CA, April 11-13 2005
- Hosted presentation The University of CT Masters in Nursing Administration Students on “Shared Governance,” September 28,2005
- “End of Life Decision Making in Intensive Care Units.” Panelist discussion sponsored by University of Connecticut, September 23, 2005
- Lawrence and Memorial Hallmark Hospital, VHA member, presentation on “TICU project success in SICU”, 2004

- Mt. Sinai Hospital, Boston Mass, through VHA, presentation on “Patient and Family Domain”, 2004
- “Shared Governance Hartford Hospital Journey”, Saint Vincent Medical center, Bridgeport CT, November 22, 2004
- Evaluation of the re-design Nurse Manager Role, poster Presentation (2002) AONE.
- Behavioral Pain Scale Poster Presentation, 2002
- “Building a team for psychosocial Care” to the American Association of Spinal Cord Injury Psychologists and Social Workers September 2001

PUBLICATIONS

- Lada-Morse, B. B., Ficara, C., (2005). One Hospitals Strategic Initiative to Eliminate Agency staffing. *Nurse Leader*, 3 (2), 49-51.
- W. Elberth, C. Ficara, C (2001) Reengineering Patient Care: A multidisciplinary approach – An Interview. *Seminars for Nurse Managers*, 9 (2), 1-5
- Caramanica, L, Ficara, C, Moynihan, P (1995). Making a transition from quality assurance to quality improvement. *Seminar for Nurse Managers*, 3(3), 119-125

PROFESSIONAL ORGANIZATIONS

- American Organization of Nurse Executives
- Member of American Association of Critical Care Nurses
- Sigma Theta Tau, Mu Chapter
- American Nurse Association
- Connecticut Nurse Association
- Association of Perioperative Registered Nurses

Exhibit 4: Copy of letters of support

April 13, 2017
State of Connecticut
Department of Public Health Office of Health Care Access 410 Capitol Avenue
Hartford, CT 06134

Re: Certificate of Need for Operating Room Increase at Hartford Hospital

To whom it may concern:

I am writing to support Hartford Hospital's proposal to increase operating room capacity. This proposal is, in part, based on the increasing demand for care within our Institute model. Based on patient and physician demand, the need cannot be accommodated within the constraints of our existing facilities.

As Physician in Chief of the Bone & Joint Institute, I have witnessed the increasing demand from patients seeking a model of fully integrated and seamless clinical care, from one level of care to another. This model enables us to take care of the patient as a whole – from nutrition to surgical services, to physical rehabilitation and behavioral health, and beyond. Embedded within this model are high value, cost-effective surgical services which can only be met by making available the latest technology. These services – in concert with our post-acute programs – are designed to help patients regain their quality of life.

Because of our integrated model of care, we are an innovation laboratory, working every day on programs and strategies to improve the musculoskeletal health of citizens in our region and beyond. This innovation, combined with patient demand, has led to an increased demand for physicians to join our Institute and provide musculoskeletal care within our model. Without increased operating room capacity, we simply will not be able to meet this growing demand.

This proposal will ensure we meet the demand for surgical services within our integrated model of care. It will also ensure the retention and attraction of top surgical talent to our region. Thank you.

Sincerely,



Courtland G. Lewis, M.D.
Physician In Chief
Hartford HealthCare Bone & Joint Institute at Hartford Hospital

April 12, 2017
State of Connecticut
Department of Public Health Office of Health Care Access 410 Capitol Avenue
Hartford, CT 06134

Re: Certificate of Need for Operating Room Increase at Hartford Hospital

To whom it may concern:

I am writing today in support of Hartford Hospital's proposal to increase operating room capacity. My reason for support is because I believe the necessary highly-sophisticated, complex, surgical procedures cannot be accommodated within the constraints of the existing facilities.

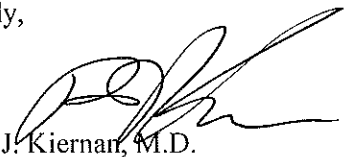
As a cardiologist in our community, I see first-hand the growing demand for the specialized cardiac services offered by the hospital's Heart & Vascular Institute. Hartford Hospital is at the forefront of offering sub-specialized cardiac care, and has a vision to extend its specialized surgical services right here in Hartford. Simply put, this will be a life-changer to my patients.

Many of my older patients and those with a more complex health status have historically had little to no options for cardiac surgery; they must avoid open heart surgery because the risk of complications is too high. With the Heart & Vascular Institute's specialized programs such as TAVR (trans-aortic valve replacement) and future robotic aortic offerings, my patients will have access to less invasive and more sophisticated treatment options, close to home – without having to leave the state – and without having to wait for service. With the aging population and increasing need for these treatment options, these specialized procedures are becoming mainstream and will only continue to grow. However, they cannot be sustained without the infrastructure behind them.

I trust in the care Hartford Hospital delivers to my patients. I know that when I send my patients there for services, they will receive a high level of expertise, backed by the latest, most innovative technology. The breadth and depth of their cardiology programs is second to none.

My patients deserve high-quality, accessible care. They deserve to have their care coordinated, which means it is critically-important to have their surgery close to home. Please honor Hartford Hospital's commitment to those in the community the hospital services, and approve the addition of two operating rooms to the facility.

Sincerely,



Francis J. Kiernan, M.D.

62 MEADOW RIDGE
AVENUE CT 06001

April 13, 2017
State of Connecticut
Department of Public Health Office of Health Care Access 410 Capitol Avenue
Hartford, CT 06134

Re: Certificate of Need for Operating Room Increase at Hartford Hospital

To whom it may concern:

I am writing regarding Hartford Hospital's proposal to increase operating room capacity. The proposal is based on the growing demand for care provided within our Institute model, and the increasing need for highly sophisticated, complex surgical procedures. These growing sub-specialties cannot be accommodated within the constraints of our existing facilities.

As Vice President of Medical Affairs, I oversee the medical care provided at Hartford Hospital. Our Heart & Vascular Institute, Ayer Neuroscience Institute and Bone & Joint Institute are transforming how healthcare is delivered by coordinating our patients' care across the whole continuum. We are focused on patient education and disease prevention, health and wellness, early detection, appropriate levels of intervention and post-acute care. When surgical intervention is needed, we provide access to the latest innovative treatments, so patients can receive them right in Connecticut. Examples of these existing and planned services include complex heart procedures (including mitral valve and TAVR) and advanced neurosurgical care for movement disorders.

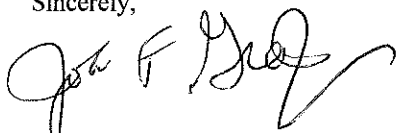
Because of our Institute model described above, more patients are seeking their care at Hartford Hospital and physicians are joining the hospital to provide their care within our integrated delivery model. As a result, joint replacement surgery has grown significantly since the opening of the Bone & Joint Institute and based on demand from patients and physicians, it is expected to continue to grow.

With 42 operating rooms, Hartford Hospital could not accommodate patient demand in an efficient manner. Operating room utilization would peak above optimal levels. Patient access would be delayed. Costs would rise, if the hospital had to consider adding additional surgical staff for evenings or weekends. This proposal would not only mitigate these concerns, but it would also do the right thing: ensure patients can get the care they need close to home.

This proposal will also ensure the retention and attraction of top surgical talent by making available the physical plant necessary to accommodate evidence-based best practices, clinical treatment protocols and a commitment to accommodating technological advances in the operating room.


This project exemplifies how Hartford Hospital is committed to providing the highest quality services in an ever-changing environment where integration, coordination and increased access are all of the utmost importance. I thank you for your consideration.

Sincerely,



John Greene, MD
Vice President Medical Affairs Hartford Region
Hartford HealthCare

Exhibit 5: Copy of Hartford HealthCare's Charity Care Policy

	Subject: Financial Assistance Policy	
Issuing Department: Finance/Revenue Cycle Services Subject Matter Consultation: Legal Services	File Under: _____ Section - _____	Original Date: 12/16/2010
Latest Revision Date: January 1, 2016 September 20, 2016	1) Page 1 of 13	Approved By: _____ Charles L. Johnson, III HHC Executive Vice President & Chief Financial Officer

Purpose: The purpose of this Policy is to set forth the Hartford HealthCare (HHC) policy for the provision of free or discounted Health Care Services to patients who meet the criteria for Financial Assistance. This Policy describes: (i) the eligibility criteria for Financial Assistance, and whether such assistance includes free or discounted Health Care Services; (ii) the basis for calculating amounts charged to patients; (iii) the method for applying for Financial Assistance; (iv) the collection actions that may be initiated in the event of non-payment, including civil collections actions and reporting to consumer credit reporting agencies; and (v) the Hospital’s approach to presumptive eligibility determinations and the types of information that the Hospital will use to assess presumptive eligibility.

This Policy is intended to comply with Section 501(r) of the Internal Revenue Code and the billing and collection requirements described in Chapter 368z of the Connecticut General Statutes and any regulations promulgated thereunder and must be interpreted and applied in accordance with those laws and regulations. This Policy will be adopted by the governing body of Hartford HealthCare on behalf of its affiliates.

Scope: This Policy applies to all Health Care Services provided by a Hartford HealthCare hospital facility. (Facilities listed in Appendix D)

Definitions:

“Eligibility Criteria” means the criteria set forth in this Policy to determine whether a patient qualifies for Financial Assistance for the Health Care Services provided.

“EMTALA” means the Emergency Medical Treatment and Labor Act, 42 USC 1395dd.

“Extraordinary Collection Activity” (ECA) means a collection action requiring a legal or judicial process, involving selling debt to another party, reporting adverse information to credit agencies or bureaus, or deferring or denying, or requiring a payment before providing, medically necessary care because of an individual’s nonpayment of one or more bills for previously provided care covered under HHC’s Financial Assistance Policy. The actions that require legal or judicial process for this purpose include 1) placing a lien; 2) foreclosing on real property; 3) attaching or seizing of bank accounts or other personal property; 4) commencing a civil action against an individual; 5) taking actions that cause an individual’s arrest; 6) taking actions that cause an individual to be subject to body attachment; and 7) garnishing wages.

“Family” means, pursuant to the Census Bureau definition, a group of two or more people who reside together and who are related by birth, marriage, civil union or adoption. For purposes of this Policy, if the patient claims someone as a dependent on the patient’s income tax return, that person may be considered a dependent for purposes of the provision of Financial Assistance.

“Family Income” means the following income when calculating Federal Poverty Level Guidelines of liquid assets: earnings, unemployment compensation, workers’ compensation, Social Security, Supplemental Security Income, public assistance, veterans’ payments, survivor benefits, pension or retirement income, interest, dividends, rents, business income, royalties, income from estates, trusts, educational assistance, alimony, child support, assistance from outside the household, and other miscellaneous sources of income. .

“Federal Poverty Level Guidelines” means the federal poverty level guidelines established by the United States Department of Health and Human Services in effect on the date of the provision of the Health Care Service for awards of Financial Assistance under this Policy.

“Financial Assistance” means free or discounted Health Care Services provided to persons who, pursuant to the Eligibility Criteria, HHC has determined to be unable to pay for all or a portion of such Health Care Services and to be eligible for free or discounted Health Care Services under this Policy.

“Free Bed Funds” means any gift of money, stock, bonds, financial instruments or other property made by any donor to a HHC hospital facility for the purpose of establishing a fund to provide medical care to a patient.

“Health Care Services” means (i) emergency medical services as defined by EMTALA; (ii) services for a condition which, if not promptly treated, will result in adverse change in the health status of the individual; (iii) non-elective services provided in response to life-

threatening circumstances in a non-emergency department setting; and (iv) medically necessary services as determined by HHC on a case-by-case basis at the provider's discretion.

"Liquid Assets" refers to how easily an asset can be exchanged for cash on short notice, without losing value. Items such as cash, gold or marketable securities are examples. On the converse, nonliquid asset examples are real estate (land and housing) and automobiles.

"Medically Indigent" means a person who HHC has determined to be unable to pay some or all of his or her medical bills because the medical bills exceed a certain percentage of the person's Family Income or Family Assets even though they have income or assets that otherwise exceed the generally applicable eligibility criteria for free or discounted care under the policy. Refer to Appendix A.

"Patient" means person receiving or registered to receive medical treatment or in context of the policy refers to the person liable for payment.

"Uninsured" means a patient who has no level of insurance or third party assistance to assist in meeting his or her payment obligations for Health Care Services and is not covered by Medicare, Medicaid, Tricare, or any other health insurance program of any nation, state, territory or commonwealth, or under any other governmental or privately sponsored health or accident insurance or benefit program including, but not limited to workers' compensation and awards, settlements or judgments arising from claims, suits or proceedings involving motor vehicle accidents or alleged negligence.

"Underinsured" means the patient has some level of insurance or third-party assistance but still has out-of-pocket Health Care Service expenses such as high deductible plans that exceed the patient's level of financial resources.

Policy: Consistent with its mission, it is Hartford HealthCare's policy to provide Financial Assistance to all eligible individuals who are Uninsured or Underinsured, ineligible for a government payer program, and otherwise unable to pay for Health Care Services due to their limited financial resources. It is also HHC's policy to provide without discrimination care for emergency medical conditions (as defined by EMTALA) to individuals regardless of their eligibility for Financial Assistance under this Policy or for government assistance. Finally, it is the policy of HHC to prohibit any action that discourages individuals from seeking emergency medical care, such as by demanding that Emergency Department patients pay before receiving treatment for emergency medical conditions. Nothing in this Policy shall be deemed to limit the Hospital's obligations under EMTALA to treat patients with emergency medical conditions.

I. Determining Eligibility.

In determining eligibility for Financial Assistance, it is important that both HHC and the patient work collaboratively. Specifically, HHC will do its best to apply the Eligibility Criteria in a reasonable manner and the patient will do his or her best in responding to requests for information in a timely, complete, and accurate manner. If the documentation provided by the patient or his/her family is incomplete or inconsistent with the application we will request clarification to assist in making a decision about eligibility for financial assistance.

1. Eligibility for Financial Assistance. Individuals who are Uninsured or Underinsured, ineligible for any government health care benefit program and unable to pay for their Health Care Services may be eligible for Financial Assistance pursuant to this Policy. Financial Assistance also may be available for individuals who are Medically Indigent. The granting of Financial Assistance shall be based upon an individualized determination of financial need, and shall not take into account age, gender, race, color, national origin, marital status, social or immigrant status, sexual orientation or religious affiliation. The Financial Assistance Application outlines the documents required to verify family size and income.

Further, to be eligible for Financial Assistance, an individual must cooperate with HHC, provide the requested information and documentation in a timely manner, complete the required application form truthfully, and notify HHC promptly of any change in his or her financial situation so that HHC can assess the change's impact on the individual's eligibility for financial assistance.

2. Process for Determining Eligibility for Financial Assistance. In connection with determining eligibility for Financial Assistance, HHC (i) will require that the patient complete an application for Financial Assistance and provide other financial information and documentation relevant to making a determination of financial eligibility; (ii) may rely upon publicly available information and resources to verify the financial resources of the patient or a potential guarantor; (iii) may pursue alternative sources of payment from public and private payment benefit programs; and (iv) may review the patient's prior payment history.

3. Processing Requests. HHC will use its best efforts to facilitate the determination process before rendering services so long as the determination process does not interfere with the provision of emergency medical services as defined under federal law. However, eligibility determinations can be made at any time during the revenue cycle. During the eligibility determination process, HHC will at all times treat the patient or their authorized representative with dignity and respect and in accordance with all state and federal laws.

4. Financial Assistance Guidelines. Eligibility criteria for Financial Assistance may include family size, liquid and non-liquid assets, employment status, financial obligations, amount and frequency of healthcare expense (i.e. Medically Indigent) and other financial resources available to the patient. Family size is determined based upon the number of dependents living in the household. Information collected will be used to corroborate information generated by predictive analytical software used in making a determination of financial assistance. In particular, eligibility for Financial Assistance will be determined in accordance with the following guidelines:

(a) Uninsured Patients:

- (i) Published rates will be reduced by the percentage defined by the IRS as the amount generally billed using a “look back” retrospective calculation to calculate the amount allowed by governmental (Medicare and Medicaid) and commercially insured patients. This percentage will be updated on an annual basis. The annual calculation methodology and the percentages are located in Appendix A of this policy.
- (ii) If Family Income is verified to be at or below 250% of the Federal Poverty Level Guidelines, the patient will qualify for a 100% discount of the amount generally billed.
- (iii) If Family income is verified between 250% and 400% of the Federal Poverty Level Guidelines, the patient will qualify for a 25-75% discount of the amount generally billed.
- (iv) A patient may also qualify for Free Bed Funds in accordance with the Hospital’s Free Bed Funds criteria.
- (vi) Payment plans will be extended for any patient liability identified in a manner consistent with the Hartford HealthCare’s Payment Plan Policy, a copy of which is available from the Financial Assistance team as provided below and on the Hartford HealthCare and subsidiary websites.
- (vii) Refunds will be issued for any payments of \$5.00 or more that exceed the patient’s personal liability.

(b) Underinsured Patients:

- (i) If Family Income is verified to be at or below 250% of the Federal Poverty Level Guidelines, the patient will qualify for a 100% discount against the patient's account balance after insurance payments from third-party payors are applied. Underinsured patients will not be billed more than amounts generally billed (AGB) to insured patients.
- (ii) If Family Income is verified between 250% and 400% of the Federal Poverty Level Guidelines, the patient will qualify for a 25-75% discount against the patient's account balance after insurance payments from third-party payers are applied.
- (iii) A patient also may qualify for Free Bed Funds in accordance with the Hospital's Free Bed Funds criteria.
- (v) Payment plans will be extended for any patient liability identified in a manner consistent with HHC's Payment Plan Policy, a copy of which is available from the Financial Assistance team as provided below.
- (vi) Refunds will be issued for any payments of \$5.00 or more that exceed the patient's personal liability

(c) ***Medically Indigent:***

A Patient will be required to submit a Financial Assistance Application along with other supporting documentation, such as medical bills, drug and medical device bills and other evidence relating to high-dollar medical liabilities, so that Hartford Health Care can determine whether the patient qualifies for Financial Assistance due to the patient's medical expenses and liabilities. This discount will be considered after other discounts have been applied and the patient is still unable pay for the Health Care Service provided. This discount will be applied as described in Appendix A.

(d) ***Presumptive Eligibility:*** Eligibility for Financial Assistance may be presumed based on the patient's life circumstances. The list below is representative of circumstances under which a patient is deemed to be eligible for a 100% discount without further need to complete a Financial Assistance Application:

1. The patient's receipt of state-funded prescription programs
2. Participation in Women, Infants and Children programs
3. Food stamp eligibility (SNAP)
4. Subsidized school lunch program eligibility
5. Subsidized housing or other public assistance eligibility

6. Patient states that he/she is homeless and additional due diligence on such status performed and documented
7. Patient is identified to have an income of 250% of the Federal Poverty Level or less, as verified by electronic industry standard software

II. Method for Applying for Financial Assistance. Copies of the Financial Assistance Application and instructions are available online at [www.HarfordHealthCare.org, or on each hospital facility's website], by requesting a copy in person at any of the HHC hospitals' patient admission or registration areas as identified in Appendix B, or by requesting a free copy by mail by contacting the HHC hospitals' Patient Access Services department. Additional contact information is provided in Appendix B of this policy. In addition, patients may ask any nurse, physician, chaplain, or staff member from Patient Registration, Patient Financial Services, Office of Professional Services, Case Coordination, or Social Services about initiating the Financial Assistance Application process.

To apply for Financial Assistance, a patient must complete HHC's Financial Assistance Application Form. The individual will provide all supporting data required to verify eligibility, including supporting documentation verifying income described below.

Patients may submit an application up to 240 days from the date on which HHC issues its first, post-discharge billing statement. If an individual has not submitted an application within the first 120 days from the date on which HHC issues its first, post-discharge billing statement, then HHC may begin engaging in the collection actions described below.

Before HHC initiates any collection actions, it will issue a written notice to the last known address of record for the patient (or his/her family) that describes the specific collection activities it intends to initiate (or resume), provides a deadline after which such action(s) will be initiated (or resumed), and includes a plain-language summary of this Policy. HHC may initiate collection activities no sooner than 30 days from the date on which it transmits this written initiation notice, either by mail or electronic mail.

If HHC receives an incomplete application form, it will provide the patient (or his or her legal representative) with a list of the missing information or documentation and give the patient 30 days to provide the missing information. Extraordinary collection activities (ECA's) will be suspended during this 30 day period. If the patient does not provide the missing information within this period, HHC may commence collection actions including ECA's (assuming it has provided the written notice described above).

If HHC receives a completed application form, it will make and document eligibility determinations in a timely manner. If an application is deemed complete HHC will provide to the patient or his or her legal representative, a written determination of financial eligibility within fifteen (15) business days. Decisions by HHC that the patient does not qualify for Financial Assistance may be appealed by the patient, or his or her legal representative, within fourteen (14) calendar days of the date of the written determination.

If the patient or his or her legal representative appeals the determination, the Director of Patient Access (or designee) will review the determination along with any new information and make a final decision within fifteen (15) business days. During this review and decision making period, Hartford Healthcare will suspend any ECA's. If financial assistance is not approved, Hartford Healthcare will resume its collection activities after the 14 calendar days afforded for appeal.

Signage and written information regarding how to apply for Financial Assistance will be available in the Hospital emergency service departments and patient registration areas.

Once a patient or his or her legal representative requests information about Financial Assistance, a financial counselor will provide the patient or his or her legal representative with the Financial Assistance Application along with a list of the required documents that must be provided to process the application.

Approved Financial Assistance Applications will be valid for six months from the date HHC's makes its eligibility determination.

Patients may apply for Financial Assistance at any time during the collection cycle process or within 240 days from the date of the first Self Pay notice.

III. Calculating Amounts Charged to Patients

Notwithstanding anything else in this Policy, no individual who is determined to be eligible for financial assistance will be charged more for emergency or other medically necessary care than the amount generally billed to individuals who have insurance covering such care. The basis to which any discount is applied is equivalent to the billed charges posted to a patient account minus any prior insurance payments and adjustments from the patient's insurance (if applicable).

IV. Relationship to Hartford HealthCare's Collection Practices.

In the event a patient fails to qualify for Financial Assistance or fails to timely pay his or her portion of discounted charges pursuant to this Policy, HHC reserves the right to institute and pursue Extraordinary Collection Actions (ECA) and remedies such as imposing wage garnishments or filing liens on primary or secondary residences, bank or investment accounts, or other assets, instituting and prosecuting legal actions and reporting the matter to one or more credit rating agencies. For those patients who qualify for Financial Assistance and who, in HHC's sole determination, are cooperating in good faith to resolve the outstanding accounts, HHC may offer extended payment plans to eligible patients. For patients who meet the terms of the payment plan HHC will not impose wage garnishments or liens on primary residences, and will not send unpaid bills that are part of the payment plan to outside collection agencies.

No ECA will be initiated during the first 120 days following the first post-discharge billing statement to a valid address or during the time that the patient's Financial Assistance Application is processing. Before initiating any ECA, a notice will be provided to the patient 30 days prior to initiating such event.

If the patient applies for assistance within 240 days from the first notification of the self-pay balance, and is granted assistance, any ECA's such as negative reporting to a credit bureau or liens that have been filed will be removed.

