



Putting Technology in the Hands, Home or Community of People with IDD to Improve Quality of Life



Sengistix incorporates various types of technology to create complete, individualized remote support solutions to enable vulnerable individuals maximum independence and control.

- 24/7 response and support center to monitor all solutions, assure access to CDS trained professional, so every situation is addressed quickly. Hourly remote supervision with 2 way audio/video available.
- Solutions focus on assisting individuals in their **homes** to manage their life & health, be safe and assure caregivers know when help is needed – without having to be physically present.
- **Environmental** and **wearable** technology work together to offer prompts, reminders, and aid in managing health and safety.

AbleLink Technologies was founded in 1997 specifically to address the significant need for research-based cognitive support technologies for individuals with cognitive disabilities and those experiencing cognitive decline.

- Unique customizable software solutions and support to enable independence and enhance quality of life.
- Solutions are accessible via desktop or iOS/Android mobile devices enhancing **community** access and **vocational** opportunity.
- Makes information, communication, learning, entertainment and social interaction **accessible and available to individuals** of all ability levels.

Expanded Supervision Options = Better Person Centered Services

Technology Changes the Way We Think About:

- Supervision
- Funding
- Delivering person centered services and outcomes

PREMISE:

“Person Centered” = Person has control & responsibility
CareGiver Presence = Person’s control and responsibility
diminished

Yesterday:

Supervision:

- None
- On-site awake caregiver
- Sleep or on-site on-call caregiver

Person Centered Planning:

- What's the person's goals and life style desire?
- Are there risks/vulnerabilities? Does it require supervision?
 - If yes, identify available residential/day service options which best meet goals
 - If no - question eligibility for services

Supervision & Support– Today:

- *None*
- Call Pendant only (remote caregiver available)
- Combination of sensors only (remote caregiver available)
- Personal assistive tech including tablet tasks programs, GPS assist (bus or walking), smart phones
- Sensors plus video/audio for investigation or as needed drop in
- Sensors, 2-way video/audio with real-time remote supervision and support
- *Caregiver on-site*
- On site caregiver supplemented with combo of tech

Person Centered Supports

Today:

Wide range of supervision and assistance options =
Exploding options for Personalized Supports
Max Control and Responsibility with the person

- What's person's goals and life style desire?
- Are there risks/vulnerabilities? Does it require supervision?
- If yes:
 - What is the purpose of the supervision?
 - Verify things happen as they should
 - Provide reminders/prompts
 - Provide real-time observation and guidance
 - Provide physical assistance
 - What does caregiver (remote or on-site) need to know, when & why?
 - What type of interaction is most productive for person?

Person Centered Support Today

Dignity of Risk vs. Culture of Protection=

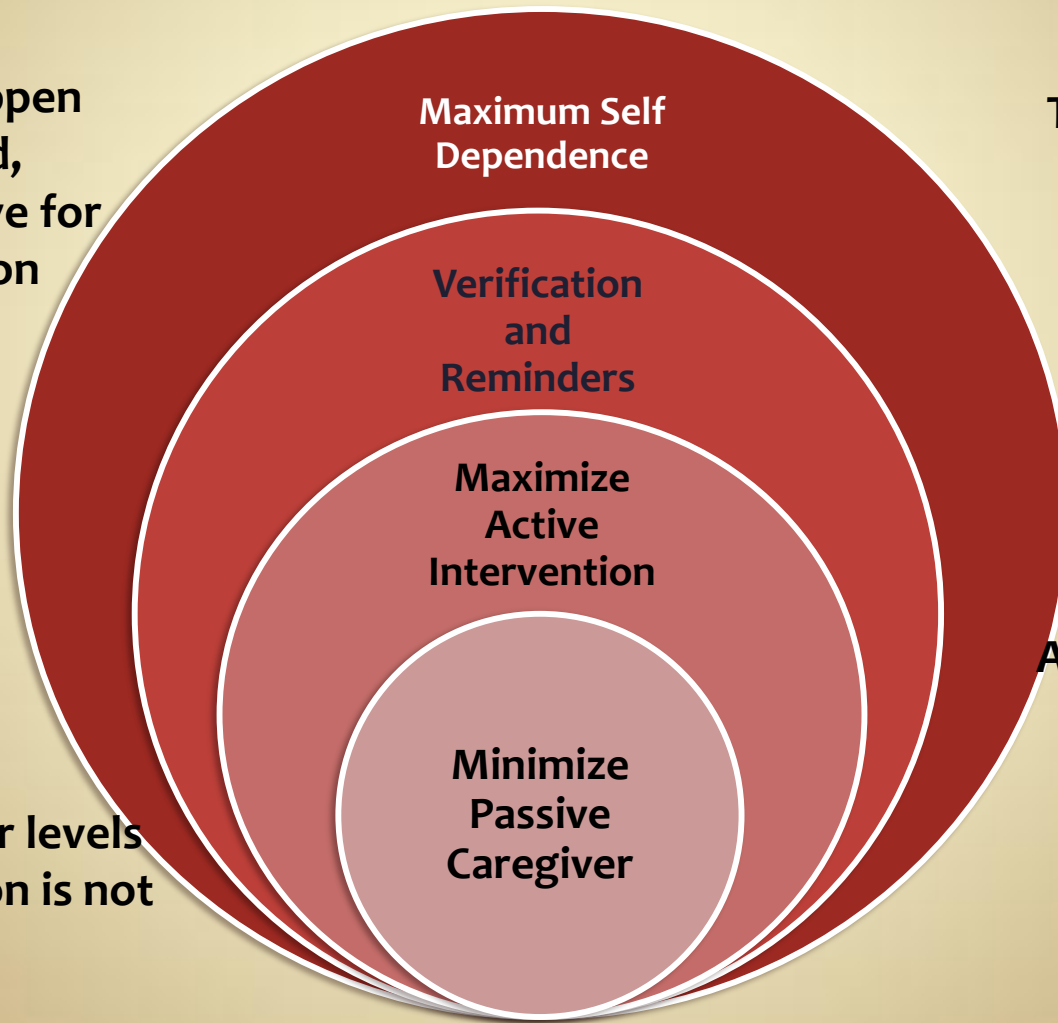
Allowing person opportunity to control & manage own life