V. Publication and Education. HHC will provide information about its Financial Assistance Policy as follows: (i) provide signs regarding this Policy and written plain language summary information describing the Policy along with Financial Assistance contact information in the Emergency Department, Labor and Delivery areas and other patient registration areas; (ii) provide to each patient written plain language summary information describing the Policy along with Financial Assistance contact information in admission, patient registration, discharge, billing and collection written communications; (iii) make paper copies of the Policy, financial assistance application, and plain language summary of the Policy available upon request and without charge, both by mail and in public locations in the hospital facility, including the emergency room (if any) and admissions areas; (iii) post the Policy, plain language summary and financial assistance application on the website with clear linkage to such documents on the HHC's home page; (iv) educate all admission and registration personnel regarding the Policy so that they can serve as an informational resource to patients regarding the Policy; and (v) include the tag line "Please ask about our Financial Assistance Policy" in HHC written publications.

VI. Covered/Non-Covered Provider List. Attached as Appendix C to this Policy is a list of providers independent of HHC that deliver emergency or other medically necessary care in HHC's facility and identifies whether the care they provide is (or is not) covered by this Policy. The Board of Directors of HHC delegates the authority to update Appendix C as needed to the Executive Vice President and Chief Financial Officer.

VII. Relation to Free Bed Funds. If a patient applies for Financial Assistance, the Hospital will determine his or her eligibility for Financial Assistance and or Free Bed Funds.

VIII. Regulatory Compliance. The Hospital will comply with all state and federal laws, rules and regulations applicable to the conduct described in this Policy.

APPENDIX A

Federal Poverty Guidelines Effective January 2015

		250%** FPG	275%** FPG	300%** FPG	325%** FPG	400%** FPG
Size of Family	Poverty Guideline	100% Awarded	75% Awarded	50% Awarded	25% Awarded	25% Awarded
1	\$11,770	\$29,425	\$32,368	\$35,310	\$38,253	\$47,080
2	\$15,930	\$39,825	\$43,808	\$47,790	\$51,773	\$63,720
3	\$20,090	\$50,225	\$55,248	\$60,270	\$65,293	\$80,360
4	\$24,250	\$60,625	\$66,688	\$72,750	\$78,813	\$97,000
5	\$28,410	\$71,025	\$78,128	\$85,230	\$92,333	\$113,640
6	\$32,570	\$81,425	\$89,568	\$97,710	\$105,853	\$130,280
7	\$36,730	\$91,825	\$101,008	\$110,190	\$119,373	\$146,920
8	\$40,890	\$102,225	\$112,448	\$122,670	\$132,893	\$163,560

*In no case will the Patient's Balance Due after Discount is applied be more than 10% of annual gross family income

For families with more than 8 members, add \$4,160 (multiplying factor) for each additional member

Medically Indigent/Catastrophic Financial Assistance*

Medically Indigent/Catastrophic Eligibility:	
Balance Due	Discount
Balance due is \geq 100% of patient's annual gross family	90% of balance due
Balance due is \geq 90% of patient's annual gross family	85% of balance due
Balance due is \geq 80% of patient's annual gross family	80% of balance due
Balance due is \geq 70% of patient's annual gross family	75% of balance due
Balance due is \geq 60% of patient's annual gross family	70% of balance due
Balance due is \geq 50% of patient's annual gross family	65% of balance due

*In no case will the Patient's Balance Due after Discount is applied be more than 10% of annual gross family income

Average Generally Billed* (AGB's) by Facility/Group

Facility/Physician Group	Average Generally Billed (AGB)	Uninsured Discount as of 1/1/16
Backus Hospital	41%	59%
Hospital of Central Connecticut	41%	59%
Hartford Hospital	40%	60%
Hartford Healthcare Medical Group	40%	60%
Midstate Medical Center	41%	59%
Windham Hospital	41%	59%
Natchaug	64%	36%
Rushford	66%	34%

*AGB rates calculated using all allowable claims including commercial, Medicare and Medicaid claims using period YTD September 2015. Each facility AGB will be calculated annually and effective on 1/1 of the next year.

APPENDIX B

Contact Information for Financial Assistance

Hartford HealthCare
Customer Service
1-877-HHC-Bill
hartfordhealthcare.org

Hartford Hospital
Financial Assistance Clearance Team
Main Admitting Department
80 Seymour Street
Hartford, CT 06102
1-877-545-3914
hartfordhospital.org

The Hospital of Central Connecticut
Financial Counselors
Main Admitting Department
100 Grand Street
New Britain, CT 06050
860-224-5181
thocc.org

MidState Medical Center
Financial Counselors
Main Admitting Department
435 Lewis Avenue or 455 Lewis Avenue
Meriden, CT 06451 Meriden, CT 06451
203-694-8213 203-694-8456
midstatemedical.org midstatemedical.org

William W. Backus Hospital
Financial Counselors
Financial Counseling Unit
326 Washington Street
Norwich, CT 06030
860-889-8331 x 2917
backushospital.org

Windham Memorial Hospital
Financial Counselors

Main Admitting Department
112 Mansfield Avenue
Willimantic, CT 06226
860.456.6706 or 860.456.6109
windhamhospital.org

Natchaug Hospital
189 Storrs Road
Mansfield, CT 06250
1-800-426-7792
nathaug.org

Rushford
1250 Silver Street
Middletown, CT 06457
1-877-577-3233
rushford.org

APPENDIX C

List of Providers Independent of HHC Which Are Covered/Not Covered by the HHC Financial Assistance Policy

With respect to the provision of emergency and medically necessary care in HHC's facility, care provided by the following independent providers is covered by this Policy:

1. Hartford Medical Group (HHCMG)
2. Employed Physicians of Hartford Healthcare including all hospitalists and ED providers at Hartford Hospital, The Hospital of Central Connecticut and William W. Backus Hospital.

With respect to the provision of emergency and medically necessary care in HHC's facility, care provided by the following independent providers is not covered by this Policy:

1. Services provided by Hartford Healthcare affiliates other than those listed in Appendix B are not covered by this policy.
2. Providers providing the following services are excluded from this policy: Radiology, Pathology, Anesthesia and ED providers at Midstate Medical Center and Windham Memorial Hospital.
3. If you have questions regarding the status of your provider, please call your hospital contact listed in Appendix B.

Appendix D: Hartford Healthcare Facilities covered by this policy

Backus Hospital

Hospital of Central Connecticut

Hartford Hospital

MidState Medical Center

Natchaug Hospital

Rushford

Windham Hospital

Exhibit 6: Copy of Financial Worksheet A

**Applicant: Hartford Hospital
Financial Worksheet (A)**

NON-PROFIT

Please provide one year of actual results and three years of projections of **Total Entity** revenue, expense and volume statistics without, incremental to and with the CON proposal in the following reporting format:

LINE	Total Entity: Description	(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13)												
		FY2016	FY2017			FY2018			FY2019			FY2020		
		Actual Results	Projected W/out CON	Projected Incremental	Projected With CON	Projected W/out CON	Projected Incremental	Projected With CON	Projected W/out CON	Projected Incremental	Projected With CON	Projected W/out CON	Projected Incremental	Projected With CON
A. OPERATING REVENUE														
1	Total Gross Patient Revenue	\$2,773,771,607	\$2,796,280,117	\$0	\$2,796,280,117	\$2,838,224,319	\$44,517,931	\$2,882,742,250	\$2,880,797,684	\$21,682,203	\$2,902,479,887	\$2,924,009,649	\$20,466,749	\$2,944,476,398
2	Less: Allowances	\$1,646,017,567	\$1,629,633,429	\$0	\$1,629,633,429	\$1,620,983,749	\$20,349,336	\$1,641,333,085	\$1,650,445,375	\$10,049,183	\$1,660,494,558	\$1,675,245,203	\$9,934,192	\$1,685,179,395
3	Less: Charity Care	\$26,237,297	\$20,945,000	\$0	\$20,945,000	\$21,259,175	\$0	\$21,259,175	\$21,578,063	\$0	\$21,578,063	\$21,901,734	\$0	\$21,901,734
4	Less: Other Deductions	\$75,804,589	\$56,373,816	\$0	\$56,373,816	\$57,219,423	\$0	\$57,219,423	\$58,077,715	\$0	\$58,077,715	\$58,948,880	\$0	\$58,948,880
	Net Patient Service Revenue	\$1,025,712,153	\$1,089,327,872	\$0	\$1,089,327,872	\$1,138,761,972	\$24,168,595	\$1,162,930,567	\$1,150,696,531	\$11,633,020	\$1,162,329,551	\$1,167,913,832	\$10,532,557	\$1,178,446,389
5	Medicare	\$396,213,947	\$415,879,594	\$0	\$415,879,594	\$427,609,970	\$6,436,401	\$434,046,371	\$433,981,279	\$3,283,164	\$437,264,443	\$440,447,851	\$2,971,983	\$443,419,834
6	Medicaid	\$133,728,878	\$141,762,220	\$0	\$141,762,220	\$143,888,653	\$1,516,508	\$145,405,161	\$146,046,983	\$712,014	\$146,758,997	\$148,237,688	\$637,271	\$148,874,959
7	CHAMPUS & TriCare	(\$200,498)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
8	Other	\$0	\$9,392,767	\$0	\$9,392,767	\$9,533,659	\$72,938	\$9,606,597	\$9,676,663	\$40,871	\$9,717,534	\$9,821,813	\$34,647	\$9,856,460
	Total Government	\$529,742,327	\$567,034,581	\$0	\$567,034,581	\$581,032,282	\$8,025,847	\$589,058,129	\$589,704,925	\$4,036,049	\$593,740,974	\$598,507,352	\$3,643,901	\$602,151,253
9	Commercial Insurers	\$16,897,598	\$17,190,425	\$0	\$17,190,425	\$17,448,281	\$16,029,794	\$33,478,075	\$17,710,006	\$7,528,805	\$25,238,811	\$17,975,656	\$6,809,707	\$24,785,363
10	Uninsured	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
11	Self Pay	\$26,735,611	\$30,120,749	\$0	\$30,120,749	\$30,572,560	\$112,954	\$30,685,514	\$31,031,149	\$68,166	\$31,099,315	\$31,496,616	\$78,949	\$31,575,565
12	Workers Compensation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
13	Other (Includes other government)	\$526,442,912	\$474,982,117	\$0	\$474,982,117	\$509,708,849	\$0	\$509,708,849	\$512,250,451	\$0	\$512,250,451	\$519,934,208	\$0	\$519,934,208
	Total Non-Government	\$570,076,121	\$522,293,291	\$0	\$522,293,291	\$557,729,690	\$16,142,748	\$573,872,438	\$560,991,606	\$7,596,971	\$568,588,577	\$569,406,480	\$6,888,656	\$576,295,136
	Net Patient Service Revenue^a (Government+Non-Government)	\$1,099,818,448	\$1,089,327,872	\$0	\$1,089,327,872	\$1,138,761,972	\$24,168,595	\$1,162,930,567	\$1,150,696,531	\$11,633,020	\$1,162,329,551	\$1,167,913,832	\$10,532,557	\$1,178,446,389
14	Less: Provision for Bad Debts	\$4,020,775	\$14,304,000	\$0	\$14,304,000	\$14,518,560	\$0	\$14,518,560	\$14,736,338	\$0	\$14,736,338	\$14,957,383	\$0	\$14,957,383
	Net Patient Service Revenue less provision for bad debts	\$1,021,691,378	\$1,075,023,872	\$0	\$1,075,023,872	\$1,124,243,412	\$24,168,595	\$1,148,412,007	\$1,135,960,193	\$11,633,020	\$1,147,593,213	\$1,152,956,449	\$10,532,557	\$1,163,489,006
15	Other Operating Revenue	\$99,838,411	\$104,184,726	\$0	\$104,184,726	\$104,184,726	\$0	\$104,184,726	\$104,184,726	\$0	\$104,184,726	\$104,184,726	\$0	\$104,184,726
17	Net Assets Released from Restrictions	\$10,037,136	\$10,659,848	\$0	\$10,659,848	\$10,659,848	\$0	\$10,659,848	\$10,659,848	\$0	\$10,659,848	\$10,659,848	\$0	\$10,659,848
	TOTAL OPERATING REVENUE	\$1,131,566,925	\$1,189,868,446	\$0	\$1,189,868,446	\$1,239,087,986	\$24,168,595	\$1,263,256,581	\$1,250,804,767	\$11,633,020	\$1,262,437,787	\$1,267,801,023	\$10,532,557	\$1,278,333,580
B. OPERATING EXPENSES														
1	Salaries and Wages	\$414,371,503	\$415,417,280	\$0	\$415,417,280	\$426,841,255	\$330,000	\$427,171,255	\$439,646,493	\$336,600	\$439,983,093	\$452,835,888	\$343,332	\$453,179,220
2	Fringe Benefits	\$73,370,803	\$110,232,887	\$0	\$110,232,887	\$115,634,298	\$99,000	\$115,733,298	\$121,300,379	\$100,980	\$121,401,359	\$127,244,098	\$103,000	\$127,347,098
3	Physicians Fees	\$52,376,767	\$57,378,647	\$0	\$57,378,647	\$59,100,007	\$0	\$59,100,007	\$60,873,007	\$0	\$60,873,007	\$62,699,197	\$0	\$62,699,197
4	Supplies and Drugs	\$202,277,175	\$192,456,952	\$0	\$192,456,952	\$196,055,897	\$3,767,524	\$199,823,421	\$199,428,058	\$2,250,734	\$201,678,792	\$202,858,221	\$1,972,770	\$204,830,991
5	Depreciation and Amortization	\$45,004,340	\$51,906,513	\$0	\$51,906,513	\$54,883,000	\$166,667	\$55,049,667	\$57,815,000	\$166,667	\$57,981,667	\$60,903,635	\$166,667	\$61,070,302
6	Provision for Bad Debts-Other ^b	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7	Interest Expense	\$12,644,818	\$12,238,000	\$0	\$12,238,000	\$12,238,000	\$0	\$12,238,000	\$12,238,000	\$0	\$12,238,000	\$12,238,000	\$0	\$12,238,000
8	Malpractice Insurance Cost	\$9,143,421	\$12,701,081	\$0	\$12,701,081	\$13,235,000	\$0	\$13,235,000	\$13,764,000	\$0	\$13,764,000	\$14,314,144	\$0	\$14,314,144
9	Lease Expense	\$20,288,267	\$19,198,198	\$0	\$19,198,198	\$19,557,204	\$0	\$19,557,204	\$19,893,588	\$0	\$19,893,588	\$20,235,758	\$0	\$20,235,758
10	Other Operating Expenses	\$253,443,386	\$234,708,881	\$0	\$234,708,881	\$226,072,000	\$1,034,485	\$227,106,485	\$208,158,000	\$538,355	\$208,696,355	\$195,142,191	\$461,824	\$195,604,015
	TOTAL OPERATING EXPENSES	\$1,082,920,479	\$1,106,238,439	\$0	\$1,106,238,439	\$1,123,616,661	\$5,397,676	\$1,129,014,337	\$1,133,116,525	\$3,393,336	\$1,136,509,861	\$1,148,471,132	\$3,047,592	\$1,151,518,724
	INCOME/(LOSS) FROM OPERATIONS	\$48,646,446	\$83,630,007	\$0	\$83,630,007	\$115,471,325	\$18,770,919	\$134,242,244	\$117,688,242	\$8,239,684	\$125,927,926	\$119,329,891	\$7,484,965	\$126,814,856
	NON-OPERATING REVENUE	\$15,321,222	\$17,427,644	\$0	\$17,427,644	\$18,124,750	\$0	\$18,124,750	\$18,849,740	\$0	\$18,849,740	\$19,603,729	\$0	\$19,603,729
	EXCESS/(DEFICIENCY) OF REVENUE OVER EXPENSES	\$63,967,668	\$101,057,651	\$0	\$101,057,651	\$133,596,075	\$18,770,919	\$152,366,994	\$136,537,982	\$8,239,684	\$144,777,666	\$138,933,620	\$7,484,965	\$146,418,585
	Principal Payments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C. PROFITABILITY SUMMARY														
1	Hospital Operating Margin	4.2%	6.9%	0.0%	6.9%	9.2%	77.7%	10.5%	9.3%	70.8%	9.8%	9.3%	71.1%	9.8%
2	Hospital Non Operating Margin	1.3%	1.4%	0.0%	1.4%	1.4%	0.0%	1.4%	1.5%	0.0%	1.5%	1.5%	0.0%	1.5%
3	Hospital Total Margin	5.6%	8.4%	0.0%	8.4%	10.6%	77.7%	11.9%	10.8%	70.8%	11.3%	10.8%	71.1%	11.3%
D. FTEs														
		5,263	5,397	0	5,397	5,462	5	5,467	5,482	5	5,487	5,497	5	5,502
E. VOLUME STATISTICS^c														
1	Inpatient Discharges	43,336	43,762	0	43,762	44,454	1,813	46,267	45,104	362	45,466	45,604	290	45,894
2	Outpatient Visits	481,126	453,757	0	453,757	460,563	(1,029)	459,534	467,471	46	467,517	474,483	60	474,543
	TOTAL VOLUME	524,462	497,519	0	497,519	505,017	784	505,801	512,575	408	512,983	520,087	350	520,437

^aTotal amount should equal the total amount on cell line "Net Patient Revenue" Row 14.

^bProvide the amount of any transaction associated with Bad Debts not related to the provision of direct services to patients. For additional information, refer to FASB, No.2011-07, July 2011.

^cProvide projected inpatient and/or outpatient statistics for any new services and provide actual and projected inpatient and/or outpatient statistics for any existing services which will change due to the proposal.

Exhibit 7: Copy of financial assumptions

Financial Assumptions without CON:

Inflation Category and Percent FY'18	
Salaries	2.75%
Fringe Benefits	4.90%
Pension	\$38,200
Supplies & Other	1.87%
Malpractice	\$13,235
Purchased Services	0.04%
Depreciation and Amortization	\$54,883
Interest Expense	\$12,238

Inflation Category and Percent FY'19	
Salaries	3.00%
Fringe Benefits	4.90%
Pension	\$40,800
Supplies & Other	1.72%
Malpractice (Inflation Returned)	\$13,764
Purchased Services	0.04%
Depreciation and Amortization	\$57,815
Interest Expense	\$12,238

Inflation Category and Percent FY'20

Salaries	3.00%
Fringe Benefits	4.90%
Pension (Fred Memo)	\$40,800
Supplies & Other	1.72%
Malpractice	\$14,314
Purchased Services	0.04%
Depreciation and Amortization	\$60,904
Interest Expense	\$12,238

FTEs increase 65 for full year impact of lab employee transfer which were effective 1/1/17.

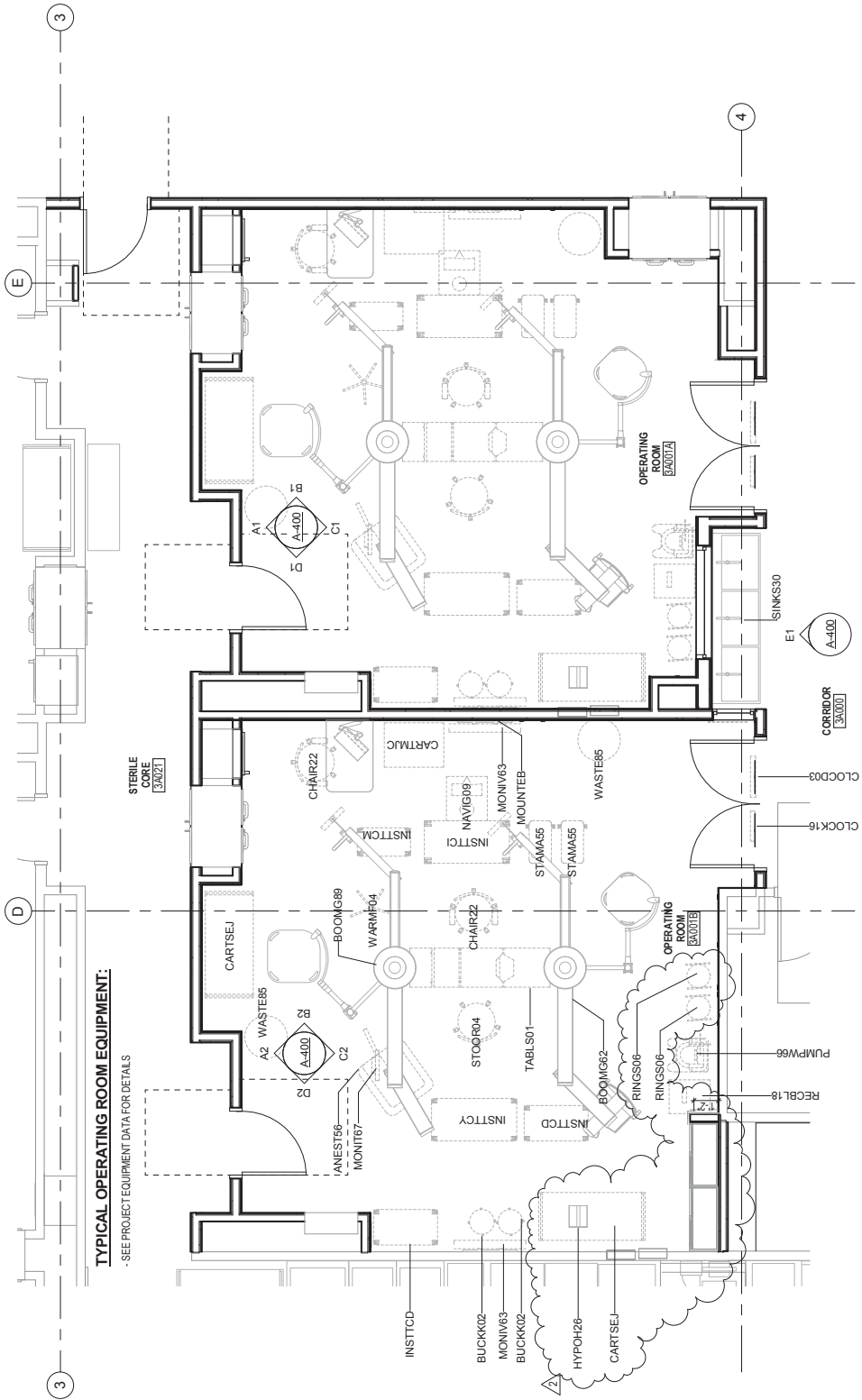
FTE growth for FY19 and FY20 are 20 and 15, respectively, for growth.

Transition growth: 1.6% FY2018, 1.5% FY2019 and 1.1% FY2020 based on prior years' growth trends.
Outpatient visits assuming 1.5% growth in line with revenue growth assumptions

Financial Assumptions incremental impact with CON:

- Five (5) additional FTEs will be hired for the new ORs. No additional staff will be hired in addition to the five
- There will be three (3) registered nurses and two (2) CSTs
 - 70k per RN with 30% fringe and 2% raise per year
 - 60k per CST with 30% fringe and 2% raise per year
- Projected payer mix is the same as actual budgeted 2017 payer mix and projected to stay the same for all years
- Charges, contractual allowances, and net revenues were based on taking an average of the actual payments by insurers
- Self-pay includes self-insurance, self-pay, and uninsured
- Supply and drug costs are based on actual costs and calculated as follows:
 - Joint surgery \$5,515 per case
 - Neuroscience surgery \$2,820 per case
 - Cardiology surgery \$7,423 per case
 - All other surgeries \$5,414 per case

Exhibit 8: Copies of the floor plan and equipment plan



D4 OPERATING ROOMS 3A001A & 3A001B EQUIPMENT PLAN

1/4" = 1'-0"



Supplemental CON Application Form
Increase of Two or More Operating Rooms
Conn. Gen. Stat. § 19a-638(a)(14)

Applicant: Hartford Hospital

Project Name: Harford Hospital Increase in Operating Room Capacity

1. Project Description: Increase in Operating Room Capacity

- a. Report the number of existing operating rooms, identifying the number that are equipped and utilized and the number that were built and shelled for future use.