- For each life aspect needing supervision/assistance:
 - What tools available to help the person handle on own?
 - What are consequences if person doesn't handle it?
 - If consequence unacceptable,
 - Is staff intervention likely to reduce it?
 - What's minimum intervention required (latest/least)?
- When caregiver intervention required:
 - What aspects will person control?
 - What is plan to increase person's control? (call pendant for person to determine intervention timing, pair tech with training & fade caregiver intervention)

Goals

Verify things happen
as they should,
medications , leave for
work, reposition

The less caregiver
presence,
the more self
dependence



Reduce caregiver levels
when intervention is not
needed

Active caregiver time
more productive,
prevention vs.
reaction

Remote Home Based Supports

Sengistix

SENS
Secure Environmental
Network Support

SENS
VISION
Active Monitoring
When eyes-on is also needed

24/7
Response Center
Advocate
Monitoring

Minimize passive caregiver time
Enhance active caregiver time
Increase self-dependence
Verify important activities

Smoke
normal •
alert •

Bed/Chair
occupied •
unoccupied •

Motion
activity •
inactivity •

Contact
open •
closed •

Stove Guard
• person near
• stove off

Contact
• open
• closed

Toilet Flush
• frequency

Bed/Chair
• occupied
• unoccupied



Sengistix Sensors



Biometrics - Telehealth



Glucometer



Blood Pressure



Weight



Pulse-Ox

- Easy individual reports
- Reminders, if planned time has past
- Set individual thresholds for immediate notification (call, email, text)

Daily Health Questions:

- 100% individually configurable
- Yes/No or 5 point rating scale
- Results notification via email, phone call, summary report

Date/Time	Glucose
02/26/12 08:56	207.0 mg/dL
02/26/12 08:56	207.0 mg/dL
02/26/12 08:56	207.0 mg/dL
02/26/12 17:24	106.0 mg/dL
02/26/12 17:24	106.0 mg/dL
02/26/12 17:24	106.0 mg/dL
02/27/12 07:49	188.0 mg/dL

General Activity | Transferring | Physical Activity | Bed Sensor | Shower Sensor | Chair Sensor

Events | ADL | Vital Signs | Monitors | Groups | System | Options | Responders | Notes

Reading Type: GLUCOSE

Start Date: 02/26/2012 00:00

End Date: 03/26/2012 00:00

Graph Type: 3D Vertical Bar

Report

Graph

Add Reading

Actions

Call Down List: Argonne Insulin

key	min	max	units
Glucose	60.0	200.0	mg/dL

Manage Threshold Settings

1. Do you feel more tired than usual?
2. Did you have trouble sleeping last night?
3. Have you had thoughts of hurting yourself or others in last day?
4. Did you ...?