Hartford Hospital currently has 42 operating rooms. All are equipped and utilized. One of the rooms is dedicated for trauma cases and not utilized for scheduled surgical minutes.

- b. Report the number of proposed operating rooms, identifying the number to be equipped and utilized and the number to be built and shelled for future use.

The Applicant proposes to add two (2) operating rooms, bringing the total number of rooms at the Hospital to 44. Both of the new operating rooms will be equipped and utilized.

2. Clear Public Need

- a. Provide the calculations used to determine the proposed number of operating rooms (relate this to the projected volumes, including information such as the estimated number of procedures per room) and include relevant documentation to support these estimates.

The surgical volume projections were based on historical utilization trends by service/specialty with consideration given to additional surgeon recruitments at Hartford Hospital that have been formalized or are in process. New surgical recruits are anticipated in cardiovascular surgery, neurosurgery, orthopedics and spine surgery. In addition, the projections include the growth of the structured heart program (also known as “TAVR” – Trans Aortic Valve Replacement), and the introduction of new highly-specialized, complex surgical programs in cardiac surgery and neuroscience, and incremental outpatient cases that were experienced due to the closure of the Hartford Surgery Center, December 31 2015. Also, increasing complexity of case loads and corresponding increase in operating room time needed to accommodate the growth was factored into the analysis.

- i. List all existing providers of the proposed service in the towns listed in Table 2 of the Main Application Form and in nearby towns.

Please note that to the best of the Applicant's knowledge, the following non-Hartford HealthCare providers have operating rooms in the Applicant's primary service area. We do not have access, however, to the data requested below in Table A for these providers.

- **John Dempsey Hospital**
- **Eastern Connecticut Health Network**
- **Bristol Hospital**
- **Middlesex Hospital**
- **Saint Francis Hospital**

TABLE A
EXISTING SERVICE PROVIDERS AND OPERATING ROOM CAPACITY

Facility Name	Facility ID*	Facility Address	Number of Operating Rooms				Estimated Capacity for Proposal		Current Utilization ⁷
			Available ¹	Utilized ²	Not Utilized ³	Equipped for Proposal ⁴	Min ⁵	Max ⁶	

Please see Attachment 1 for Table A.

Please provide either the Medicare, Connecticut Department of Social Services (DSS), or National Provider Identifier (NPI) facility identifier and label

column with the identifier used.

¹ Include used, equipped, and shell space.

² Include those actually used to perform surgeries.

³ Include those not used and those that are equipped or are only shell space.

⁴ Include those rooms that are uniquely equipped to perform the types of surgeries included in the proposal.

⁵ Minimum number of surgical cases to be performed in a single operating room for one year. Provide an explanation of the criteria or basis

used to estimate the number.

⁶ Maximum number of surgical cases of the type included in the proposal that can optimally be performed in a single operating room in one

year. Provide an explanation of the criteria or basis used to estimate the number.

⁷ Report the number of surgical cases for the most current 12 month period and identify the period covered

3. Actual and Projected Volume

- a. Complete the following tables for the past three fiscal years (“FYs”), current fiscal year (“CFY”), and first three projected FYs of the proposal for the outpatient surgical case volume of each of the Applicants and physicians involved in the proposal.
- b. In **Table B**, report the units of service by specialty (e.g., thoracic, orthopedic, etc.), and in **Table C**, report the units of service by each existing and proposed operating room

TABLE B
HISTORICAL SURGICAL VOLUME BY SPECIALTY (E.G., THORACIC, ORTHOPEDIC, ETC.)

Service**	Actual Volume (Last 3 Completed FYs)			CFY Volume*	Projected Volume		
	FY 2014	FY 2015	FY 2016	FY 2017*	FY 2018	FY 2019	FY 2020
Access	667	670	712	353	654	654	654
Bariatric	424	460	500	230	482	498	515
CV	936	1004	994	495	991	1016	1066
ENT	938	882	982	541	1200	1220	1250
General	5810	5704	5460	2675	5376	5376	5376
Gyn	2442	2411	2772	1374	2880	2880	2880
Joint	1707	1699	1587	882	2546	2625	2704
Neuro	473	506	538	288	656	668	682
Neuro Spine	-	-	-	334	808	808	808
OMF	203	174	209	99	239	244	249
OP Podiatry	363	272	297	114	-	-	-
Ophthalmology	1290	1490	1557	660	1332	1332	1332
Ortho	2131	1995	2092	1027	1607	1703.42	1737.488
Ortho Spine	1005	1083	986	163	302	352	375
Pacer/AICD	-	248	230	93	260	299	341
Plastic	1676	1726	1711	830	1781	1781	1781
Podiatry	454	446	469	260	538	554.05	560
PV	1742	1069	1029	565	1152	1152	1152
Robo	1134	1006	1006	502	1002	1002	1002
Structural Heart (TAVR)	71	98	160	112	240	260	280
Thoracic	-	489	636	311	678	678	678
Urology	464	502	531	307	651	681	711
Total (less Trauma)	23,930	23,934	24,458	12,215	25375	25783	26133
Trauma	181	138	154	75	147	147	147
Total	24111	24072	24612	12290	25522	25930	26280

1) Spine Surgery separated into Neuro Spine & Ortho Spine in October 2016

2) FY2017 time period is October 1, 2016-March 31, 2017

* For periods greater than 6 months, report annualized volume, identifying the number of actual months covered and the method of annualizing. For periods less than six months, report actual volume and identify the period covered.

** If the first year of the proposal is only a partial year, provide the first partial year and then the first three full FYs. Add columns as necessary.

*** Identify the number of surgical cases for each specialty - add lines as necessary.

**** Fill in years. In a footnote, identify the period covered by the Applicant's FY (e.g., July 1-June 30, calendar year, etc.).

TABLE C
HISTORICAL SURGICAL VOLUME BY OPERATING ROOM

Operating Room***	Actual Surgical Case Volume (Last 3 Completed FYs)			CFY Volume*	Projected Surgical Case Volume (First 3 Full Operational FYs)**		
	FY ****	FY ****	FY ****	FY ****	FY ****	FY ****	FY ****
Total							

Please see Attachment 2 for Table C.

Note: * Surgical volume for FY 2017 reflects the gradual transition of volume from Hartford Hospital main campus OR to new ORs brought on-line with the opening of the Bone & Joint Institute. While there are 46 ORs listed with volume, the Applicant never used more than 42 rooms. The BJI rooms were not in operation until January 9th 2016; once the BJI opened the Applicant stopped using the rooms the BJI occupied at the Hospital.

*For periods greater than 6 months, report annualized volume, identifying the number of actual months covered and the method of annualizing. For periods less than six months, report actual volume and identify the period covered.

** If the first year of the proposal is only a partial year, provide the first partial year and then the first three full FYs. Add columns as necessary.

*** Identify the number of surgical cases for each specialty - add lines as necessary.

**** Fill in years. In a footnote, identify the period covered by the Applicant's FY (e.g., July 1-June 30, calendar year, etc.).

c. Explain any increases and/or decreases in volume in the tables above.

Key areas of projected volume declines:

- **Ortho Spine and Neuro Spine: substantial increases and declines are due to a change in reporting. Prior to 2017, Neuro Spine cases were included in the Ortho Spine case count.**
- **OP Podiatry: Effective March 2017, cases will be performed in the Bone & Joint Institute's ASC, which is operated under a separate license.**
- **Ortho: Effective March 2017, outpatient cases will be performed in the Bone & Joint Institute's ASC, which is operated under a separate license.**
- **Ophthalmology: Glaucoma cases are largely shifting to the Hartford Hospital Eye Surgery Center, which operates under a separate OR license.**

Key areas of projected volume increases:

- **Cardiac Surgery, Structural Heart, Pacer/AICD, Peripheral Vascular: Nationally, open heart surgery rates are projected to decline, and this trend is being realized at Hartford Hospital. With the development of the Heart & Vascular Institute, highly-specialized programs are being developed and offered to patients to treat complex conditions. Additionally, due to the nature of these programs, many are safer treatment options for patients who were not eligible for open heart surgery.**
- **Joint: Following the January 2017 opening of the Bone & Joint Institute at Hartford Hospital, demand for joint services has increased substantially. More joint patients are seeking their care at Hartford Hospital due to the patient-centered, integrated,**

coordinated care delivery model across the patient's whole continuum of care. Additionally, several physicians have applied for privileges at Hartford Hospital to join the Bone & Joint Institute's model of care.

- **Neuro:** With the development of the Ayer Neuroscience Institute, the Institute is focusing on providing access to highly-specialized care for area patients, close to home. An example of such care is the development of a deep brain stimulation program.

- d. Provide a detailed description of all assumptions used in the derivation/calculation of the projected volumes.

Several inputs were utilized when developing assumptions. The Hospital reviewed current and historic volumes by service as part of the operating room utilization study.

Additionally, interviews were conducted with clinical leadership of each service to understand trends in care delivery and projected growth and declines by service. Finally, the Advisory Board Estimator tool was used to develop local projections over the next five years for inpatient and outpatient services (which factors in the market's anticipated changes in population and care management).

Substantial growth is anticipated, particularly within three of the Hospital's institutes:

Heart & Vascular Institute:

- **Structural heart, also known as "TAVR" (Trans Aortic Valve Replacement):** This has been an area of growth, and continued growth is anticipated due to the expanded indications for TAVR eligibility.
- **Cardiac Surgery:** The Heart & Vascular Institute is projecting increases due to the rise in valve procedures. Furthermore, the Institute will be introducing several sub-specialized services in cardiovascular, including robotic surgery and an aortic center.

Ayer Neurosciences Institute:

- **Neuro Surgery:** The Advisory Board predicts a 12% increase in neurosurgery in the Hartford area; additionally, with the formation of the Ayer Neuroscience Institute, the Hospital will be providing access to the community to highly-specialized, complex services such as deep brain stimulation

Bone & Joint Institute:

- **Orthopedics:** The Advisory Board predicts a 3.2% increase in joint-related procedures in the Hartford area. Furthermore, with the opening of the Bone & Joint Institute, demand for services has increased substantially. More patients are seeking their care at Hartford Hospital due to the patient-centered, integrated, coordinated care delivery model across the patient's whole continuum of care. Additionally, several physicians have applied for privileges at Hartford Hospital to join the Bone & Joint Institute's model of care.

- e. Provide a discussion on any shift of surgical procedures from existing operating rooms to the proposed operating rooms.

With two additional operating rooms, the Hospital will have the ability to optimize which services are delivered in each operating room across the Hospital’s campus. The new operating rooms would be constructed at the Bone & Joint Institute on the Hospital’s main campus and would accommodate the projected growth in orthopedics. However, those operating rooms would give the Hospital the flexibility to relocate additional services to those operating rooms, freeing up capacity in existing operating rooms to accommodate projected growth in highly-complex, sub-specialized areas such as cardiac surgery and neurosurgery.

- f. For a hospital Applicant, provide inpatient volume in the formats presented in Tables D and E and describe any impact the proposal will have on the Applicant’s inpatient surgery volumes.

Please see Attachment 3 for Table D.

- g. Categorize the outpatient surgical procedures that have been performed by the Applicant during the past three fiscal years and report the total time required to perform the surgical cases by specialty. Note: totals should match those provided in **Tables B and C**.

TABLE D
PROCEDURE TIME BY SPECIALTY (E.G., THORACIC, ORTHOPEDIC, ETC.)

Specialty**	FY ***		FY ***		FY ***	
	Surgical Case Volume*	Total Time	Surgical Case Volume*	Total Time	Surgical Case Volume*	Total Time
Total*						

* Ensure that the totals in this table correspond to the totals in Tables 2 and 3, or provide an explanation for why they do not.

** Identify each specialty category, and add lines as necessary.

*** Fill in years. In a footnote, identify the period covered by each Applicant’s FY (e.g., July 1-June 30, calendar year, etc.)

Please see Attachment 3 for Table D

- h. Using the total number of procedures performed and the total number of minutes as reported above, report the Applicant’s historical operating room utilization as requested in the table below. Note: totals should match those provided in **Tables B and C**.

TABLE E
HISTORICAL OPERATING ROOM UTILIZATION

	FY*	FY*	FY*	CFY*
Total number of surgical cases performed				
Annual increase in surgical cases performed	%	%	%	%
Number of operating rooms				
Avg. annual number of surgical cases per room				
Total number of surgical case hours				
Number of hours available per year				
Percentage of Total Hours Utilized	%	%	%	%

* Fill in years. For current fiscal year, report annualized volume, identifying the number of actual months covered and the method of annualizing if different from above.

Please see Attachment 4 for Table E.

- i. Identify the number of outpatient surgical cases actually performed and projected to be performed by the proposal’s physicians by facility:

Not applicable. The Hospital does not have multiple facilities.

TABLE F
ACTUAL/PROJECTED NUMBER OF SURGICAL CASES BY FACILITY

Facility Name	Physician Name	Specialty*	Actual by Fiscal Year				Projected by Fiscal Year		
			FY* *	FY* *	FY* *	CFY* *	FY**	FY* *	FY**

* Identify each specialty category, and add lines as necessary.

** Fill in years. In a footnote, identify the period covered by the Applicant’s FY (e.g., July 1-June 30, calendar year, etc.). For periods greater than 6 months, report annualized volume, identifying the number of actual months covered and the method of annualizing. For periods less than six months, report actual volume and identify the period covered.

4. Organizational Information

- a. Identify the current and proposed percentage of ownership.

Not applicable. All operating rooms will be owned by the Hospital and operated under its Connecticut Department of Public Health license.

List of Attachments:

Attachment 1: Table A

Attachment 2: Table C

Attachment 3: Table D

Attachment 4: Table E

Attachment 1: Table A

Attachment 1
Table A

Facility Name	Facility ID	Facility Address	Number of Operating Rooms				Estimated Capacity for Proposal	Estimated Capacity for Proposal	****Current Utilization
			*Available	**Utilized	Not Utilized	***Equipped for Proposal	***Min	***Max	
Hartford Hospital	07-0025	80 Seymour Street, Hartford, CT 06102-5037	42	42		N/A			12,290

****FY2017 October 1, 2016-March 31, 2017

Attachment 2: Table C

Table C
Historical Surgical Volume by Operating Room

FY2013		FY2014		FY2015		FY2016		FY2017 Thru March		FY2018		FY2019		FY2020	
38 Rooms	# Cases	38 Rooms	# Cases	38 Rooms	# Cases	38 Rooms	# Cases	42 Rooms	# Cases	44 Rooms	# Cases	44 Rooms	# Cases	44 Rooms	# Cases
B414	535	B414	606	B414	626	B414	617	B414	198	B414	489	B414	493	B414	498
B415	292	B415	313	B415	293	B415	270	B415	78						
B417	379	B417	415	B417	381	B417	420	B417	202						
B418	334	B418	317	B418	421	B418	418	B418	201	B418	489	B418	493	B418	498
B420	460	B420	463	B420	463	B420	426	B420	210	B420	489	B420	493	B420	498
B423	396	B423	432	B423	464	B423	455	B423	217	B423	489	B423	493	B423	498
B425	548	B425	600	B425	572	B425	558	B425	209	B425	489	B425	493	B425	498
B427	548	B427	611	B427	617	B427	575	B427	246	B427	489	B427	493	B427	498
B429	646	B429	653	B429	691	B429	699	B429	231	B429	488	B429	492	B429	497
B434	336	B434	427	B434	460	B434	473	B434	166	B434	488	B434	492	B434	497
B438	1,021	B438	1,059	B438	1,107	B438	1,069	B438	363	B438	951	B438	965	B438	975
Core 1	1,033	Core 1	1,099	Core 1	1,104	Core 1	1,018	Core 1	486	Core 1	1051	Core 1	1062	Core 1	1,073
Core 10	526	Core 10	543	Core 10	539	Core 10	546	Core 10	271	Core 10	575	Core 10	579	Core 10	585
Core 11	565	Core 11	683	Core 11	668	Core 11	766	Core 11	373	Core 11	575	Core 11	579	Core 11	585
Core 12	482	Core 12	584	Core 12	561	Core 12	619	Core 12	291	Core 12	575	Core 12	579	Core 12	585
Core 14	618	Core 14	641	Core 14	588	Core 14	616	Core 14	312	Core 14	575	Core 14	579	Core 14	585
Core 15	507	Core 15	509	Core 15	556	Core 15	531	Core 15	253	Core 15	575	Core 15	579	Core 15	585
Core 2	1,057	Core 2	1,050	Core 2	993	Core 2	922	Core 2	498	Core 2	575	Core 2	579	Core 2	585
Core 3	462	Core 3	506	Core 3	483	Core 3	473	Core 3	229	Core 3	575	Core 3	579	Core 3	585
Core 4	924	Core 4	921	Core 4	847	Core 4	886	Core 4	455	Core 4	575	Core 4	579	Core 4	585
Core 5	1,092	Core 5	1,157	Core 5	1,148	Core 5	1,271	Core 5	598	Core 5	1053	Core 5	1070	Core 5	1,073
Core 6	893	Core 6	1,025	Core 6	972	Core 6	999	Core 6	462	Core 6	575	Core 6	579	Core 6	585
Core 7	537	Core 7	620	Core 7	587	Core 7	582	Core 7	291	Core 7	575	Core 7	579	Core 7	585
Core 8	760	Core 8	762	Core 8	776	Core 8	815	Core 8	376	Core 8	575	Core 8	579	Core 8	585
Core 9	601	Core 9	666	Core 9	685	Core 9	759	Core 9	422	Core 9	575	Core 9	579	Core 9	585
HB401	628	HB401	645	HB401	611	HB401	640	HB401	304	HB401	575	HB401	579	HB401	585
HB403	364	HB403	397	HB403	417	HB403	453	HB403	202	HB403	377	HB403	386	HB403	390
HB406	408	HB406	368	HB406	311	HB406	358	HB406	134						
HB408	394	HB408	439	HB408	426	HB408	423	HB408	226						
HB412	138	HB412	159	HB412	218	HB412	219	HB412	140						
JB409A	589	JB409A	542	JB409A	718	JB409A	743	JB409A	267	JB409A	766	JB409A	772	JB409A	780
JB409B	584	JB409B	550	JB409B	571	JB409B	580	JB409B	265	JB409B	575	JB409B	579	JB409B	585
JB412	563	JB412	676	JB412	545	JB412	659	JB412	339	JB412	575	JB412	579	JB412	585
JB414	849	JB414	900	JB414	832	JB414	872	JB414	429	JB414	575	JB414	579	JB414	585
JB418	731	JB418	798	JB418	743	JB418	750	JB418	330	JB418	575	JB418	579	JB418	585
JB419B	722	JB419B	770	JB419B	775	JB419B	751	JB419B	357	JB419B	774	JB419B	772	JB419B	784
JB420	700	JB420	688	JB420	710	JB420	742	JB420	384	JB420	575	JB420	579	JB420	585
JB421	426	JB421	517	JB421	593	JB421	639	JB421	360	JB421	575	JB421	579	JB421	585
Total	22,648	Total	24,111	Total	24,072	Total	24,612	BJI1	159	BJI1	673	BJI1	702	BJI1	725
								BJI2	156	BJI2	673	BJI2	703	BJI2	724
								BJI3	129	BJI3	521	BJI3	547	BJI3	561
								BJI4	144	BJI4	521	BJI4	547	BJI4	561
								BJI5	111	BJI5	521	BJI5	547	BJI5	561
								BJI6	68	BJI6	521	BJI6	547	BJI6	561
								BJI7	63	BJI7	521	BJI7	547	BJI7	561
								BJI8	85	BJI8	521	BJI8	547	BJI8	561
								BJI9		BJI9	147	BJI9	147	BJI9	147
								BJI10		BJI10	521	BJI10	547	BJI10	561
								Total	12,290	Total	25,522	Total	25,930	Total	26,280

Note: * Surgical volume for FY 2017 reflects the gradual transition of volume from Hartford Hospital main campus OR to new ORs brought on-line with the opening of the Bone & Joint Institute. While there are 46 ORs listed with volume, the Applicant never used more than 42 rooms. The BJI rooms were not in operation until January 9th 2016; once the BJI opened the Applicant stopped using the rooms the BJI occupied at the Hospital.

Attachment 3: Table D

Table D**Procedure Time by Specialty (e.g., thoracic, orthopedic, etc.)**

Specialty	FY14		FY15		FY16		FY17 thru March		FY18		FY19		FY20	
	Cases	Minutes	Cases	Minutes	Cases	Minutes	Cases	Minutes	Cases	Minutes	Cases	Minutes	Cases	Minutes
Access	667	86,173	670	83,777	712	96,711	353	48,121	654	92,168	654	92,168	654	92,168
Bariatric	424	61,481	460	65,979	500	78,703	230	34,462	482	76,079	498	78,647	515	81,261
CV	936	315,777	1,004	317,856	994	336,997	495	170,426	991	350,876	1,016	359,776	1,066	377,576
ENT	938	145,088	882	141,564	982	162,524	541	90,558	1,200	205,368	1,220	208,734	1,250	213,854
General	5,810	928,329	5,704	902,874	5,460	932,699	2,675	472,855	5,376	1,119,858	5,376	1,119,858	5,376	1,119,858
Gyn	2,442	340,271	2,411	337,376	2,772	388,617	1,374	186,553	2,880	395,162	2,880	395,162	2,880	395,162
Joint	1,707	279,514	1,699	276,960	1,587	271,112	882	156,136	2,546	434,076	2,625	447,585	2,704	461,094
Neuro	473	126,521	506	138,473	538	135,932	288	71,009	656	167,641	668	170,356	682	173,524
Neuro Spine							334	76,598	808	201,608	808	201,608	808	201,608
OMF	203	40,518	174	34,134	209	40,694	99	17,570	239	45,050	244	46,008	249	46,940
OP Podiatry	363	32,944	272	24,571	297	29,085	114	11,386						
Ophthalmology	1,290	130,093	1,490	141,659	1,557	165,668	660	74,113	1,332	145,497	1,332	145,497	1,332	145,497
Ortho	2,131	329,614	1,995	304,726	2,092	317,632	1,027	163,506	1,607	286,850	1,703	304,060	1,737	310,142
Pacer/AICD			248	28,254	230	28,320	93	12,243	260	37,553	299	43,520	341	49,946
Plastic	1,676	240,194	1,726	245,096	1,711	263,236	830	131,203	1,781	272,691	1,781	272,691	1,781	272,691
Podiatry	454	35,037	446	32,927	469	40,048	260	22,548	538	46,038	554	47,410	560	47,919
PV	1,742	328,526	1,069	214,360	1,029	211,661	565	111,596	1,152	249,704	1,152	249,704	1,152	249,704
Robo	1,134	336,024	1,006	292,588	1,006	298,705	502	149,696	1,002	298,113	1,002	298,113	1,002	298,113
Spine	1,005	216,629	1,083	238,752	986	235,392	163	39,522	302	77,614	352	90,464	375	96,375
Structural Heart (TAVR)	71	20,012	98	24,565	160	36,511	112	23,966	240	55,080	260	59,670	280	64,260
Thoracic			489	89,119	636	121,632	311	58,603	678	135,863	678	135,863	678	135,863
Trauma	181	41,634	138	30,448	154	36,762	75	12,241	147	30,209	147	30,209	147	30,209
Urology	464	85,225	502	89,309	531	93,318	307	55,655	651	110,484	681	115,571	711	120,657
Total	24,111	4,119,604	24,072	4,055,367	24,612	4,321,959	12,290	2,190,566	25,522	4,833,579	25,930	4,912,672	26,280	4,984,418

Attachment 4: Table E

Table E**Historical Operating Room Utilization**

All Cases FY2014-FY2017 (FY2017 October 1, 2016-March 31, 2017)				
	FY2014	FY2015	FY2016	FY2017
Total number of cases performed	24,111	24,072	24,612	12,290
Annual increase in surgical cases performed	1,463	-39	540	-32
Number of operating rooms	38	38	38	**42
Avg. annual number of surgical cases per room	635	633	648	585
Total number of surgical case hours	68,660	67,589	72,033	36,509

*Annual increase in surgical cases performed FY2016 October 1, 2016-March 31, 2017 is annualized.

**Utilization of 42 rooms to effect on 2/6/2017

Block Cases FY2014-FY2017 October 1 2016-March 31, 2017				
	FY2014	FY2015	FY2016	FY2017
Total number of cases performed	21,594	21,684	22,151	11,061
Annual increase in surgical cases performed	1,186	90	467	-29
Number of operating rooms	38	38	38	**42
Avg. annual number of surgical cases per room	568	571	583	263
Total number of surgical case hours	62,011	61,390	64,829	32,858
Number of hours available per year	80,847	79,576	80,086	41,483
Percentage of Total Hours Utilized	77%	77%	81%	79%

*Annual increase in surgical cases performed FY2017 October 1, 2016-March 31, 2017 is annualized.

**BJI opened 1/9/2017 with 6 rooms, then ramped up to 8 rooms (42 total rooms) effective on 2/6/2017

Olejarz, Barbara

From: Carney, Brian
Sent: Thursday, May 18, 2017 2:51 PM
To: 'Barbara.Durdy@hhchealth.org'
Cc: Riggott, Kaila; Rival, Jessica; Olejarz, Barbara
Subject: Completeness letter for Docket 17-32164-CON
Attachments: 32164 Hartford Hospital 2 ORs.pdf; 32164 Hartford Hospital 2 ORs.docx

Good afternoon Barbara,

Please see the attached completeness letter in the above referenced matter. Please **confirm receipt** of this email and provide your written responses to OHCA no later than **July 17, 2017, 4:30 pm**.

Sincerely,
Brian A. Carney

Brian Carney, MBA
Associate Research Analyst
Connecticut Department of Public Health
Office of Health Care Access
410 Capitol Avenue, MS#13HCA
Hartford, CT 06134-0308
Phone - 860-418-7014
brian.carney@ct.gov



STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

Raul Pino, M.D., M.P.H.
Commissioner



Dannel P. Malloy
Governor
Nancy Wyman
Lt. Governor

Office of Health Care Access

Via Email Only

May 18, 2017

Ms. Barbara Durdy
Hartford HealthCare
Director, Strategic Planning
181 Patricia M. Genova Blvd.
Newington, CT 06111
barbara.durdy@hhchealth.org

RE: Certificate of Need Application: Docket Number: 17-32164-CON
Increase in Operating Rooms at Hartford Hospital
Certificate of Need Completeness Letter

Dear Ms. Durdy:

On April 18, 2017, OHCA received the Certificate of Need application from Hartford Hospital ("Applicant" or "Hospital") seeking authorization to increase operating room capacity on its main campus, with the addition of two operating rooms. OHCA requests additional information pursuant to Connecticut General Statutes §19a-639a(c). *Please "reply all" to electronically confirm receipt of this email as soon as you receive it.* Provide responses to the questions below in both a Word document and PDF format as an attachment to a responding email. ***Please email your responses to both of the following email addresses: OHCA@ct.gov and Kaila.Riggott@ct.gov.***

Paginate and date your response (i.e., each page in its entirety). Repeat each OHCA question before providing your response. Information filed after the initial CON application submission (e.g., completeness response letter, prefiled testimony, late file submissions, etc.) must be numbered sequentially from the Applicant's preceding document. Begin your submission using **Page 114** and reference "**Docket Number: 17-32164-CON.**"



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Hartford, Connecticut 06134-0308
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Affirmative Action/Equal Opportunity Employer



Pursuant to Section 19a-639a(c) of the Connecticut General Statutes, you must submit your response to this request for additional information no later than sixty days after the date this request was transmitted. Therefore, please provide your written responses to OHCA no later than **July 17, 2017, 4:30 p.m.**, otherwise your application will be automatically considered withdrawn.

1. Page 12 of the application states that “Hartford HealthCare has adopted an institute model to advance key service lines throughout the system. Please describe in detail the following:
 - a. define the institute service delivery model concept;
 - b. explain how this model has advanced service lines at Hartford Hospital; and
 - c. describe the impact on surgical volumes at Hartford Hospital.
2. The application states on page 13 that Hartford Hospital will be expanding its neurosurgical offering to include Deep Brain Stimulation surgery. What is the anticipated start date for this added service?
3. Page 14 of the application provides a table of surgical transfers.
 - a. Provide the source of the surgical transfers, by hospital, for FY 2013 through FY 2017 (October – March).
4. Please confirm that the volume listed on pages 29, 30 and 100 represents surgical cases.
5. Provide a breakout of the surgical cases in Table 5 (page 29) by inpatients and outpatients.
6. According to the application on page 103, the two proposed ORs will be located at the Bone and Joint Institute. Will these newly constructed ORs be used exclusively for outpatient orthopedic procedures? If not, explain how they will be utilized.
7. Explain why the incremental revenues, expenses and income from operations (page 90) are significantly higher in FY 2018, compared to FY 2019 and FY 2020. Explain the basis for the declines in each fiscal year?
8. Explain the incremental drop in outpatient visits (-1,029) in FY 2018 (listed on the Financial Worksheet, page 90).

9. The application states on page 102 that three of the Hospital's institutes (Heart and Vascular, Ayer Neurosciences and Bone & Joint Institute) project substantial growth.
- What is the anticipated growth in volume for the Heart and Vascular Institute?
 - Complete the table below to summarize Table D (page 111) by institute and specialty. Provide additional evidence (e.g., physician recruitment) as appropriate to support the projected increases within these three hospital institutes.

Institute	FY 2014		FY 2015		FY 2016		FY 2017 thru March		FY 2018		FY 2019		FY 2020	
	Surgical Cases	Minutes	Surgical Cases	Minutes	Surgical Cases	Minutes	Surgical Cases	Minutes	Surgical Cases	Minutes	Surgical Cases	Minutes	Surgical Cases	Minutes
Heart & Vascular														
Specialty A														
Specialty B														
Specialty C														
Sub total														
Ayer Neurosciences														
Specialty A														
Specialty B														
Specialty C														
Sub total														
Bone & Joint														
Specialty A														
Specialty B														
Specialty C														
Sub total														
Total														



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10. Page 113 of the application lists two tables with historical operating room utilization.
 - a. Explain the difference between the two tables (i.e., “All Cases” compared to “Block Cases”).
 - b. How is the “Total number of surgical case hours” calculated? Besides the actual time to complete the surgical procedure, what else is included in this total (e.g., cleanup)?
 - c. How is the “Number of hours available per year” calculated/determined? Provide the formula/methodology for determining available OR hours.
 - d. Expand Table E (page 113) to include projections for FY 2018, FY 2019 and FY 2020 (with and without the two additional ORs).

If you have any questions concerning this letter, please contact Kaila Riggott at (860) 418-7037.

Sincerely,

Brian A. Carney
Associate Research Analyst



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410 Capitol Avenue, P.O. Box 340308
Hartford, Connecticut 06134-0308
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Affirmative Action/Equal Opportunity Employer

Olejarz, Barbara

From: Durdy, Barbara <Barbara.Durdy@hhchealth.org>
Sent: Thursday, May 18, 2017 2:53 PM
To: Carney, Brian
Cc: Riggott, Kaila; Rival, Jessica; Olejarz, Barbara
Subject: RE: Completeness letter for Docket 17-32164-CON

Confirming receipt, thank you

From: Carney, Brian [mailto:Brian.Carney@ct.gov]
Sent: Thursday, May 18, 2017 2:51 PM
To: Durdy, Barbara
Cc: Riggott, Kaila; Rival, Jessica; Olejarz, Barbara
Subject: Completeness letter for Docket 17-32164-CON

Good afternoon Barbara,

Please see the attached completeness letter in the above referenced matter. Please **confirm receipt** of this email and provide your written responses to OHCA no later than **July 17, 2017, 4:30 pm**.

Sincerely,
Brian A. Carney

Brian Carney, MBA
Associate Research Analyst
Connecticut Department of Public Health
Office of Health Care Access
410 Capitol Avenue, MS#13HCA
Hartford, CT 06134-0308
Phone - 860-418-7014
brian.carney@ct.gov



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User, OHCA

From: Durdy, Barbara <Barbara.Durdy@hhchealth.org>
Sent: Friday, June 09, 2017 1:18 PM
To: Riggott, Kaila; User, OHCA
Cc: Carney, Brian
Subject: Response to Completeness Questions
Attachments: FINAL and FILED CON Completeness for Docket 17-32164-CON.pdf

Kaila,
Please confirm receipt.
Thank you and have a great weekend,
Barbara

This e-mail message, including any attachments, is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure, or distribution is prohibited. If you are not the intended recipient, or an employee or agent responsible for delivering the message to the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message, including any attachments.



June 9, 2017

Mr. Brian Carney
Associate Research Analyst
State of Connecticut Department of Public Health
Office of Health Care Access Division
410 Capital Avenue
P.O. Box 340308
Hartford, CT 06134-0308

RE: Certificate of Need Application **Docket Number: 17-32164-CON**
Increase in Operating Rooms at Hartford Hospital
Certificate of Need Completeness Letter

Mr. Carney:

Attached please find Hartford Hospitals' response to the Office of Health Care Access completeness questions dated May 18, 2017.

Please do not hesitate to contact me if you need additional information or have any further questions.

Sincerely,


Barbara A. Durdy
Director, Strategic Planning
Hartford HealthCare

SN: bd.

Attachment

1. Page 12 of the application states that “Hartford HealthCare has adopted an institute model to advance key service lines throughout the system. Please describe in detail the following:

- a. define the institute service delivery model concept;

As described in the CON application, Hartford HealthCare has adopted the Institute model for programmatic growth and development of key service lines including, orthopedics, neurosciences, cancer, cardiovascular services, urology and behavioral health.

The Institute structure is a “patient-centric” model for care delivery with a focus on creating a differentiated experience from both a quality and service stand point. The model allows for the optimum use of resources to promote innovation in patient care, while encouraging multidisciplinary teamwork to solve complicated patient care problems. The Institute model supports the establishment of consistent quality and service standards, cost reduction, and reduced variation in clinical practice.

- b. explain how this model has advanced service lines at Hartford Hospital; and

The adoption of the Institute model and the associated focused deployment of resources at Hartford Hospital has allowed for the recruitment of key clinical leadership and clinical talent enhancing the breadth and depth of specialty and sub-specialty services available within each service line. Two examples of subspecialty programs which will be available at Hartford Hospital as a result of the implementation of this care delivery model are 1) deep brain stimulation and 2) Robotic Mitral Center for valve repair. In both cases, the physician recruitment to establish these programs would not have been possible without the resources deployed in support of the service line Institutes at Hartford Hospital.

- c. describe the impact on surgical volumes at Hartford Hospital.

By means of focused resource commitments supporting the growth and development of key specialties and sub specialties, the Institute model has had a positive impact on surgical programs and volumes at Hartford Hospital.

2. The application states on page 13 that Hartford Hospital will be expanding its neurosurgical offering to include Deep Brain Stimulation surgery. What is the anticipated start date for this added service?

The Ayer Neuroscience Institute at Hartford HealthCare was established in FY 2015. Since then several key investments have been made to continuously enhance the array of services offered including the development of the Movement Disorders Center. During FY 16, Hartford HealthCare recruited into the Movement Disorders Program a neurosurgeon with expertise in Deep Brain Stimulation (DBS) therapies.

With this key recruitment, it became clear that that HHC was in a position to expand its service offering to include DBS within the Movement Disorder Center. Planning for the introduction of this service at Hartford Hospital is underway with commencement of these services anticipated during FY 2018.

3. Page 14 of the application provides a table of surgical transfers.
 - a. Provide the source of the surgical transfers, by hospital, for FY 2013 through FY 2017 (October – March).

Fifty-one percent of transfers into Hartford Hospital are from facilities outside the Hartford HealthCare system, illustrating the importance of the hospital’s ability to accommodate the highly-complex, critical care patients from across the state and beyond. Transfers into Hartford Hospital for surgical services have grown each year; from 2013-2016, transfers from outside the Hartford HealthCare system have grown by 22%, while overall transfers have grown by 54%. It is anticipated these transfers will continue to grow as Hartford Hospital further develops its institute model and broadens the array of specialty and subspecialty services provided. The growth of surgical transfers to Hartford Hospital underscores the need for flexibility in operating room scheduling in order to continue to accommodate these cases.

Please see Summary Table of Surgical Transfers below.

Surgical Transfers to Hartford Hospital- Summary Table

Transferring Organization	2013	2014	2015	2016	2017 (Oct-Mar)
Backus (William W) Hospital	123	255	319	414	189
Baystate - Mary Lane Hospital		2	2	3	
Baystate Franklin Medical Center		1			1
Baystate Medical Center	37	30	5	11	10
Berkshire Medical Center					1
Bradley Memorial Hospital (HOCC)	25	28	46	40	21
Brattleboro Hospital	1				
Bridgeport Hospital				1	
Brigham and Women's Hospital			1		
Bristol Hospital	46	38	42	38	21
Cape Cod Hospital	1				
Charlotte Hungerford Hospital	141	136	149	170	90
Charlton Memorial Hospital (Southcoast Hospital Group)			1		
Cheshire Medical Center	1				
Connecticut Childrens Medical Center	4	5	3	20	5
Cooley Dickinson Hospital	3	6	1	2	1
Danbury Hospital	3	3	7	7	1

Day Kimball Hospital	38	30	71	84	40
Fairview Hospital	1	2			2
Falmouth Hospital		1			
Framingham Union Hospital				1	
Greenwich Hospital		1			
Griffin Hospital	1	3	3	4	
Harrington Hospital	1	1	1	3	
Holyoke Medical Center	3	11	3	4	
Hospital for Special Care			1		
Hospital of Saint Raphael (YNH)		1			
Huggins Hospital	1				
Johnson Memorial Hospital	21	17	10	14	7
Kent Hospital				1	
Lahey Clinic Hospital Inc				1	
Lawerence & Memorial Hospital	24	16	21	21	5
Lawrence Memorial Hospital		8	1	1	
Manchester Memorial Hospital	93	98	111	119	52
Marlborough Clinic	108	82	109	113	62
Marlborough Hospital		7	2		
Mercy Medical Center	7	7	4	2	2
Middlesex Hospital	212	191	239	271	127
MidState Medical Center	133	152	220	221	107
Milford Hospital		2	2		
Nantucket Cottage Hosp				1	
Nashoba Valley Medical Center			1		
New Britain General Hospital (HOCC)	95	115	143	172	72
New Milford Hospital	2	4	6	5	1
Noble Hospital	3	8	5	1	2
Norwalk Hospital	3			1	
Other Facility	13	7	5	9	5
Pequot Health Center				2	1
Plainfield Emergency Care Center			43	77	34
Rhode Island Hospital				2	
Rockville Hospital	63	72	55	69	29
Saint Elizabeth's Medical Center			1		
Saint Francis Hospital & Medical Center	12	10	12	16	1
Saint Mary's Hospital	20	28	16	20	6
Saint Vincent Hospital			1	2	
Sharon Hospital	17	20	26	38	21

Shoreline Clinic (Westbrook)	15	27	26	30	19
South Shore Hospital					1
UCONN Medical Center / John Dempsey	19	22	24	20	39
Umass Memorial Medical Center				1	
Waterbury Hospital	46	82	62	60	29
Westerly Hospital	3	2	2	3	2
Winchester Hospital		1			
Windham Community Memorial Hospital	173	186	222	229	150
Wing Memorial Hospital & Medical Centers		1			
Winsted ED Clinic (part of CHH)			3	3	
Yale New Haven Hospital (YNH)	2	2	1	5	4
Grand Total	1,514	1,721	2,028	2,332	1,160

4. Please confirm that the volume listed on pages 29, 30 and 100 represents surgical cases.

Yes. The volume presented on pages 29, 30 and 100 represents surgical cases.

5. Provide a breakout of the surgical cases in Table 5 (page 29) by inpatients and outpatients.

The breakout of the surgical cases in Table 5 by inpatient and outpatients is provided in the table below.

Breakout of Inpatient and Outpatient Cases Presented in Table 5 of CON Application												
	2014 Inpt Cases	2014 Outpt Cases	2014 Total Cases	2015 Inpt Cases	2015 Outpt Cases	2015 Total Cases	2016 Inpt Cases	2016 Outpt Cases	2016 Total Cases	2017 YTD Inpt	2017 YTD Outpt	2017 YTD Total
Access	155	512	667	157	513	670	196	516	712	123	230	353
Bariatrics	362	62	424	388	72	460	441	59	500	204	26	230
Cardio	925	11	936	973	31	1,004	968	26	994	490	5	495
ENT	131	807	938	117	765	882	148	834	982	101	440	541
General	2,621	3,189	5,810	2,490	3,214	5,704	2,542	2,918	5,460	1,268	1,407	2,675
Gyne	744	1,698	2,442	670	1,741	2,411	654	2,118	2,772	334	1,040	1,374
Joint	1,690	17	1,707	1,681	18	1,699	1,583	4	1,587	863	19	882
Neuro	449	24	473	473	33	506	515	23	538	273	15	288
Neuro Spine										168	166	334
OMF	104	99	203	87	87	174	104	105	209	48	51	99
OP Podiatr	0	363	363	0	272	272	0	297	297	0	114	114
Ophthalmol	15	1,275	1,290	18	1,472	1,490	29	1,528	1,557	16	644	660
Ortho	1,120	1,011	2,131	1,156	839	1,995	1,177	915	2,092	592	435	1,027
Ortho Spine	580	425	1,005	605	478	1,083	612	374	986	108	55	163
Pacer AICD										69	24	93
Plastic	303	1,373	1,676	326	1,400	1,726	251	1,460	1,711	145	685	830
Podiatry	451	3	454	446	0	446	466	3	469	260	0	260
PV	1,361	381	1,742	887	182	1,069	884	145	1,029	510	55	565
Robo	781	353	1,134	642	364	1,006	606	400	1,006	285	217	502
Structural H	71	0	71	98	0	98	160	0	160	112	0	112
Thoracic										246	65	311
Urology	177	287	464	161	341	502	156	375	531	83	224	307
Total (Less	12,040	11,890	23,930	11,882	12,052	23,934	12,132	12,326	24,458	6,298	5,917	12,215
HH Trauma	167	14	181	124	14	138	144	10	154	75	0	75
Total	12,207	11,904	24,111	12,006	12,066	24,072	12,276	12,336	24,612	6,373	5,917	12,290

- According to the application on page 103, the two proposed ORs will be located at the Bone and Joint Institute. Will these newly constructed ORs be used exclusively for outpatient orthopedic procedures? If not, explain how they will be utilized.

The two new operating rooms will be located at the Bone and Joint Institute on the main campus of Hartford Hospital. If approved, these operating rooms will be utilized for inpatient podiatric surgery, spine surgery and other inpatient cases which can be decanted from the main hospital operating rooms suites.

- Explain why the incremental revenues, expenses and income from operations (page 90) are significantly higher in FY 2018, compared to FY 2019 and FY 2020. Explain the basis for the declines in each fiscal year?

Incremental revenues, expenses and income from operations are largely driven by surgical recruits and resulting new cases to Hartford Hospital. The number of incremental cases resulting from these newly recruited surgeons is projected to be highest in FY 2018 and then decrease in subsequent years.

- Explain the incremental drop in outpatient visits (-1,029) in FY 2018 (listed on the Financial Worksheet, page 90).

The drop in outpatient cases in FY 2018 is due to the transition of outpatient orthopedic cases to the ambulatory surgical center located on the Hartford Hospital campus.

9. The application states on page 102 that three of the Hospital's institutes (Heart and Vascular, Ayer Neurosciences and Bone & Joint Institute) project substantial growth.
 - a. What is the anticipated growth in volume for the Heart and Vascular Institute?

From FY2014- FY2020 the Heart & Vascular Institute is projected to grow in volume by 3.3%. However, the cases projected to grow are highly specialized and complex, so the associated OR minutes for the Heart and Vascular Institute are projected to grow by 11.6% during the same time period. The anticipated growth in complexity (minutes) is driving the need for operating room capacity. By adding two additional operating rooms, the hospital will be able to accommodate the anticipated growth in this complex case volume, providing better, timely access to care for critically-ill patients.

- b. Complete the table below to summarize Table D (page 111) by institute and specialty. Provide additional evidence (e.g., physician recruitment) as appropriate to support the projected increases within these three hospital institutes.

New surgical recruits are anticipated in cardiovascular surgery, neurosurgery, orthopedic surgery and spine surgery. In addition, the projections include the implementation of a Deep Brain Stimulation program in neuroscience and several specialized programs within the Heart & Vascular Institute, including a Robotic valve program. Also, increasing complexity of case loads and corresponding increase in operating time needed to accommodate the growth was factored into the analysis.