ASSESS

1



Design/
Implement



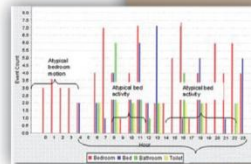
Notifications

2



3

College of Direct
Support Certified
24/7 backup and
remote supervision



4





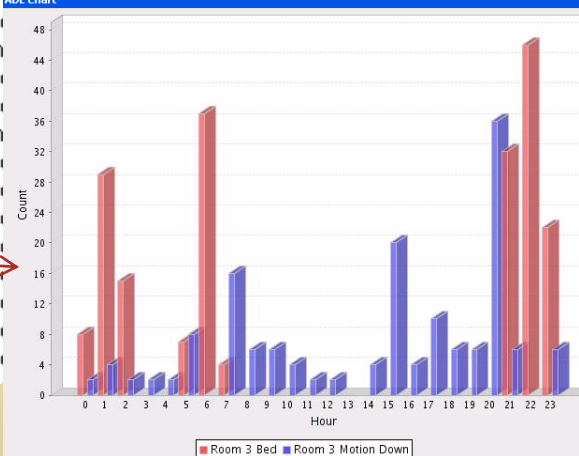
24/7/information to Support the Support Team

- Sengistix Response Center monitors system 24/7
- Sensors are self monitoring
- All activity viewed on web portal
- Data available for download and analysis
- Sensor data easily graphed for quick visual

ID	Sensor Name	Type	Last Battery	Events In Last			°F	dBm	Last Event	Last State
				1 Day	4 Days	7 Days				
07:3b:d3	Back Door	G35 CONTACT SENSOR	10/04 18:02 5.40V	0	0	0	62	-65	09/20 11:54	OPEN
07:39:71	Bathroom 1 Motion	G35 MOTION SENSOR	10/04 17:59 5.28V	234	782	1266	75	-69	10/04 17:54	NO MOTION
07:37:b3	Bathroom 2 Motion	G35 MOTION SENSOR	10/04 17:53 5.34V	28	252	376	63	-55	10/04 17:16	NO MOTION
01:2a:cd	Bathroom A Pull Cord	G30 PULL CORD	10/04 17:56 5.13V	0	0	0	62	-43	08/21 09:46	NORMAL
01:2a:50	Bathroom B Pull Cord	G30 PULL CORD	10/04 17:58 5.28V	0	0	0	64	-58	09/27 07:36	NORMAL

Resident Alert Summary Report For: House 30

Level	Date/Time	Status	Event	Source	Other Info
Action Suggested	10/04/12 17:29:12	Closed	Telephony	Telephony	Call Down Terminated
Immediate Attention	10/04/12 17:29:08	Closed	Cancel Emergency	Sensor Manager (10/04 17:29:08) Bedroom 2 Pendar	
Action Suggested	10/04/12 17:28:48	Closed	Telephony	Telephony	Waiting Recall 7 minutes
Action Suggested	10/04/12 17:28:47	Closed	Responder Response	Converser	6125587099: Accept Pressed
Action Suggested	10/04/12 17:28:22	Closed	Call Started	Converser	6125587099
Action Suggested	10/04/12 17:28:21	Closed	Telephony	Telephony	Call Down Initiated
Immediate Attention	10/04/12 17:28:18	Closed	Start Emergency	Sensor Manager (10/04 17:28:18) Bedroom 2 Pendar	
Action Suggested	10/04/12 17:02:56	Closed	Responder Response	Converser	6125587099: Hangup/Voice Mail
Action Suggested			Telephony	Telephony	Call Down Terminated
Action Suggested			Emergency	Sensor Manager (10/04 17:02:03) Bedroom 2 Pendar	
Action Suggested			Cancelled	Converser	6125587099
Action Suggested			Emergency	Telephony	Call Down Initiated
Action Suggested			Emergency	Sensor Manager (10/04 17:01:34) Bedroom 2 Pendar	
Action Suggested			Cancelled	Telephony	Call Down Terminated
Action Suggested			Responder Response	Converser	6125587099: Accept Pressed
Action Suggested			Cancelled	Converser	6125587099
Action Suggested			Responder Response	Converser	6127280049: Busy/No Answer
Action Suggested			Cancelled	Converser	6127280049
Action Suggested			Responder Response	Converser	6125587099: Hangup/Voice Mail
Action Suggested			Cancelled	Converser	6125587099
Action Suggested			Cancelled	Telephony	Call Down Initiated
Action Suggested			Cancelled	Telephony	Call Down Terminated



WHAT IS SENS VISION?