Institute	FY 2014		FY 2015		FY 2016		FY 2017 thru March		FY 2018		FY 2019		FY 2020	
	Surgical Cases	Minutes	Surgical Cases	Minutes	Surgical Cases	Minutes	Surgical Cases	Minutes	Surgical Cases	Minutes	Surgical Cases	Minutes	Surgical Cases	Minutes
Heart & Vascular														
CV	936	315,777	1,004	317,856	994	336,997	495	170,426	991	350,876	1,016	359,776	1,066	377,576
Pacer/AICD	-	-	248	28,254	230	28,320	93	12,243	260	37,553	299	43,520	341	49,946
PV	1,742	328,526	1,069	214,360	1,029	211,661	565	111,596	1,152	249,704	1,152	249,704	1,152	249,704
Structural Heart	71	20,012	98	24,565	160	36,511	112	23,966	240	55,080	260	59,670	280	64,260
Sub total	2,749	664,315	2,419	585,035	2,413	613,489	1,265	318,231	2,643	693,213	2,727	712,670	2,839	741,486
Ayer Neurosciences														
Neuro	473	126,521	506	138,473	538	135,932	288	71,009	656	167,641	668	170,356	682	173,524
Neuro Spine	-	-	-	-	-	-	334	76,598	808	201,608	808	201,608	808	201,608
Sub total	473	126,521	506	138,473	538	135,932	622	147,607	1,464	369,249	1,476	371,964	1,490	375,132
Bone & Joint														
Joint	1,707	279,514	1,699	276,960	1,587	271,112	882	156,136	2,546	434,076	2,625	447,585	2,704	461,094
OP Podiatry	363	32,944	272	24,571	297	29,085	114	11,386	-	-	-	-	-	-
Ortho	2,131	329,614	1,995	304,726	2,092	317,632	1,027	163,506	1,607	286,850	1,703	304,060	1,737	310,142
Podiatry	454	35,037	446	32,927	469	40,048	260	22,548	538	46,038	554	47,410	560	47,919
Spine	1,005	216,629	1,083	238,752	986	235,392	163	39,522	302	77,614	352	90,464	375	96,375
Trauma	181	41,634	138	30,448	154	36,762	75	12,241	147	30,209	147	30,209	147	30,209
Sub total	5,841	935,372	5,633	908,384	5,585	930,031	2,521	405,339	5,140	874,786	5,381	919,728	5,523	945,738
Total	9,063	1,726,208	8,558	1,631,892	8,536	1,679,452	4,408	871,177	9,247	1,937,248	9,584	2,004,362	9,852	2,062,356

10. Page 113 of the application lists two tables with historical operating room utilization.

- a. Explain the difference between the two tables (i.e., “All Cases” compared to “Block Cases”).

“All Cases” represent every case done at HH regardless of time or day. “Block Cases” represent cases performed during the time reserved (blocked time) for a service, physician group, or individual surgeon. HH’s block time is Monday through Friday 7:00AM-5:30 PM.

- b. How is the “Total number of surgical case hours” calculated? Besides the actual time to complete the surgical procedure, what else is included in this total (e.g., cleanup)?

Total time is derived by adding the OR duration (time patient in room until out of room) and turnover time (time between last patient out to next patient in room). Turnover is the time that elapsed between the prior patient exiting the room and the succeeding patient entering the same room.

- c. How is the “Number of hours available per year” calculated/determined? Provide the formula/methodology for determining available OR hours.

OR suites are blocked in intervals of 8 hours or 10 hours. The formula for determining available time is (# of rooms X block time per room X number of business days) in a given time period.

- d. Expand Table E (page 113) to include projections for FY 2018, FY 2019 and FY 2020 (with and without the two additional ORs).

Please see revised Table E below.

Hartford Hospital										
Table E- Revised to Include FY 2018 through FY 2020										
All Cases FY2014-FY2017 (FY2017 October 1, 2016-March 31, 2017)					Model with 42 OR Suites with 1 room reserved for Trauma cases			Model with 44 OR Suites with 1 room reserved for Trauma cases		
	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2018	FY2019	FY2020
Total number of cases performed	24,111	24,072	24,612	12,290	25,522	25,930	26,280	25,522	25,930	26,280
Annual increase in surgical cases performed	1,463	-39	540	-32	942	408	350	942	408	350
Number of operating rooms	38	38	38	**42	42	42	42	44	44	44
Avg. annual number of surgical cases per room	635	633	648	585	622	632	641	594	603	611
Total number of surgical case hours	68,660	67,589	72,033	36,509	75,881	77,124	78,256	75,881	77,124	78,256
*Annual increase in surgical cases performed FY2016 October 1,2016-Mrarch 31, 2017 is annualized.										
**Utilization of 42 rooms to effect on 2/6/2017										
Block Cases FY2014-FY2017 October1 2016-March 31, 2017					Model with 42 OR Suites with 1 room reserved for Trauma cases			Model with 44 OR Suites with 1 room reserved for Trauma cases		
	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2018	FY2019	FY2020
Total number of cases performed	21,594	21,684	22,151	11,061	22,970	23,337	23,652	22,970	23,337	23,652
Annual increase in surgical cases performed	1,186	90	467	-29	848	367	315	848	367	315
Number of operating rooms	38	38	38	**42	42	42	42	44	44	44
Avg. annual number of surgical cases per room	568	571	583	263	560	569	577	534	543	550
Total number of surgical case hours	62,011	61,390	64,829	32,858	72,051	73,237	74,313	72,051	73,237	74,313
Number of hours available per year	80,847	79,576	80,086	41,483	89,408	89,760	90,112	93,472	93,840	94,208
Percentage of Total Hours Utilized	77%	77%	81%	79%	81%	82%	82%	77%	78%	79%
*Annual increase in surgical cases performed FY2017 October 1,2016-March 31, 2017 is annualized.										
**BJI opened 1/9/2017 with 6 rooms, then ramped up to 8 rooms (42 total rooms) effective on 2/6/2017										

Olejarz, Barbara

From: Carney, Brian
Sent: Friday, July 07, 2017 9:49 AM
To: 'Barbara.Durdy@hhchealth.org'
Cc: Riggott, Kaila; Rival, Jessica; Olejarz, Barbara
Subject: Completeness letter (2nd) for Docket 17-32164-CON
Attachments: 32164 Hartford Hospital 2 ORs - second completeness.docx; 32164 Hartford Hospital 2 ORs - second completeness.pdf

Good morning Barbara,

Please see the attached completeness letter (2nd) in the above referenced matter. Please **confirm receipt** of this email and provide your written responses to OHCA no later than **September 5, 2017, 4:30 pm**.

Sincerely,
Brian A. Carney

Brian Carney, MBA
Associate Research Analyst
Connecticut Department of Public Health
Office of Health Care Access
410 Capitol Avenue, MS#13HCA
Hartford, CT 06134-0308
Phone - 860-418-7014
brian.carney@ct.gov



STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

Raul Pino, M.D., M.P.H.
Commissioner



Dannel P. Malloy
Governor
Nancy Wyman
Lt. Governor

Office of Health Care Access

Via Email Only

July 7, 2017

Ms. Barbara Durdy
Hartford HealthCare
Director, Strategic Planning
181 Patricia M. Genova Blvd.
Newington, CT 06111
barbara.durdy@hhchealth.org

RE: Certificate of Need Application: Docket Number: 17-32164-CON
Increase in Operating Rooms at Hartford Hospital
Certificate of Need Completeness Letter – 2nd

Dear Ms. Durdy:

On April 18, 2017, OHCA received the Certificate of Need application from Hartford Hospital (“Applicant” or “Hospital”) seeking authorization to increase operating room capacity on its main campus, with the addition of two operating rooms. An initial completeness letter was sent on May 18, 2017 and responses were received on June 9, 2017. OHCA requests additional information pursuant to Connecticut General Statutes §19a-639a(c). *Please “reply all” to electronically confirm receipt of this email as soon as you receive it.* Provide responses to the questions below in both a Word document and PDF format as an attachment to a responding email. *Please email your responses to both of the following email addresses: OHCA@ct.gov and Kaila.Riggott@ct.gov.*

Paginate and date your response (i.e., each page in its entirety). Repeat each OHCA question before providing your response. Information filed after the initial CON application submission (e.g., completeness response letter, prefiled testimony, late file submissions, etc.) must be numbered sequentially from the Applicant’s preceding document. Begin your submission using **Page 122** and reference “**Docket Number: 17-32164-CON.**”



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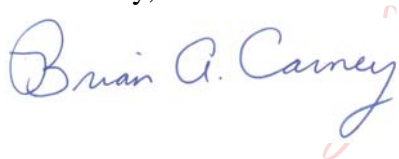


Pursuant to Section 19a-639a(c) of the Connecticut General Statutes, you must submit your response to this request for additional information no later than sixty days after the date this request was transmitted. Therefore, please provide your written responses to OHCA no later than **September 5, 2017, 4:30 p.m.**, otherwise your application will be automatically considered withdrawn.

1. Where specifically on the main campus will the two new ORs be constructed?
2. In regard to the table listing surgical volumes by institute on page 120 of the application, explain the year-to-year volume changes, specifically addressing why surgical cases decreased in FY 2015 and FY 2016 and surgical minutes decreased in FY 2015.
3. Provide the rationale for the 11% projected increase in surgical minutes at the three institutes in FY 2018 (i.e., page 120 – annualized total surgical minutes for FY 2017 calculates $(871,177 \times 2)$ to 1,742,354 compared to 1,937,248 projected minutes for FY 2018). Is the projected increase solely due to the addition of two new surgeons?
4. Provide a copy of a scholarly article, study or report that supports the need for operating room capacity to remain at or below 80%.

If you have any questions concerning this letter, please contact Kaila Riggott at (860) 418-7037.

Sincerely,



Digitally signed by Brian
Carney
Date: 2017.07.07 09:30:18
-04'00'

Brian A. Carney
Associate Research Analyst

Olejarz, Barbara

From: Durdy, Barbara <Barbara.Durdy@hhchealth.org>
Sent: Friday, July 07, 2017 10:54 AM
To: Carney, Brian
Cc: Riggott, Kaila; Rival, Jessica; Olejarz, Barbara
Subject: RE: Completeness letter (2nd) for Docket 17-32164-CON

Thank you Brian.

From: Carney, Brian [mailto:Brian.Carney@ct.gov]
Sent: Friday, July 07, 2017 9:49 AM
To: Durdy, Barbara
Cc: Riggott, Kaila; Rival, Jessica; Olejarz, Barbara
Subject: Completeness letter (2nd) for Docket 17-32164-CON

Good morning Barbara,

Please see the attached completeness letter (2nd) in the above referenced matter. Please **confirm receipt** of this email and provide your written responses to OHCA no later than **September 5, 2017, 4:30 pm**.

Sincerely,
Brian A. Carney

Brian Carney, MBA
Associate Research Analyst
Connecticut Department of Public Health
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User, OHCA

From: Durdy, Barbara <Barbara.Durdy@hhchealth.org>
Sent: Monday, July 24, 2017 4:27 PM
To: User, OHCA; Riggott, Kaila
Subject: Response to Completeness - July 7, 2017
Attachments: FINAL and FILED Response to Second Completeness v2.pdf

Kaila,
Please confirm receipt.
Thank you
Barbara

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July 24, 2017

Mr. Brian Camey
Associate Research Analyst
State of Connecticut Department of Public Health
Office of Health Care Access Division
410 Capital Avenue
P.O. Box 340308 Hartford,
CT 06134-0308

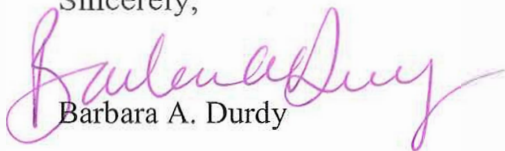
RE: Certificate of Need Application **Docket Number: 17-32164-CON**
Increase in Operating Rooms at Haliford Hospital
Certificate of Need Completeness Letter

Mr. Camey:

Attached please find Hartford Hospitals' response to the Office of Health Care Access completeness questions dated July 7, 2017.

Please do not hesitate to contact me if you need additional information or have any further questions.

Sincerely,

A handwritten signature in purple ink, appearing to read "Barbara A. Durdy".
Barbara A. Durdy

Hartford Hospital Response to Completeness Questions
 Certificate of Need Application **Docket Number: 17-32164-CON**
 Increase in Operating Rooms at Hartford Hospital

1. Where specifically on the main campus will the two new ORs be constructed?

The two new operating rooms will be located at the Bone and Joint Institute on the main campus of Hartford Hospital. The Bone and Joint Institute on the main campus of Hartford Hospital was designed as a "hospital within a hospital" and operates under the Hartford Hospital license. The building design included a total of 10 operating rooms, eight of which are currently on-line and operational.

If approved, the Hospital will fit out and operationalize the two remaining operating rooms at the Bone and Joint Institute at Hartford Hospital. These two additional operating rooms will be utilized in part to absorb growing volume for joint replacement surgery; moreover, they will be used for inpatient podiatric surgery, spine surgery and other inpatient cases which can be decanted from the main hospital operating rooms suites. In doing so, capacity will be freed up at the main hospital operating room suites, which will enable the hospital to absorb anticipated growth in Heart & Vascular and Neuroscience.

2. In regard to the table listing surgical volumes by institute on page 120 of the application, explain the year-to-year volume changes, specifically addressing why surgical cases decreased in FY 2015 and FY 2016 and surgical minutes decreased in FY 2015.

For purposes of this discussion, a copy of the Table on page 120 of the application detailing surgical volumes by Institute is provided below.

Institute	FY 2014		FY 2015		FY 2016		FY 2017 thru March		FY 2018		FY 2019		FY 2020	
	Surgical Cases	Minutes	Surgical Cases	Minutes	Surgical Cases	Minutes	Surgical Cases	Minutes	Surgical Cases	Minutes	Surgical Cases	Minutes	Surgical Cases	Minutes
Heart & Vascular														
CV	936	315,777	1,001	317,856	991	336,997	495	170,426	991	310,876	1,016	359,776	1,066	377,576
Pacemaker/CO	-	-	248	28,254	230	28,320	93	12,243	260	37,53	299	43,520	341	49,946
Pi	1,742	328,526	1,069	214,360	1,029	211,661	565	111,596	1,152	249,704	1,152	219,704	1,152	249,704
Structural Heart	71	20,012	98	21,565	160	36,511	112	23,966	240	55,080	260	59,670	280	64,260
Sub Total	2,749	664,315	2,419	585,035	2,133	613,489	1,265	318,231	2,643	693,213	2,727	712,670	2,839	741,186
Neurosciences														
Neuro	473	126,521	506	138,473	538	135,932	288	71,009	656	167,641	668	170,356	682	173,521
Neuro Spine	-	-	-	-	-	-	334	76,598	808	201,608	808	201,608	808	201,608
Sub Total	473	126,521	506	138,473	538	135,932	622	177,607	1,464	369,249	1,476	371,964	1,490	375,132
Bone & Joint														
Joint	1,707	279,514	1,699	276,910	1,587	271,112	882	156,136	2,546	434,076	2,625	447,585	2,704	461,091
OPPO (all)	363	329,414	272	24,571	297	29,085	114	11,386	-	-	-	-	-	-
Ortho	2,131	329,614	1,995	304,726	2,092	317,632	1,027	163,506	1,607	286,850	1,703	304,060	1,737	310,112
Palmar	418	150,377	416	32,927	469	10,048	260	22,548	538	460,387	513	17,410	560	17,919
Spine	1,005	216,629	1,083	238,752	985	235,392	163	39,522	302	77,614	352	90,454	375	96,375
Trauma	181	41,631	138	30,448	151	36,762	75	12,241	147	30,209	147	30,209	147	30,209
Sub Total	5,841	935,372	5,633	908,384	5,585	930,031	2,521	401,339	5,140	874,786	3,811	919,728	5,523	945,738
Total	9,063	1,726,208	8,558	1,631,892	8,536	1,679,452	4,408	871,177	9,247	1,937,248	9,584	2,004,362	9,852	2,062,356

Table Page 120

Surgical case volumes decreased from FY 2014 to FY 2015 and FY 2016 as follows:

Bone and Joint Institute

Surgical cases decreased from 5,841 in FY 2014 to 5,633 and 5,585 for FY 2015 and FY 2016 respectively.

The 208 case loss year-over-year from FY 2014 to FY 2015 is largely due to the loss of two providers, who relocated out of state, during FY 2014. One provider was an outpatient podiatrist and the other was a general orthopedic surgeon. The loss of these two providers resulted in a loss of -186 cases, explaining most of the year-over-year loss (186 out of 208 cases). The remaining case losses were largely in trauma. These cases are more challenging to project due to the unpredictable nature of trauma. As such, for the purposes of our projections, we modeled trauma cases to remain steady in Fiscal Years 2018, 2019 and 2020 from where they currently stood in Fiscal Year 2017.

Additional case losses occurred from FY 2015 to FY 2016 (a total of -48 cases year-over-year), largely in orthopedic spine. Similarly, these losses are due to an out-of-state relocation of an orthopedic spine specialist, who left in FY 2016. This physician's departure represented a -67 case loss year-over-year.

Heart and Vascular Institute

Surgical cases declined from 2,749 in FY 2014 to 2,419 and 2,413 for FY 2015 and FY 2016 respectively due to a change in reporting. In FY 2014, thoracic cases were embedded within peripheral vascular. Beginning in FY 2015, thoracic cases were reported out separately and not reported as part of the Heart and Vascular Institute. When we normalize the reporting differences, total (thoracic and heart and vascular) cases at the hospital as a whole only declined -39 year-over-year from FY 2014 to FY 2015.

Overall, the large decrease in surgical case minutes occurred from FY 14 to FY 2015 as a result of the above volume losses (due to provider relocations) as well as the changes in reporting described above.

3. Provide the rationale for the 11% projected increase in surgical minutes at the three institutes in FY 2018 (i.e., page 120- annualized total surgical minutes for FY 2017 calculates $(871,177 \times 2)$ to 1,742,354 compared to 1,937,248 projected minutes for FY 2018). Is the projected increase solely due to the addition of two new surgeons?

Recent recruitment efforts have yielded a total of eleven (11) new providers joining one of the three Institutes discussed below. The newly recruited cardiovascular and neurosurgery recruits will be perform higher complexity cases associated with much longer case times thereby increasing associated surgical minutes.

Heart and Vascular Institute

From FY2014- FY2020 the Heart & Vascular Institute is projected to grow in volume by 3.3%. However, the cases projected to grow are highly specialized and complex, so the associated OR minutes for the Heart and Vascular Institute are projected to grow by 11.6% during the same

time period. Two additional cardiac surgeons are expected to join the Hartford Hospital medical staff within the next fiscal year.

- **Structural heart - also known as "TAVR" (Trans Aortic Valve Replacement) has been a significant area of growth; continued growth is strongly anticipated due to the expanded indications for TAVR eligibility.**
- **Cardiac Surgery: The Heart & Vascular Institute is projecting continued increases in valve procedures. These are highly complex cases that have lengthy surgical minutes associated with them.**
- **Furthermore, the Institute will be introducing several sub-specialized services in cardiovascular, including robotic surgery and an aortic center. One of the aforementioned cardiac surgeons has been recruited to begin the robotic program at Hartford Hospital; that physician is expected to join in August 2017.**
- **The Heart & Vascular Institute is only one of two transplant centers in the state that perform heart transplants. Because of the affiliation between LifeChoice Donor Services and New England Donor Services, access to available organs has increased and as a result, transplants performed have increased as well. From Fiscal Year 2016 year-to-date to Fiscal Year 2017 year-to-date through June, there has been a 150% increase in heart transplants performed at Hartford Hospital, due to the larger availability of donor organs. The Heart & Vascular Institute projects that this growth will continue into the coming years. Heart transplants are complex procedures that are associated with lengthy surgical cases and high surgical minutes.**

Ayer Neuroscience Institute:

Neuro Surgery: The Advisory Board predicts a 12% increase in neurosurgery in our market; additionally, with the formation of the Ayer Neuroscience Institute, the hospital will be providing access to the community to highly-specialized, complex, services such as deep brain stimulation, which is expected to be introduced in the next year. Deep Brain Stimulation is a high-complex surgical service, which involves multiple surgeries per patient (resulting in increased case minutes); for each inpatient procedure, a subsequent outpatient procedure takes place.

Neuro Spine: Growth in this service is projected due to a new provider who joined the Hartford Hospital medical staff in spring of 2017.

Bone and Joint Institute :

Orthopedics: With the opening of the Bone & Joint Institute, demand for services has increased substantially. More patients are seeking their care at Hartford Hospital due to the patient-centered, integrated, coordinated care delivery model across the patient's whole continuum of care. Additionally, several physicians have applied for privileges at Hartford Hospital to join the Bone & Joint Institute's model of care.

Ortho Spine: An orthopedic spine surgeon will begin at the Bone & Joint Institute in September 2017.

4. Provide a copy of a scholarly article, study or report that supports the need for operating room capacity to remain at or below 80%.

Please see Attachment 1 for copies of articles which support the use of 80% or less as maximum or optimal utilization for efficient operating room capacity. In addition, the Hospital engaged HKS Knox Consulting, a national healthcare strategy and design

consulting firm to research industry standards related to operating room utilization. A copy of their summary findings is also provided.

For purposes of this application and for projecting future operating room capacity needs, the Hospital chose to use 80% as the maximum threshold for efficient management of operating room capacity.

Attachment 1

Scholarly Articles Supporting Utilization of Operating Room Capacity

HKS Knox Consulting, Research Summary with Citations

OPERATING ROOM UTILIZATION

CONCLUSION

HKS Knox Consultants recommends using an OR Utilization rate of 75% or less to provide for flexibility of use of operating rooms.

SCHOLARLY RESEARCH

Operating Room Manager, 2012

"The chart on this page shows case times for common procedures and compares time segments for hospitals and ASCs as well as US and Canada. **Prime-time utilization (7 am to 3 pm) at the median was 75% for this group of hospitals. Utilization is defined in ORBC as rooms in use for patient care plus turnover time.**"

Dexter, et al., 1999

"For example, if patient care in an OR starts at 7:00 am and finishes at 1:00 pm, and if the regularly scheduled period of elective cases extends from 7:00 am to 3:00 pm, then there are 2 h of unused OR time. **OR utilization equals 75% (6 h used/8 h staffed).**"

Stepaniak & Dexter, 2016

Operating room utilization can be limited by surgeon, anesthesiologist availability as well as OR availability and utilization rates need to account for this.

Emerson, 2008

"..Analysis showed raw utilization of 61% and adjusted utilization of 74%. The highest three users of block time were general surgery, gynecology, and urology. In 2007, 946 surgical hours were lost due to delays in the first case of the day ..."

OBJECTIVE

To understand what is industry standard, supported by research, related to operating room utilization. There is an understanding that various patient populations, locations and procedure types will impact this estimate.

CITATIONS

Collaborative, B. (2012). Data for benchmarking your OR's performance, 28(1), 1-5.

Dexter, F., Hopwood, M., Macario, A., Traub, R. D., & Lubarsky, D. A. (1999). An Operating Room Scheduling Strategy to Maximize the Use of Operating Room Block Time: Computer Simulation of Patient Scheduling and Survey of Patients' Preferences for Surgical Waiting Time, 7-20.

Emerson, M. (2008). *Case Study: Review of Operating Room Utilization at Mayo Clinic Arizona (MCA)*.

Stepaniak, P. S., & Dexter, F. (2016). Constraints on the scheduling of urgent and emergency surgical cases: Surgeon, equipment, and anesthesiologist availability. *Perioperative Care and Operating Room Management*, 3, 6-11. <http://doi.org/10.1016/j.pcorm.2016.02.001>

OR performance

Data for benchmarking your OR's performance

Hospitals are facing stiff economic winds. They are challenged by shrinking reimbursement from Medicare and Medicaid, even as more patients will be covered by these publicly funded programs. Perioperative managers and directors are under pressure to make the most of their department's resources. You're being asked to measure every aspect of your OR's performance from on-time starts to turnover time to OR utilization.

An analysis from the OR Benchmarks Collaborative (ORBC), a service of McKesson, provides information you can use to compare your department's performance (sidebar, p 14).

Analysis of ORBC data

To provide a picture of how US facilities are performing on ORBC's key performance indicators, an independent analysis was performed for McKesson by the QI Project, a unit of Press Ganey. The QI Project has long experience in data collection and analysis of quality improvement measures.

The analysis included a subset of 134 US facilities and 107 Canadian facilities that had submitted a full 12 months of validated data for all 55 data elements for 2010.

This article focuses on the US hospital sample. Of the US facilities, 87% were short-term acute care hospitals, 11% were ambulatory surgery centers (ASCs), and 2% were specialty hospitals, such as orthopedic, cardiac, or children's facilities.

The median number of ORs for the hospitals was 11.1; the largest group (35%) had 6 to 10 ORs. A third (30%) had an academic program, as defined by the Council of Teaching Hospitals.

In all, 27% had an open-heart program, 23% had an oncology program, and 10% had a transplant program. About three-fourths (78%) were located in urban areas, and 16% were rural (charts).

The most common procedures these hospitals performed in the aggregate are cataracts (6.8%), cystoscopy (3.8%), knee/hip/shoulder arthroscopy (3.4%), laparo-

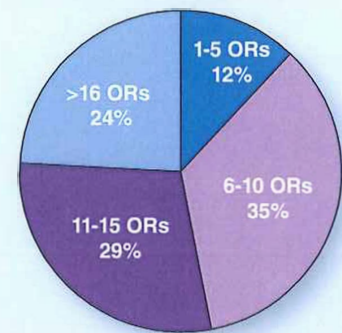
Benchmarking participant demographics

Type of US facility

Hospital	87%
ASC	11%
Other	2%

Other includes specialty hospitals, such as eye, orthopedic, and heart hospitals.

US hospitals



Sample demographics

	ORBC sample	American Hospital Association sample
Median no. of ORs	11.1	8.4
Academic program	30.9%	8.3%
Location		
Urban	78.3%	78.4%
Rural	15.8%	21.6%

US ambulatory surgery centers

1-5 ORs	48%
6-10 ORs	43%
>16 ORs	9%

scopic cholecystectomy (3.1%), and total knee replacements (2.5%).

The sample has a similar demographic profile to hospitals nationally, as indicated by a comparison with the American Hospital Association database, though the sample has a higher percentage of academic hospitals (31% versus 8%).

Key indicators

The chart on page 14 illustrates how these hospitals performed on a selected group of the key performance indicators, such as first-case on-time starts and turnover time, reporting performance levels for the median as well as the 90th and 95th percentiles.

Some indicators show a fairly large spread between the median and the 90th and 95th percentiles, indicating these measures are still challenging, despite the considerable effort many ORs have made to improve on them. Examples are the accuracy of case-duration estimates and on-time starts for first cases of the day and for subsequent cases.

For instance, if your facility is 60% accurate in estimating case durations, you know you're

Key performance indicator results

Indicator	Median	90th percentile	95th percentile
Accurate case-duration estimate	41.7%	56.1%	61.4%
First case on time/early	64.3%	88.3%	91.4%
Subsequent case on time/early	53.5%	71.6%	74.9%
Patient in to incision (minutes)	25.7	20.4	19.7
Patient close to out (minutes)	96	69	65
Turnover time (minutes)	28.5	22.7	21.4
Preadmission screening	49.0%	80.4%	80.4%
Surgical checklist	100%	100%	100%
Prime-time utilization (7 am to 3 pm)	75.3%	93.9%	100.0%

Indicator definitions

Accurate case-duration estimate

Measures the percentage of cases where patient-in-room duration is within 15 minutes of the estimated in-room duration.

First case on time/early

Measures percentage of first cases with an in-room start time that is either early or not more than 5 minutes after the scheduled start time.

Subsequent case on time/early

Measures percentage of subsequent cases with an in-room start time that is either early or not more than 15 minutes after the scheduled start time.

Patient in to incision

Measures the average time (in minutes) that elapsed between the patient entering the operating room and the first incision.

Patient close to out

Measures the average time (in minutes) that elapsed between the close of the last incision and the time the patient left the operating room.

Average turnover minutes

Measures the time (in minutes) that elapsed between the prior patient exiting the room and the succeeding patient entering the room.

Preadmission screening

Measures the percentage of cases that were recorded as screened prior to surgery. Only cases specifically recorded as yes (screened) or no (not screened) are included in the measure.

Surgical checklist

Compliance with the surgical pause before incision.

Prime-time utilization

Measures percentage of total available time between 7 am and 3 pm with all rooms in use for patient care plus turnover time.

Source: McKesson. OR Benchmarks Collaborative. Reprinted with permission.

close to the 95th percentile for this sample of hospitals. But if you're at 65% for first-case on-time starts, which is close to the median, you know there's room to improve. Thus, you might decide to focus more time on improving first-case starts than on improving scheduling accuracy. (ORBC defines "on time" for first cases as the patient in the room early or within 5 minutes after the scheduled start time. For subsequent cases, "on time" means the patient is in the room early or within 15 minutes after the scheduled start time.)

Though much of the focus is on first-case starts, there was also a large gap in performance in being on time for subsequent cases. At the median, just over half (53.5%) of these cases started on time.

Turnover time

For turnover time, the median overall was 28.5 minutes, while at the 95th percentile, turnover time was 21.4 minutes. Turnover time is measured from when the prior patient exits the room until the succeeding patient enters the room.

In addition to measuring turnover time, it can be useful to compare in-room time segments for surgical cases, including patient entry to incision and last incision closed to patient exit, to see if there is room to improve. The chart on this page shows case times for common procedures and compares time segments for hospitals and ASCs as well as US and Canada.

Prime-time utilization (7 am to 3 pm) at the median was 75% for this group of hospitals.

Utilization is defined in ORBC as rooms in use for patient care plus turnover time.

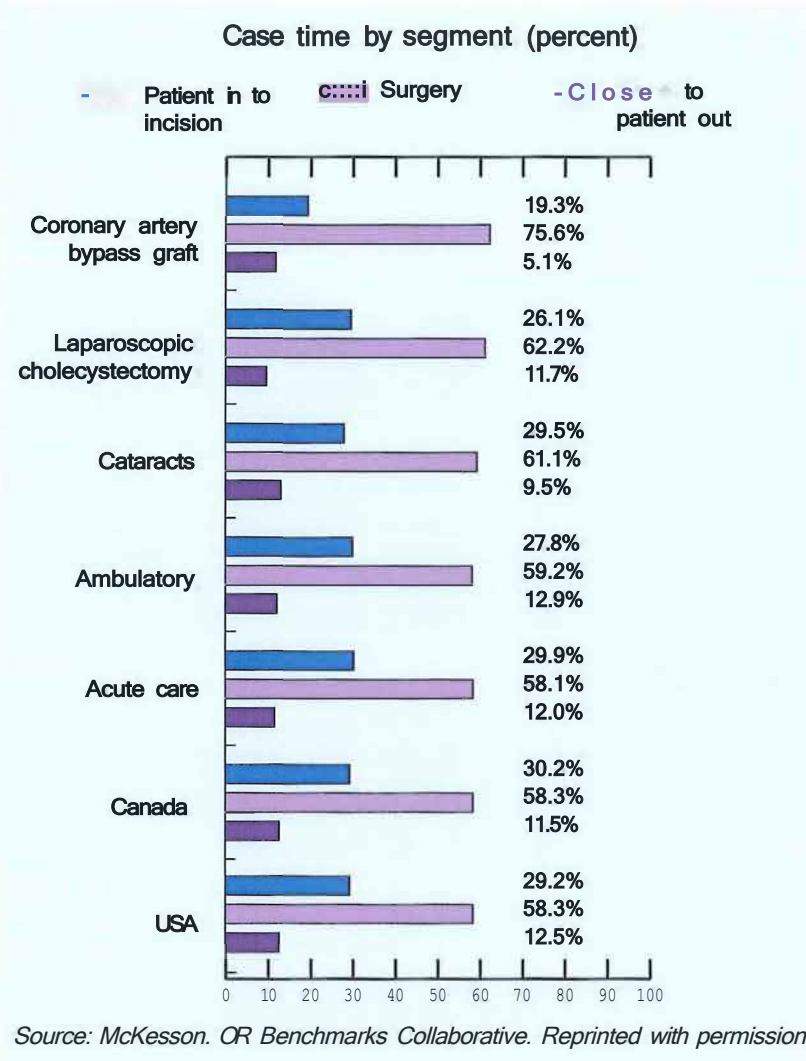
Regarding preadmission screening, at the median, about half (49%) of patients were screened prior to the day of surgery. At the 90th and 95th percentile, the level was much higher, with 80% of patients screened.

Block scheduling

A well-managed block schedule provides predictable operating times for high-volume surgeons and specialties, but blocks that are not managed well leave gaps in the schedule that hinder productivity.

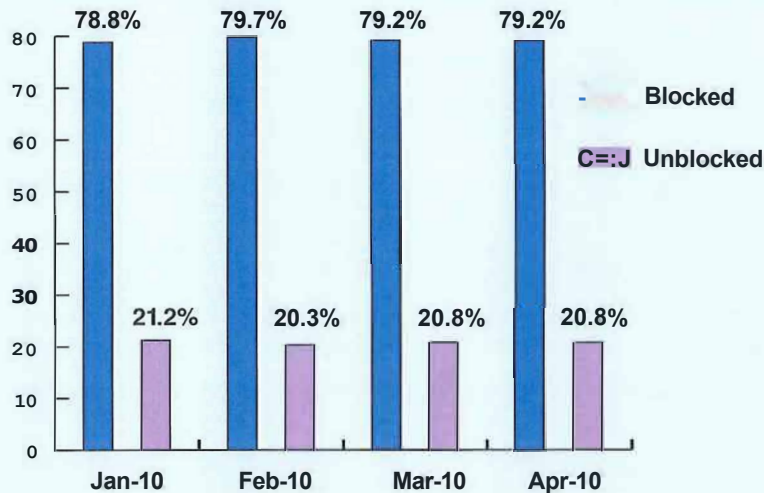
The ORBC hospitals in the sample, on average, allocated 80% of their available OR time to blocks. Most of the block time (78% on average) was allocated to services rather than to the individual surgeon (22%).

Average block utilization was 82%, indicating ORs are managing their blocks fairly tightly. The top 5 service lines to which blocks are allocated are:

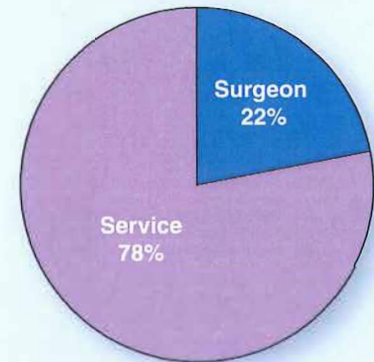


Benchmarking results: Block scheduling

80% of available time is blocked

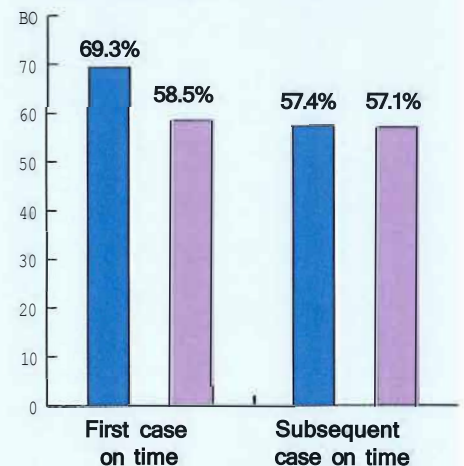


Block allocation by surgeon, or service



Preadmission screening and on-time starts

PAS = Preadmission screening



Source: McKesson OR Benchmarks Collaborative.
Reprinted with permission.

- orthopedics
- general surgery
- gynecology
- urology
- ophthalmology.

Statistical correlations

As part of the study, the QI Project used statistical modeling to examine correlations between performance and hospital characteristics such as country (US or Canada), facility type, and number of operating rooms.

Though the number of ORs had a complex relationship with most measures, in general, facilities with the most ORs showed a trend toward less efficient use of resources.

In highlights:

- US hospitals on average were 10 percentage points lower in scheduling accuracy than their Canadian counterparts.
- For turnover time, US hospitals took 15 minutes longer on average than Canadian hospitals.
- Acute care facilities have turnover times that average 22 minutes longer than ASCs.

Preadmission screening boosts on-time starts

Hospitals that conducted preadmission screening for 100% of their patients had a statistically significant higher rate (69.3%) of on-time first-case starts than hospitals that did not screen 100% of their patients (58.5%). But preadmission screening was not statistically associated with a significant difference in on-time starts for subsequent cases.

The OR Benchmarks Collaborative

The OR Benchmarks Collaborative is an automated benchmarking service for surgery available by subscription from McKesson. Using web-based technology, ORBC subscribers upload their data monthly to the service where it is analyzed.

ORBC provides each subscriber with a dashboard that displays aggregated data on 20 key performance indicators. Subscribers can use the dashboard to track their own performance and compare their data with that of other subscribers. ORBC tools also enable them to drill into their own data for each indicator to see, for example, performance by specialty or surgeon.

As of October 2011, ORBC had 471 subscribers including acute care hospitals and ambulatory surgery centers in the US, Canada, Saudi Arabia, Australia, and New Zealand.

Time lost from cancellations

The case cancellation rate was 1.7% for hospitals and 1.0% for ASCs. On average, hospital ORs lost 19 hours of surgery time per month because of cancellations, while ASCs on average lost 5 hours per month. The average time lost was much higher for hospitals in urban areas (21 hours/month) than for those in rural areas (6 hours/month) and other types of facilities (5 hours/month).

The data from the ORBC analysis offers benchmarks of actual performance from this sample of hospitals. It is information hospitals can use to see what others have achieved, gauge their own performance, and set realistic priorities and goals.●●

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More information on the McKesson OR Benchmarks Collaborative is at <http://sites.mckesson.com/orbc/webinars.htm>

Operating Room Utilization and Perioperative Process flow

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OVERVIEW

To accommodate a projected increase in patient volume and to facilitate patient flow throughout the Perioperative process, an assessment was requested of the OR case management and related patient access processes with initial emphasis on utilization and case time effectiveness.

Key clinical personnel were interviewed to get a better understanding of the operating environment and their key strategic concerns. Some on-site observation occurred but **the focus was on performing a detailed elemental analysis of cases performed in the OR to ascertain the utilization of the Operating Room** and to determine if availability exists to accommodate more cases or whether other alternatives such as expansion need to be explored.

The case scheduling process is the key system in the functioning of the Operating Room. The objective is to coordinate a large amount of considerations: the urgency of surgery; schedules of patients, surgeons, anesthesiologists, surgical room and OR staff; equipment; other services such as X-Ray and Pathology; and bed availability. The case schedule is important for the effectiveness and efficiency of the Operating Room. Established policies and procedures form the basis for case scheduling so that all the above factors and special requirements can be coordinated.

The OR scheduling process in effect at Premier Health System, like other comparable institutions, is Block Scheduling. It utilizes a master schedule which defines the number and types of rooms available, the hours that rooms will be open and the service or surgeons who are allocated the operating room time. It is felt, that as opposed to an open booking system, it is more efficient, but its effectiveness is dependent upon whether the scheduled block accurately reflects the actual patterns of usage and whether mechanisms are in place to release unreserved blocks in a timely manner.

With the considerable assistance of the OR Scheduling Office and OR Nursing an evaluation was conducted of block scheduling effectiveness and utilization, related policies and procedures, and access and coordination issues. In particular, special emphasis was placed on the surgical schedule since it directly impacts staffing, hours of work, and utilization of supplies and equipment.

The following reflects the results of this initial assessment.

CONSIDERATIONS

It is important to note that the assessment was conducted for a four-month period, from **September to December**. During this time there was a transition of surgical staff, so that the findings may not be reflective of future trends nor be fully representative of yearly activity.

In addition, to take more of a service orientation to the assignment of OR time, an attempt was made to also categorize time as service designated time as well as surgeon specific time. In so doing it may slightly under or overstate utilization statistics. (An example would be trying to break out the specific surgeons sharing the allocated OR time in the University Services group from the entire group. Likewise, the same holds true with separating surgeons like Jones from Surgely or Smith and Adams from ENT).

Overall, however, as the following table indicates, the utilization results for the Operating Room for the primary hours of operation (basically 8:00am-6:00pm, with the exception of Tuesday) for this four month period very closely mirror those that were generated by the OR Scheduling Office. (This minor difference is probably attributable to "rounding" of the numbers, minor computational errors on my part, or simply more exacting case start time parameters):

Month	OR. Scheduling Office % Utilization	This Assessment % Utilization
September	68%	68.8%
October	67%	69.3%
November	71%	70.4%
December	60%	58.3%

It should also be noted that **time away from Premier on the part of the surgeon was not reflected** in any of the analysis and if taken when the surgeon had dedicated block time during this period, it would lessen their utilization of OR time.

Likewise, the data collected is credited to the primary service performing the procedure and does not reflect the hours of surgery performed by a supporting service that follows the primary service in support of the case. Plastics is an example of a service that's OR time is often not truly reflected in OR statistics.

The case-time duration entered into the system, reflects only the "Patient Time In the Room" to the "Patient Time Out of the Room". Room Turnaround is computed separately and a standard allowance of twenty minutes (.33hrs) is added onto each case irrespective of the length of the procedure.

OBSERVATIONS

The assessment, as focused as it might be, noted considerable strengths and the existence of a fairly solid foundation that's in place to enable the Operating Room to maximize its utilization and case time effectiveness. In particular, the following was noted to be in effect:

- An active Chief of Surgery who, in the past, has undertaken much of the responsibility to oversee the case time effectiveness
- An accommodating and communicative Scheduling Office who, in addition, to their booking responsibilities, generates utilization based information
- A Block Scheduling routine that is accepted and already in place
- A "one stop", interactive booking process that enables the Surgeon to remotely schedule their cases and to view their schedule load
- A scheduling process that is a schedule management process rather than a clerical recording process that looks to increase surgeon access and schedule acmacy
- The establishment of Procedure times for each case based on objective data as provided by the data collection system
- General procedures for dealing with scheduling based issues
- General procedures for dealing with emergencies
- A computerized physician preference card that is generated at the scheduling of a case to facilitate the surgeon's resource needs for the case
- A variable block release time adjusted for the realities of individual surgeons and services
- A great deal of flexibility in the Pre Admissions and Same Day Surgely processes that make it a workable model despite the challenges of receiving patients and their information from multiple test sites
- A stable O.R Nursing and Anesthesia work force that enables all rooms to be opened and all scheduled cases to be performed
- Consistent interaction between the OR Scheduling Office and the surgeons' office staffs to promote awareness and understanding

(See the attached Perioperative Process Flow Chait for a graphic representation of the process from Pre Admissions to Post Operative Care)

FINDINGS

Utilization of the Operating Room was computed in two different ways; namely an assessment of the block time that was allocated specifically to a surgeon or service (termed "**Block Utilization**") and an assessment of the utilization of all surgical time, block and non-block time during the primary hours of surgery (essentially 8:00am-6:00pm) (termed "**Primary Hour Utilization**"). If a surgeon was assigned block time on a specific day(s) of the week, their utilization of this block time would simply be a measurement of how many hours of surgely were performed that specific day against the number of block hours assigned. Their Primary Hour utilization would consider these hours plus the hours of surgery performed during other days of the week. This would be reflective of total primary time used (and perhaps needed) during the course of a week.

It is important to note that **Primary Hour Utilization is the measure used to reflect the utilization of all the available time in the Operating Room** and it is the measure most referenced comparatively in performance benchmarks.

Overall for this four month period, Primary Hour Utilization was **66.8%** and the Block Time assigned utilization by those surgeons/services that were slated to use that time was **61.9%**.

Comparatively, the Healthcare Financial Management Association and the Clinical Advisory Board in a recent repmi (2001) stated that the "industry average utilization" was 68%. (Cooper's OR Scheduling Office, for the calendar year, determined utilization to be 68%). OR Benchmarks©, a recognized healthcare source, stated that median utilization for the hospitals in their database was 73%.

Most industry sources indicate that they believe that acceptable utilization for the OR should be in the range of 75%-80%. (The American Hospital Association uses a guideline of 75% (2000) and Johnson and Johnson indicated that they would like to see utilization of 75% for individual surgeons and 80% for service blocks). To realize utilization in excess of 80% would require extremely good supporting systems, particularly with respect to bed availability, pre admissions testing and the PACU access.

Premier Health System's utilization, in essence, is right about at the average and as such has some opportunity to increase its surgical activity. If you assume that on the average 2060 monthly hours are available for surgery (excluding Room 11) at 75% utilization you would be performing 1545 hours of surgery a month. At the current 66.8% utilization this would leave you availability to perform another 169 hours of surgery. (In actuality, if you consider the surgeons/ services that are operating beyond the 75% threshold and you assume that their level of activity will continue to exist, **189 hours for surgery would be available to reach the 75% target**). (See The Identification of Hours Available at Target OR Utilization Range of 75% and 80% worksheet in the Identification of Hours Available section). To reach the more ambitious target of **80% utilization**, viewing the same worksheet, **292 hours for surgery would be available**.

The most obvious way to provide this availability is to **take "Unused" block time away** from surgeons/services that are not meeting the 75%-80% threshold. This is often difficult because of the sensitivities and perceptions involved and the fear of having a disgruntled surgeon/group take their business elsewhere. To accomplish this, it will require close coordination between the chiefs of service and support for the OR Committee to increase its threshold target for block retention to 75% -80% and reallocate block time periodically, preferably every six months. Likewise, Anesthesia should be given the authority to make interim adjustments to the allocation of time as they become aware of changing needs and demands.

Another option is to **increase the block release time** (the number of days in advance when the block can be relinquished for other surgeons/services to use) for those services/surgeons that are not meeting the 75%-80% threshold. The intent here is that others who have a need would be able, with advanced notice of availability, to be able to book cases they normally wouldn't be able to perform in their allotted block. In addition, a greater release time

would give some of the newer, rising surgeons more availability to perform their surgery and better insure that their practices grow within the confines of Premier. The overall intent is to increase usage and thus utilization of time that may go unused. An issue that may make this difficult is the timing of the assessments, tests and the changing nature of the patient's condition.

In looking at the current utilization of OR time, to try to ascertain **where the availability may lie, the following table reveals performance for the four month period.** (Note that Rm. II hours assigned is not incorporated in this table, but do exist in other worksheets):

Surgeon/Service	Block Utilization	Primary Hr. Utilization
Univ Surg/ SS	76.2%	76.2%
VF	39.3%	46.7%
Fin	66.4%	122.0%
Jar	58.1%	64.5%
Slo**	79.7%	97.2%
Dre-Can	63.0%	68.8%
Hou	35.3%	38.7%
Sch	57.1%	66.0%
Gynecology	54.5%	64.7%
Eye Institute	66.6%	84.1%
Nus	83.3%	215.3%
Orthopaedics**	79.5%	79.5%
Trauma	57.0%	658.1%
Urology	78.3%	78.3%
Plastics**	70.0%	82.4%
Oral Surgery (w. Nus)	58.3%	80.6%
Cardiac Surgery	69.6%	69.6%
RadOncol	42.7%	42.7%
Pediatric Surgery	53.0%	83.7%
Neurosurgery	20.2%	20.2%
*(Less Rm II Hrs)		

Based upon the above the services/surgeons that appear to have the most availability, just focusing on the utilization of primary hour time, are as follows:

Neurosurgery- 20.2% utilization
Houston- 38.7% utilization
VF Group- 46.7% utilization
Gynecology 64.7% utilization

Jar at 64.5% utilization and Sch at 66.0% would also need to be considered.

(Note: although Radiation Oncology's usage is low it only amounts to one assigned hour of block time a week).

To give you a sense for what this means in potential availability of time the following table is presented:

Surgeon/Service	Avg. Mth. Block Hrs Assigned	Average Mth. Hours used (Primary and Block)	Difference (in Hours)
VF	112.8	52.6	60.2
Gynecology	326.5	211.2	115.3
Neurosurgery	205.5	41.5	164.0
Cardiac Surgery	225.5	156.9	68.6
Univ. Surg/SS	305.5	233.0	72.5
Oral Surgery (less Nussbaum)	42.5	27.5	15.0

The utilization of the first four services/surgeons cited above amounts to 53.1 %. Hence, they present areas of availability and opportunity.

To put utilization in its perspective and give you some sense for how the hours are allocated and used (based on my grouping of surgeons into a service designation), the following table was also prepared:

DISTRIBUTION and GENERAL USE OF BLOCK TIME (W/O Rm.11)

SERVICE	% of the Block Hrs Assigned	% of Primary Hrs Used
General Surgery	25.6%	29.9%
Orthopaedics (with Rm 11)	20.7%	13.2%
Orthopaedics (w/o Rm 11)	13.2%	14.9%
Gynecology	15.1%	15.4%
Cardio-Thoracic	10.4%	11.4%
Neurosurgery	9.5%	3.0%
Urology	6.3%	7.8%
Plastics	4.2%	4.9%
Otolaryngology	2.5%	2.5%
Dentistry/Oral Surgery	2.2%	2.8%
Ophthalmology	1.7%	1.9%
Pediatric Surgery	1.3%	1.7%
Trauma	0.2%	2.4%
Radiation Oncology	0.2%	0.1%
Podiatry	0.0%	1.3%
Pain Management	0.0%	0.0%
Transplant	0.0%	0.0%

As you can note the services with the highest percentage of allocated (assigned block) time (less Rm. 11 assigned hours) are:

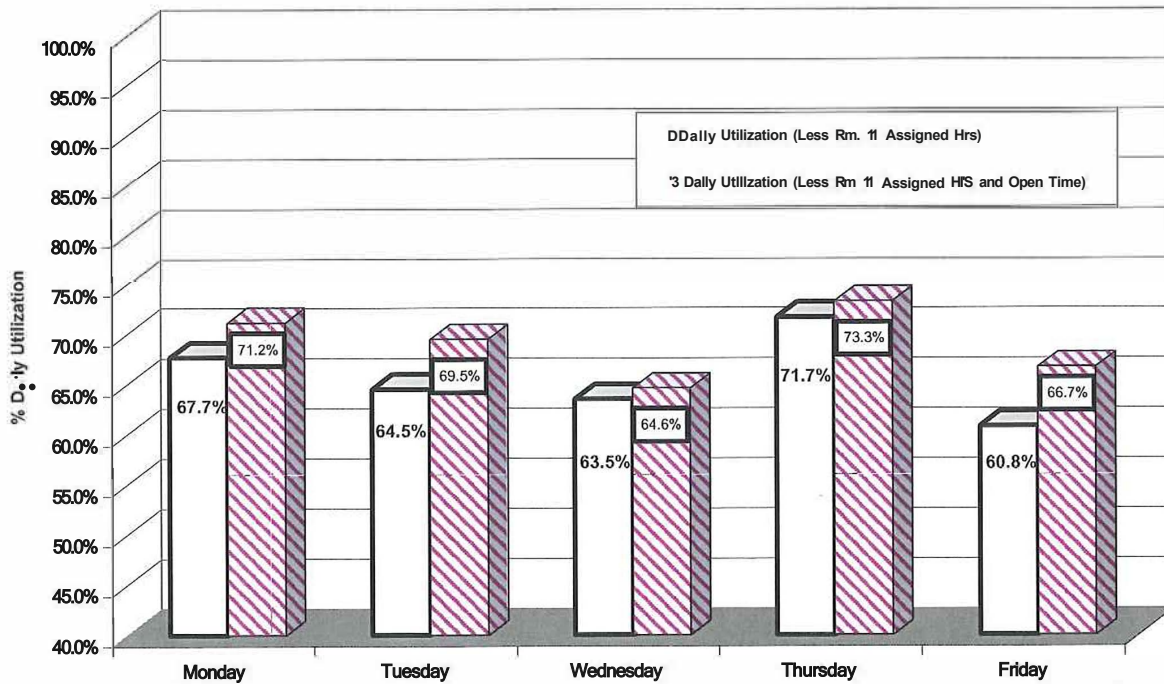
General Surgery-	25.6 % of block time
Gynecology-	15.1 %
Orthopaedics (w/o Rm 11)-	13.2%
Cardiac Surgery	10.4 %
Neurosurgery-	9.5%
Urology-	6.3 %
Plastics-	4.2%

The service with the largest discrepancy between time allocated and time used is as follows:

Neurosurgery- 6.5% difference

In looking at the **day-of-the-week-activity** to ascertain where the specific availability lies, the following analysis was also performed:

Daily Overall O.R. Utilization for Each Day of the Week for the Period from September -December 2002 (Room 11 Hrs & Open Time Excluded)



As is evident, for this period, excluding **Rm. 11**, **Wednesday and Friday are the days of lowest utilization.**

With respect to each designated service and their daily OR utilization for each day of the week the following was further revealed:

	Monday	Tuesday	Wednesday	Thursday	Friday
Orthopaedics*	94.8%	85.9%	91.2%	93.4%	44.7%
General Surgery	84.7%	77.0%	59.3%	64.7%	85.0%
Otolaryngology	84.4%	21.8%	57.1%		99.2%
Gynecology	65.9%	60.3%	56.9%	66.6%	77.1%
Trauma					223.6%
Urology	52.1%	113.2%	85.4%	89.5%	76.6%
Neurosurgery	8.7%	35.2%	1.6%	45.9%	10.5%
Plastics	72.4%	57.5%		77.4%	82.8%
Ophthalmology	44.4%	66.3%	61.0%		155.5%
Dentistry/Oral Surgery				60.2%	140.8%
Podiatry					
Cardio-Thoracic	84.0%	96.2%	78.7%	71.1%	35.6%
Radiation Oncology			40.6%		
Pediatric Surgery	54.2%		68.5%		

Again, as is evident, Friday is a day of low utilization for Orthopaedics, as is Tuesday for Otolaryngology, Monday for Urology, Monday and Wednesday for Neurosurgery, Wednesday for General Surgery, and Monday for Ophthalmology.

With respect to the surgeons themselves and their activity, an analysis was also conducted of the **number of cases performed** for this period to determine who the most active surgeons were in terms of cases and hours of surgery performed. This assessment identified the following:

30 Most Active Surgeons in Number of Cases Performed-Including Weekends

SURGEON	Sept	Oct.	Nov.	Dec	Total Cases
Cat	53	53	36	13	155
Ful	30	39	23	24	116
Kri	26	27	29	16	98
Hum	0	29	34	31	94
Cat	34	23	16	19	92
Fin	26	28	21	15	90
Slo	20	25	23	20	88
Bia	28	23	25	8	84
ler	24	22	20	17	83
Hoel	22	19	22	19	82
Ata	16	15	27	23	81
Dre	16	20	23	20	79
Pel	29	16	8	19	72
Fah	16	28	12	12	68
Fee	17	18	16	11	62
Sei	10	19	18	15	62
Mar	14	10	12	14	50
War	17	10	17	6	50
Kon	12	10	20	7	49

Lan	12	19	10	8	49
Sim	1	4	21	22	48
Aik	5	9	17	14	45
Mat	10	17	5	12	44
Roe	16	13	5	10	44
Sim	7	16	11	8	42
Ant	9	13	9	7	38
Ale	9	10	9	9	37
Car	8	9	12	5	34
Mac	8	10	5	9	32
Vil	6	10	12	3	31

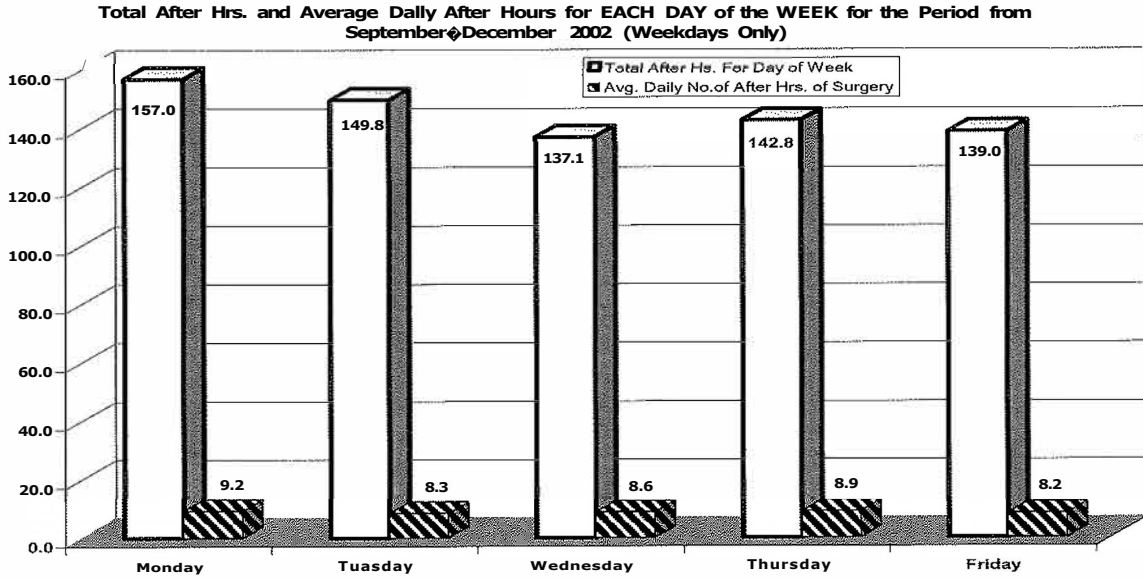
In terms of the **number of hours of surgery performed**, the following analysis revealed the 30 Most Active Surgeons (weekend Activity excluded):

30 Most Active Surgeons in Number of Hrs. of Surgery Performed (No Weekend Activity):

<u>Doctors</u>	<u>TOTAL Primary Hrs. Used</u>	<u>TOTAL AFTER HRS Used</u>	<u>Total Hours</u>
Cat	240.7	40.6	281.2
Sia	252.6	15.6	268.2
Ful	210.1	44.2	254.3
Sim	182.4	24.0	206.4
ler	201.5	1.5	203.0
Pel	164.3	30.1	194.4
Sei	160.48	23.85	184.3
Cil	168.1	16.1	184.2
Kri	180.8	3.2	184.0
Fee	150.61	31.28	181.9
Cata	158.06	21.3	179.4
Hum	165.59	8.52	174.1
Fin	169.1	0.0	169.1
Ata	152.43	15.78	168.2
Lot	136.62	25.01	161.6
Bia	111.25	46.51	157.8
Fah	134.21	7.14	141.4
Aik	120.78	2.6	123.4
Roe	118.44	4.1	122.5
Ant	108.53	11.9	120.4
Mat	113.46	5.1	118.6
War	92.66	11.1	103.8
Dre	92.63	9.72	102.4
Hoe	92.04	7.33	99.4
Lan	84.98	14.22	99.2
Car	94.23	3.3	97.5
Sim	81.8	13.51	95.3

Ale	91.27	2	93.3
Mar	86.97	4.6	91.6
Mac	87.25	4.2	91.5

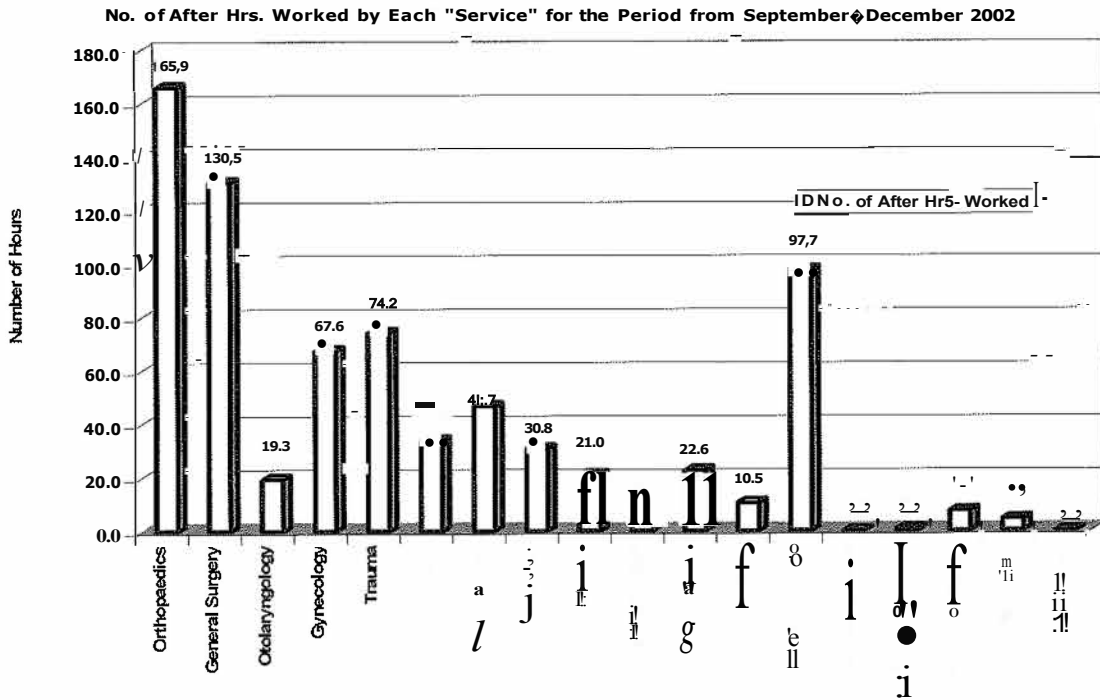
A final analysis was conducted of **After Hour activity** (essentially the surgical time before 8:00am and after 6:00pm) to determine the amount of surgical activity since it may, in some instances, be an indicator of the need for more surgical time. The following was revealed:



As the above indicates Monday is the day of greatest after hour activity, but the week is pretty consistent, on an average basis, from day to day.

With respect to the actual services themselves and their use of surgical time beyond the "normal" working hours, the next chart reveals the following:

AFTER HRS. WORKED BY EACH SERVICE:



Orthopaedics, who is currently requesting more Block time to accommodate their new surgeons, performs the most number of "After Hour" surgery, followed by General Surgery and Cardiac Surgery_

With respect to the surgeons themselves, the following surgeons performed the most "After" Hour Surgery during this period:

<u>Surgeon</u>	<u>No. of After Hrs</u>
Bia	46.5
Ful	44.2
Cat	40.6
Fee	31.3
Pel	30.1
Mon	28.3
Lot	25.0
Sim	24.0
Sei	23.9
Cata	21.3
Kon	11.3
Eak	16.7
Cil	16.1
Ata	15.8
Sic	15.6
Lan	14.2

Sim	13.5
Wei	12.4
Cle	12.2
Ant	11.1
Ros	10.6

Since all of the above is intended to show that availability currently exists, it is recognized that additional guidance and direction will be necessary to assist the OR Committee and the Chief of Surgery in orchestrating the changes necessary to optimize the case time effectiveness process and strive to reach a targeted goal of 75%-80% utilization.

Scheduling Rules:

Increasing case time effectiveness will require the imposition of more specific and focused scheduling rules as well as the possible redesign of supporting processes. It will place the responsibility on the shoulders of everyone involved in the day to day operation. It will probably necessitate minimizing between case delays, ensuring first-case on time starts and it may require reconfigurations in staff utilization and composition, including the PACU. And, it most definitely will require the following:

- Revised block assignments
- Revised and documented scheduling rules and regulations
- Consistent monitoring of turnaround times
- Monitoring of how cases are prioritized
- Establishing quality indicators, such as late starts, block utilization and case lengths exceeding block time allotment

One of the things that may help is establishing guidelines for services to allocate elective service time to individual surgeons. This would require the development of a prioritization scheme where the highest priority number will receive first choice. A formula like the following could be used for revising the system as to who gets first choice of blocks and for readjustment of block times.

$$\text{Total Surgery Hours per month} + \text{Total Cases per Month} + \text{Total Years of Seniority} = \text{Priority Number}$$

With respect to the rule modifications and guidelines the attached draft may serve as starting point from which to identify and address some of the enhancements that may be necessary. They focus on clarification of start time, day of surgery related activities, block time parameters, and the scheduling process and related issues such as tardiness. Considerable discussion and support will probably be necessary to ensure that any changes are viable.

Pre Admissions Process:

The **rethinking and subsequent redesigning of the Pre-Admissions process** may also present an opportunity to reduce operating theater delays and cancellations, thereby improving O.R. utilization. The function of preadmission testing is to ensure that initial assessment procedures, such as X-Rays, are completed and the record is forwarded to the OR before the

patient's arrival. It ideally should be one-stop shopping, encompassing all dimensions of preoperative screening. This includes the anesthesiologist's interview, preoperative teaching, and laboratory, radiology and electrocardiogram services. If additional physician consults are required, such consults must be available at the time of preadmission, leaving no consult or clearance elements to be performed in the innmediately preoperative stage.

The Pre-Admissions process at Premier is fragmented with approximately only 20% of the patients being evaluated at the 3 Premier Center site. Both the Anesthesia and Nursing staffs make a herculean effort to gather all the necessary consents and clearances and perform the appropriate assessments, but with 80% of the patients coming from other surrounding locations it is very difficult to ensure that all the necessary documentation is received and in order. The process is perceived by most that are involved to be a major bottleneck. For Anesthesia, in particular, it often forces them to conduct their initial assessment (rather than a review) directly in the Holding Area. For Nursing, it often has to look on-line or through sheaves of paperwork to ascertain that the tests required are completed. The consequences of failing to complete the requested tests might include having to perform the test on a STAT basis on the day of surgery, delaying the surgical schedule or causing a cancellation.

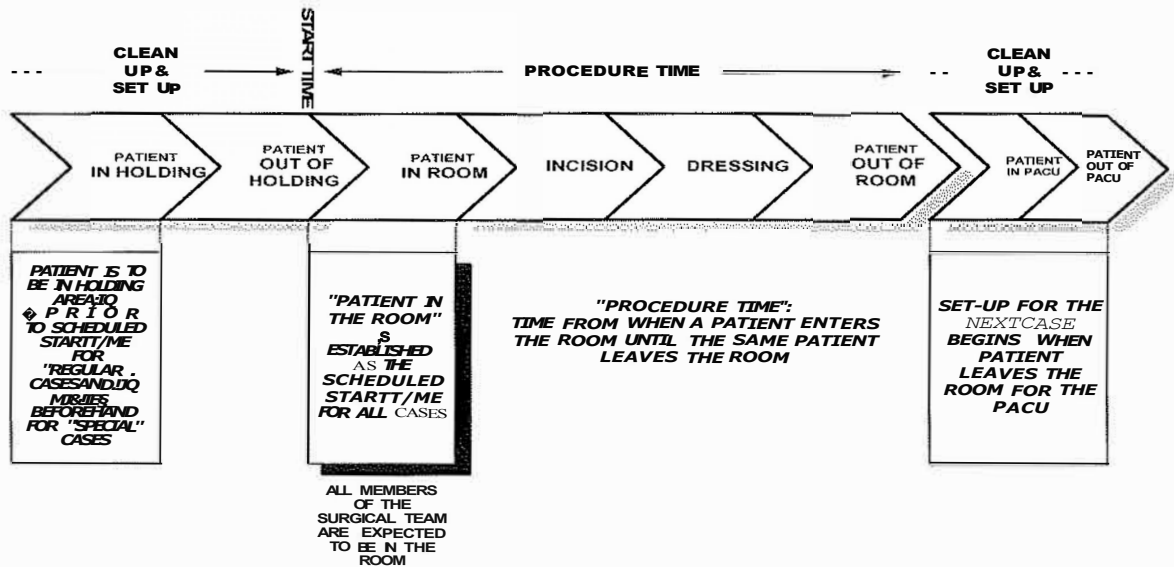
One of the alternatives suggested to better facilitate and monitor the patients prior to surgery was designating a site(s) that would perform the preadmissions testing at no cost to the patient. It is felt that this would greatly minimize delays and cancellations the day of surgery. This concept, should be investigated further to determine how resource intensive and cost effective it is.

Start Time Defined:

One fundamental step that may help as well to reduce delays and improve utilization is agreeing on a **definition of "start time"**. In a report on best performing OR's, *OR Manager*© described a hospital that during a campaign to cut turnover time discovered the root of another problem: none of the major players agreed on what a 7:30 am start time meant. Was the start time the time of first incision? Was it the time of the patient's arrival in the OR? This particular hospital got everyone to agree that the start time was the when the patient was ready for induction.

Because some confusion exists at Premier Health System as to what constitutes start time, an accepted definition that has been used by the Anesthesia Clinical Directors (AACD), D.J. Sullivan and the Governance Committee should be considered. In reflecting on the options they agreed on the following: **"Patient in the Room Time" is established as the scheduled start time for all cases. This is the time when the patient enters the Operating Room and all members of the surgical team are expected to be in Room at this time.** Graphically it is shown as follows:

PHASES OF THE OPERATIVE PROCESS



In so doing, it is important to determine what is expected of each participant, where they should be and what should be done if they are not present. Terms and definitions should be consistent with the computer system definitions.

Information System:

In addition, and as has been identified already, the need exists for an upgrade to OR Information system to enable the Scheduling Office to maximize the use of such a system to enable it to generate a greater variety of forms and reports and perhaps provide a patient tracking and broader viewing and access capability.

General:

As the Healthcare Advisory Board recently pointed out, **"Scheduling just one additional case daily can result in as much as \$1.8 million in additional annual revenue"** (Deborah Lang- Kuitse, 2001). On-time starts and turnover time in the minds of many sources, likewise represents a substantial opportunity to streamline work processes, increase revenue and reduce costs. The Healthcare Advisory Board, further quantified this opportunity by noting that the average hospital only experiences 27 percent on time case starts while best in class institutions experience 76% on time starts.

To this end, the next phase of the assessment will focus on evaluating the processing of PAT and Same Day Surgery patients, with emphasis on the impact that incomplete information causes on the day of surgery activities, particularly delays in the Operating Room. Since, as noted, only 20% of the PAT patients are seen at 3 Premier considerable potential exists for delays that can impact the surgical schedule despite the significant efforts of the staff.

In addition, an assessment is underway to evaluate first and subsequent delays and room turnaround to determine the reasons why and the impact it has on the processing patients through the OR.

Olejarz, Barbara

From: Carney, Brian
Sent: Monday, August 14, 2017 1:46 PM
To: 'Barbara.Durdy@hhchealth.org'
Cc: Riggott, Kaila; Olejarz, Barbara
Subject: 17-32164-CON Deemed Complete
Attachments: 17-32164-CON Application Deemed Complete Notification.pdf

Good afternoon Barbara,

Please see the attached letter deeming the above-referenced application complete. Please confirm receipt of this email and corresponding attachment.

Sincerely,
Brian A. Carney

Brian Carney, MBA
Associate Research Analyst
Connecticut Department of Public Health
Office of Health Care Access
410 Capitol Avenue, MS#13HCA
Hartford, CT 06134-0308
Phone - 860-418-7014
brian.carney@ct.gov



STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH



Raul Pino, M.D., M.P.H.
Commissioner

Dannel P. Malloy
Governor
Nancy Wyman
Lt. Governor

Office of Health Care Access

August 14, 2017

Via Email Only

Barbara A. Durdy
Director, Strategic Planning
Hartford HealthCare
181 Patricia M. Genova Blvd
Newington, CT 06111
Barbara.Durdy@hhchealth.org

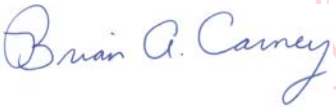
RE: Certificate of Need Application, Docket Number 17-32164-CON
Increase in Operating Rooms (2) at Hartford Hospital

Dear Ms. Durdy:

This letter is to inform you that, pursuant to Section 19a-639a (d) of the Connecticut General Statutes, the Office of Health Care Access has deemed the above-referenced application complete, as of August 14, 2017.

If you have any questions concerning this letter, please feel free to contact me at (860) 418-7014.

Sincerely,

 Digitally signed by
Brian Carney
Date: 2017.08.14
11:24:21 -04'00'

Brian A. Carney
Associate Research Analyst



Phone: (860) 418-7001 • Fax: (860) 418-7053
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Affirmative Action/Equal Opportunity Employer

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

Raul Pino, M.D., M.P.H.
Commissioner



Dannel P. Malloy
Governor
Nancy Wyman
Lt. Governor

Office of Health Care Access

Certificate of Need Final Decision

Applicant: Hartford Hospital
80 Seymour Street,
Hartford, CT 06106

Docket Number: 17-32164-CON

Project Title: Increase in Operating Rooms

Project Description: Hartford Hospital seeks authorization to increase operating room capacity on its main campus, with the addition of two operating rooms.

Procedural History: The Applicant published notice of its intent to file a Certificate of Need ("CON") application in *The Hartford Courant* (Hartford) on February 28, March 1 and 2, 2017. On April 18, 2017, the Office of Health Care Access ("OHCA") received the CON application from the Applicant for the above-referenced project and deemed the application complete on August 14, 2017. OHCA received no responses from the public concerning the proposal and no hearing requests were received from the public per Connecticut General Statutes ("Conn. Gen. Stat.") § 19a-639a(e). Deputy Commissioner Addo considered the entire record in this matter.



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Findings of Fact and Conclusions of Law

1. Hartford Hospital (“Applicant” or “Hospital”) is an 867-bed not-for-profit hospital located in Hartford, Connecticut. Ex. A, p. 12
2. As a member of the Hartford HealthCare (“HHC”) system, Hartford Hospital provides primary, secondary and tertiary acute-care services to residents of Hartford and the surrounding communities. Ex. A, p. 13
3. The Hospital currently has approval (Docket 16-31851-MDF) for forty-two (42) operating rooms (“ORs”) on its main campus. In accordance with national best practices, one OR has been dedicated for trauma purposes, effectively reducing operating room capacity to forty-one for non-emergent cases. Ex. A, pp. 13
4. A 2012 article¹ “Dedicated operating room for emergency surgery improves access and efficiency,” concludes that dedicated trauma ORs help improve the overall quality of care by reducing cancellations, overruns² and wait-times in elective ORs. Ex. A, pp. 36-43
5. In 2013, HHC’s adopted an Institute model (“IM”) for the growth and development of key service lines, including: orthopedics, neurosciences, cancer, cardiovascular services, urology and behavioral health. Ex. C, p. 114
6. Following adoption of the IM, significant growth in complex surgical cases has occurred, allowing HHC to advance key service lines throughout the system. The IM is intended to help optimize the use of resources to promote innovation and multidisciplinary teamwork and reduces clinical practice variation. Ex. A, p. 14; Ex. C, p. 114
7. Adoption of the IM has also helped the Hospital recruit key clinical staff members (cardiac surgeon and neurosurgeon) to enhance the breadth and depth of specialty and sub-specialty services and to attract new patients. Ex. C, p. 114

¹ “Dedicated operating room for emergency surgery improves access and efficiency.” Marilyn Heng, MD* and James G. Wright, MD, MPH*† from the *Division of Orthopaedic Surgery, Department of Surgery, University of Toronto, and the †Department of Surgery and Child Health Evaluative Sciences program, The Hospital for Sick Children, and the Departments of Public Health Sciences, and Health Policy, Management and Evaluations, University of Toronto, Toronto, Ont. Accepted for publication May 22, 2012.

² An overrun in an elective room referred to the time in minutes that the last case of the day continued beyond the scheduled block end time if an emergency case was added to the schedule for that OR.

8. In addition to surgical program expansion, the Hospital has experienced a large increase (+53%) in surgical transfers over the past several years (see table below).

**TABLE 1
SURGICAL TRANSFERS TO HARTFORD HOSPITAL**

Surgical Services	FY 2013	FY 2014	FY 2015	FY 2016	Annualized¹ FY 2017
CT Surgery	99	99	97	151	134
Hand	62	64	69	80	98
Neurosurgery	408	438	428	386	466
OMF	103	111	96	71	98
Ophthalmology	17	8	16	22	24
Orthopedics	112	110	127	130	148
Plastics	12	5	10	11	4
Surgery	185	259	388	455	420
Transplant	29	34	40	25	30
Trauma	386	464	586	835	652
Vascular	101	129	171	166	246
Total Surgical Services	1,514	1,721	2,028	2,332	2,320

¹ Annualized volume based on October 1, 2016 to March 30, 2017 historical data.

Ex. C, pp. 115-117

9. As a result of the expansion of surgical programs, new physician recruitment, the increased complexity of surgical procedures being performed and a growing number of patient transfers, the Hospital seeks approval to add two (2) ORs for a total of forty-four (44). Ex. A, p. 12; Ex. E, pp. 122-125
10. The two new ORs will be located at the Bone and Joint Institute on the main campus and will be used, in part, to accommodate joint replacement, podiatric and spine surgery and other inpatient cases that can be moved from the main hospital OR suites to help streamline scheduling. Ex. E, p. 122
11. From FY 2015 to FY2017, combined surgical case minutes at the Heart & Vascular, Ayer, Neurosciences and Bone & Joint Institutes increased by approximately 7%.

**TABLE 2
HEART & VASCULAR/AYER NEUROSCIENCES/BONE & JOINT INSTITUTE SURGICAL VOLUME**

Institute	FY 2014		FY 2015		FY 2016		FY 2017 Annualized*	
	Cases	Minutes	Cases	Minutes	Cases	Minutes	Cases	Minutes
Heart & Vascular	2,749	664,315	2,419 ¹	585,035	2,413	613,489	2,530	636,462
Ayer Neurosciences	473	126,521	506	138,473	538	135,932	1,244	295,214
Bone & Joint	5,841	935,372	5,633 ²	908,384	5,585 ²	930,031	5,042 ²	810,678
Total	9,063	1,726,208	8,558	1,631,892	8,536	1,679,452	8,816	1,742,354

*Based on 6 months of actual data (Oct - March 2017)

¹ The decline in surgical cases was due primarily to a change in reporting – thoracic cases were embedded within peripheral vascular in FY 2014, but beginning in FY 2015 were reported separately and not as part of the Heart and Vascular Institute.

² Surgical cases declined in FY 2015 largely due to the loss of a podiatrist and an orthopedic surgeon. Similarly, in FY 2016 an orthopedic spine specialist relocated out-of-state.

Ex. C, p. 120; Ex. E, p. 123

12. The Applicant anticipates that surgical minutes will increase at the Heart & Vascular, Ayer, Neurosciences and Bone & Joint Institutes as a result of recent recruitment efforts (i.e., 11 new physicians/other medical staff and the introduction of several complex procedures which require longer surgical case times. The Institutes are currently in the process of expanding their programs to serve a growing market³ as follows:

- addition of two cardiac surgeons in FY 2017 to increase specialty and subspecialty programs, including a robotic program and Trans Aortic Valve Replacement;
- expansion of Neuroscience services to include Deep Brain Stimulation, a highly complex service which requires multiple surgeries per patient; and
- addition of a new orthopedic surgeon in September 2017 to support increased demand for orthopedic-related services at the Bone & Joint Institute.

Ex. E, pp. 123-124

13. The Hospital projects that surgical minutes at the three Institutes will increase by 11% in FY 2018, 3% in FY 2019 and 3% in FY 2020.⁴

**TABLE 3
HEART & VASCULAR/AYER NEUROSCIENCES/BONE & JOINT INSTITUTE SURGICAL VOLUME**

Institute	FY 2018		FY 2019		FY 2020	
	Cases	Minutes	Cases	Minutes	Cases	Minutes
Heart & Vascular	2,643	693,213	2,727	712,670	2,839	741,486
Ayer Neurosciences	1,464	369,249	1,476	371,964	1,490	375,132
Bone & Joint	5,140	874,786	5,381	919,728	5,523	945,738
Total	9,247	1,937,248	9,584	2,004,362	9,852	2,062,356

Ex. C, p. 120

14. In addition, total surgical case hours at the Hospital have increased by 6% (FY 2014 to FY 2017). OR capacity at the Hospital is expected to reach 79% in FY 2017 and without the proposal, is expected to exceed 80% in FY 2018 (see Table 5).

³ The Advisory Board, a global research, technology and consulting firm, predicts a 12% increase in neurosurgery in the Hartford Hospital market.

⁴ Increased volume of 11% is primarily attributable to the new physician recruitment and ramp-up of their practices, while the continued 3% growth will result from program development, transfers etc.

**TABLE 4
HARTFORD HOSPITAL TOTAL SURGICAL VOLUME – ALL CASES**

All Surgical Cases FY2014-FY2017	Without the Proposal			With the Proposal						
	FY 2014	FY 2015	FY 2016	FY 2017 ¹	FY 2018	FY 2019	FY 2020	FY 2018	FY 2019	FY 2020
Total # surg.cases performed	24,111	24,072	24,612	24,580	25,522	25,930	26,280	25,522	25,930	26,280
Annual increase in surg. cases	1,463	-39	540	-32	942	408	350	942	408	350
Number of operating rooms	38	38	38	42 ²	42	42	42	44	44	44
Avg. annual # surg. cases/room	635	633	648	585 ³	622	632	641	594	603	611
Total # of surgical case hours	68,660	67,589	72,033	73,018	75,881	77,124	78,256	75,881	77,124	78,256

¹ FY 2017 annualized from 6 months of historical data (October 1, 2016 - March 31, 2017)

² Utilization of 42 rooms became effective on 2/6/2017

³ Calculation does not account for additional OR partial year and likely underestimates average surgical cases per room.

**TABLE 5
HARTFORD HOSPITAL TOTAL SURGICAL VOLUME – BLOCK CASES**

Block Cases ⁵ FY2014-FY2017	Without the Proposal			With the Proposal						
	FY 2014	FY 2015	FY 2016	FY 2017 ¹	FY 2018	FY 2019	FY 2020	FY 2018	FY 2019	FY 2020
Total # surg. cases performed	21,594	21,684	22,151	22,122	22,970	23,337	23,652	22,970	23,337	23,652
Annual increase in surg. cases ²	1,186	90	467	-29	848	367	315	848	367	315
Number of operating rooms	38	38	38	42 ²	42	42	42	44	44	44
Avg. annual # surg. cases/room	568	571	583	526 ³	560	569	577	534	543	550
Total # of surg. case hours	62,011	61,390	64,829	65,716	72,051	73,237	74,313	72,051	73,237	74,313
# of hours available per year	80,847	79,576	80,086	82,966	89,408	89,760	90,112	93,472	93,840	94,208
% of Total Hours Utilized	77%	77%	81%	79%	81%	82%	82%	77%	78%	79%

¹ FY 2017 annualized from 6 months of historical data (October 1, 2016 - March 31, 2017)

² Utilization of 42 rooms became effective on 2/6/2017

³ Calculation does not account for additional OR partial year and likely underestimates average surgical cases per room.

Ex. C, p. 121

15. The Hospital engaged HKS Knox, a national health care strategy and design consulting firm, to research industry standards related to operating room utilization. HKS Knox concluded their examination and recommends “using an OR utilization rate of 75% or less to provide for flexibility of use of operating rooms.” Ex. E, pp. 124-127

16. Most industry sources indicate that acceptable utilization for an OR should be in the range of 75-80%.^{6 7} Utilization rates above 80% may limit a hospital’s ability and/or flexibility to accommodate patient/physician schedules and the growing number of emergency transfer cases requiring surgery. Ex. A, p. 14

⁵ Block cases represent surgical cases performed during the time reserved (blocked time) for a service, physician group or individual surgeon. The Hospital’s block time is Monday through Friday 7:00 AM – 5:30 PM.

⁶ *Operating Room Utilization and Perioperative Process flow*, Frank Milewski, Premier Inc., p 4.

⁷ According to guidelines published in the DPH, OHCA *Statewide Health Care Facilities and Services Plan, October 2012*, the optimum utilization for an operating room in an outpatient surgical facility is 80%.

17. Without additional ORs, the Hospital will be required to schedule more procedures after-hours and on weekends, which is not cost effective (i.e., requiring overtime and on-call pay for clinical staff). Ex. A, p. 19
18. The Hospital serves a wide distribution of towns⁸ throughout the state. The new ORs will be utilized by the same patient population currently served by the Hospital. Ex. A, pp. 17, 27; CT DPH, Office of Health Care Access, Acute Care Hospital Discharge Database
19. Approximately 12% of Hartford Hospital’s total surgical volume payer mix is comprised of Medicaid patients, with no anticipated changes expected through FY 2020.

**TABLE 6
HARTFORD HOSPITAL’S TOTAL SURGICAL VOLUME PAYER MIX**

Payer	FY 2016		Projected							
			FY 2017		FY 2018		FY 2019		FY 2020	
	Surg. Cases	%	Surg. Cases	%	Surg. Cases	%	Surg. Cases	%	Surg. Cases	%
Medicare*	0	35.0%	8,604	35.0%	8,933	35.0%	9,076	35.0%	9,198	35.0%
Medicaid*	2,855	11.6%	2,852	11.6%	2,961	11.6%	3,008	11.6%	3,048	11.6%
CHAMPUS										
Other Govt.	197	0.8%	196	0.8%	204	0.8%	207	0.8%	210	0.8%
Total Government	11,666	47.4%	11,650	47.4%	12,097	47.4%	12,291	47.4%	12,457	47.4%
Commercial Insurers	12,380	50.3%	12,364	50.3%	12,838	50.3%	13,043	50.3%	13,219	50.3%
Uninsured	566	2.3%	566	2.3%	587	2.3%	596	2.3%	604	2.3%
Self Pay										
Workers Compensation	0	0%	0	0%	0	0%	0	0%	0	0%
Total Non-Government	12,946	52.6%	12,930	52.6%	13,425	52.6%	13,639	52.6%	13,823	52.6%
Total Payer Mix	24,612	100%	24,580	100%	25,522	100%	25,930	100%	26,280	100%

*Includes managed care activity.

Ex. A, p. 31

⁸Towns served by the Hospital in FY 2016 included: Hartford, East Hartford, West Hartford, Manchester, Wethersfield, Glastonbury, Newington, New Britain, Windsor, Meriden, Enfield, Middletown, Rocky Hill, Torrington, Bloomfield, Bristol, Vernon, South Windsor, Southington, Windham, Norwich, Wallingford, Coventry, Colchester, Windsor Locks, Avon, Berlin, Farmington, Simsbury, Griswold, Cromwell, Ellington, East Hampton, Lebanon, Portland Plainville, Tolland, Waterbury, Winchester, Suffield, Canton, Columbia, Granby, Marlborough, Burlington, Brooklyn, Stafford, Bolton, Montville, Cheshire, Mansfield, East Windsor, Hebron and Berlin.

20. , Incremental gains are projected through FY 2020, as a result of the proposal.

**TABLE 7
HARTFORD HOSPITAL PROJECTED INCREMENTAL REVENUES AND EXPENSES**

	FY 2018	FY 2019	FY 2020
Revenue from Operations	\$24,168,595	\$11,633,020	\$10,532,557
Total Operating Expenses	\$5,397,676	\$3,393,336	\$3,047,592
Gain/Loss from Operations	\$18,770,919	\$8,239,684	\$7,484,965

Ex. A, p. 28

21. There will be no changes to the Hospital's price structure or to the charity care policy as a result of this proposal. Ex. A, p. 20
22. OHCA is currently in the process of establishing its policies and standards as regulations. Therefore, OHCA has not made any findings as to this proposal's relationship to any regulations not yet adopted by OHCA. (Conn. Gen. Stat. § 19a-639(a)(1))
23. This CON application is consistent with the Statewide Health Care Facilities and Service Plan. (Conn. Gen. Stat. § 19a-639(a)(2)) (Ex. A, pp. 14, 19)
24. The Applicant has established that there is a clear public need for the proposal. (Conn. Gen. Stat. § 19a-639(a)(3)) (Ex. C, p. 121)
25. The Applicant has demonstrated that the proposal is financially feasible. (Conn. Gen. Stat. § 19a-639(a)(4)) (Ex. A, p. 28)
26. The Applicant has satisfactorily demonstrated that the proposal will maintain cost effectiveness, while improving the quality and accessibility of health care delivery in the region. (Conn. Gen. Stat. § 19a-639(a)(5)) (Ex. A, pp. 36-43; Ex. C, p. 14; Ex. E, pp. 123-124)
27. The Applicant has shown that there would be no change in the provision of health care services to the relevant populations and payer mix, including access to services by Medicaid recipients. (Conn. Gen. Stat. § 19a-639(a)(6)) (Ex. A, p. 19)
28. The Applicant has satisfactorily identified the population to be affected by this proposal. (Conn. Gen. Stat. § 19a-639(a)(7)) (Ex. A, pp. 17, 27)
- The Applicant's historical provision of treatment in the service area supports this proposal. (Conn. Gen. Stat. § 19a-639(a)(8)) (Ex. C, p. 121)
29. The Applicant has satisfactorily demonstrated that the proposal would not result in an unnecessary duplication of existing services in the area. (Conn. Gen. Stat. § 19a-639(a)(9)) (Ex. A, pp. 12-14)
30. The Applicant has demonstrated that there will be no reduction in access to services by Medicaid recipients or indigent persons. (Conn. Gen. Stat. § 19a-639(a)(10)) (Ex. A, p. 19)

31. The Applicant has demonstrated that the proposal will not negatively impact the diversity of health care providers and patient choice in the region. (Conn. Gen. Stat. § 19a-639(a)(11)) (Ex. A, pp. 12-14)

32. The Applicant has satisfactorily demonstrated that the proposal will not result in any consolidation that would affect health care costs or access to care. (Conn. Gen. Stat. § 19a-639(a)(12)) (Ex. A, pp. 12-14)

Discussion

CON applications are decided on a case by case basis and do not lend themselves to general applicability due to the uniqueness of the facts in each case. In rendering its decision, OHCA considers the factors set forth in § 19a-639(a) of the Statutes. The Applicants bear the burden of proof in this matter by a preponderance of the evidence. *Jones v. Connecticut Medical Examining Board*, 309 Conn. 727 (2013).

Hartford Hospital is an 867-bed not-for-profit hospital located in Hartford, Connecticut. The Hospital is a member of the HHC system and provides primary, secondary and tertiary acute-care services to residents of Hartford and the surrounding communities. The Hospital currently has approval for forty-two ORs on its main campus. In accordance with national best practices, one OR has been dedicated for trauma purposes, effectively reducing operating room capacity to forty-one for non-emergent cases. *FF1-FF3*

In 2013, HHC's adopted an Institute Model ("IM") for the programmatic growth and development of key service lines, including: orthopedics, neurosciences, cancer, cardiovascular services, urology and behavioral health. Adoption of the IM has helped to expand programs and attract new physicians, specifically at the Heart & Vascular, Ayer Neuroscience and Bone & Joint Institutes. New subspecialty programs and services will include a cardiac robotic program, "TAVR" (Trans Aortic Valve Replacement) and Deep Brain Stimulation. *FF5-FF7; FF12*

As a result of the expansion of surgical programs, physician recruitment, the increased complexity of surgical procedures and a growing number of patient transfers, the Hospital anticipates that total surgical case hours will increase by 11% in FY 2018. This increase in surgical volume will result in OR capacity exceeding 80%. At this level, the Hospital will have limited ability and/or flexibility to accommodate patient/physician schedules and the growing number of emergency transfer cases requiring surgery. *FF8-FF9; FF13-FF14*

The proposal is financially feasible and is projected to generate incremental gains of \$18.8 M in FY 2018, \$8.2 M in FY 2019, and \$7.5 M in FY 2020. Patients will not incur any additional costs as a result of this proposal and there will be no changes to the Hospital's patient population, charity care policy or to the existing payer mix, including Medicaid. Without the proposal, the Hospital would be required to schedule more procedures after-hours and on weekends, which would most likely add to the cost of care (e.g., overtime and on-call pay for clinical staff). *FF17-FF21*

The addition of two ORs will better allow the Hospital to accommodate the surgical volume more efficiently, prevent delays in access to surgical care and be more cost effective than expanding OR hours beyond the established block time schedule. The Hospital will improve its ability to accommodate patients/physicians and the growing number of emergency transfer cases. As a result, adding two new ORs at the Hospital's main campus is consistent with the Statewide Health Care Facilities and Services Plan.

Order

Based upon the foregoing Findings and Discussion, the Certificate of Need application requesting authorization to increase operating room capacity on its main campus, with the addition of two operating rooms, is hereby APPROVED.

All of the foregoing constitutes the final order of the Office of Health Care Access in this matter.

By Order of the
Department of Public Health
Office of Health Care Access



10/11/2017

Date

Yvonne T. Addo, MBA
Deputy Commissioner

Olejarz, Barbara

From: Microsoft Outlook
To: Barbara Durdy
Sent: Wednesday, October 11, 2017 12:51 PM
Subject: Relayed: Final Decision

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[Barbara Durdy \(Barbara.Durdy@hhchealth.org\)](mailto:Barbara.Durdy@hhchealth.org)

Subject: Final Decision

Olejarz, Barbara

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Sent: Wednesday, October 11, 2017 12:51 PM
To: Barbara Durdy
Subject: Final Decision
Attachments: 32164 final decision.pdf

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	'daniels@chime.org'		
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10/11/17

Barbara,

Please see attached final decision for Docket Number: 17-32164-CON, Hartford Hospital increase in operating rooms.

Barbara K. Olejarz
Administrative Assistant to Kimberly Martone
Office of Health Care Access
Department of Public Health
Phone: (860) 418-7005
Email: Barbara.Olejarz@ct.gov



Olejarz, Barbara

From: Durdy, Barbara <Barbara.Durdy@hhchealth.org>
Sent: Wednesday, October 11, 2017 12:53 PM
To: Olejarz, Barbara
Subject: RE: Final Decision

Thank you Barbara!

From: Olejarz, Barbara [mailto:Barbara.Olejarz@ct.gov]
Sent: Wednesday, October 11, 2017 12:51 PM
To: Durdy, Barbara
Subject: Final Decision

10/11/17

Barbara,

Please see attached final decision for Docket Number: 17-32164-CON, Hartford Hospital increase in operating rooms.

Barbara K. Olejarz
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