Trained Advocate

- Skilled in the Sengistix software, internet connectivity and data analysis
- College of Direct Support educated
- 40+ hours of job shadowing and training
- Trained by primary caregiver in each person's vulnerabilities, risk management plan, emergency procedures and protocol

CONNECT

2 way video/audio

**Communication Over Network
& Enhanced Connectivity**



Uses sensor information with camera and two way video & audio through our CONECT system

- Pan, tilt, zoom camera with microphone and speakers, night vision and back light protection for top clarity
- Secure web video software support with time-limited recordings, download capability for investigations, individual password protected access for approved caregivers 24/7

Act as caregiver on duty – “Remote Supervision” for designated periods of time

- Formal hand off with on-site caregiver if relieving or being relieved
- Provides only as much interaction as needed from observation and emergency intervention only to regular check in and discussion
- Weekly reports of all activity and any/all intervention needed
- Incident Reports whenever on-site intervention activated
- Routine drills to assure emergency protocols work, as requested

Case Studies

Family Respite

- Situation:** The Lucas Family –
- ***Alice**, husband **Peter** and teenage sons **Terry** and **Shawn**
 - ***Alice's** younger brother **Denny** lives in efficiency apartment a block away
- Denny:** ID/DD with mental health issue and chemical dependency
- Supports:**
- ***Alice** legal guardian
 - ***Peter** and **Alice** are caregivers and support
 - ***Denny** receives funding through Self Directed Services and has a part time job



Respite

DESIRES/GOALS:

- For Denny to continue living in the community safely and not have to return to a group home setting where he has failed in past
- Maintain his employment
- Alice & Peter want to continue to support Denny, but need a normal family life with their sons, feeling at times may have to spend night with Denny to assure he was safe – Can't continue

STRENGTHS:

- Alice and Peter both care deeply for Denny and have professional expertise in human services
- Denny is motivated to stay in his own apartment and he has the skills to do so

CHALLENGES/RISKS:

- Denny's mental health and chemical dependency are intermittent and unpredictable
- Had previously failed in group settings, explosive & assaultive
- Living with parents became aggressive toward them
- When drinking and/or depressed needs closer supervision and intervention and may not ask for it
- Has failed to take medications on own, but resists if staff give to him

Respite - PLAN

Continue family as core caregivers aided by technology

- Motion sensor in living area, bed sensor, contact sensor on front door & medications, camera and two-way audio video in living area
- Reminders/prompts if medication box not opened
- Alice and Peter go on-line using PC or iPad to view the sensors confirming Denny's home when he should be, the time he leaves for work, etc.
- When Denny's struggling, they use the audio/video to see whether he's drinking, talking about hurting himself, pacing, etc.
- COST -Equipment is leased at \$100.08/month, Monthly SENS services are \$169.95/month

Use Sengistix SENS Vision for Respite

- During family vacations or otherwise not available to monitor Denny, Alice schedules Sengistix to provide SENS Vision during the evening.
- If Denny needs face to face intervention, two trained friends of the family are contacted by Sengistix to go to Denny's apartment
- COST - SENS Vision @ \$3/hr, averaging \$48/month

Maintaining Health and Safety

Mike

- Situation:**
- ***Mike** lives in his own apartment in Colorado Springs
 - *Works 30 hr/wk stocking shelves at Cub Foods
 - *Receives 4 hr/wk ILS to help with budgeting, meal planning and coordinating health services
- Diagnosis:** ID/DD, Epilepsy, mild CP, high blood pressure
- Needs:**
- ***Mike** is an independent guy and loves his apartment and job
 - *Seizures had been well controlled until Feb. when seizure while home alone was suspected of occurring several hours before staff arrived, finding him unconscious on kitchen floor. Staff found meds from prior evening on bathroom sink and a couple under kitchen table.



Mike

STRENGTHS:

- Mike is cooperative with taking meds and managing his health
- He independently can take his medications using an automated med dispenser

CHALLENGES/RISKS:

- Short term memory and fine motor issues causing occasionally dropped meds and or distraction between getting meds & water, & taking meds
- Seizures are not 100% controlled with meds and if missed at high risk for seizures

DESIRES/GOALS:

- Increase independence and reduce cost by not having staff to watch him take meds
- Assure more timely identification of when he has a seizure

Mike - PLAN

Use sensors to identify potential seizures via abnormal activity pattern or lack of activity

- Motions sensors, contacts on external doors & frig, bed & chair sensors, toilet sensor and use automated activity change alerts.
- Equipment cost = \$3,300; Monthly SENS service = \$169.95/month

Use Sengistix SENS Vision to observe Mike taking his meds, verify he took them and didn't drop any

- Program staff set up meds in automated dispenser monthly.
- 15 minutes before Mike is due for meds, Sengistix advocates logs into camera and calls for Mike. Stay engaged to remind him to get water first, then meds, and check hand and floor afterward, then document and log out.
- SENS Vision 2 hours/day (am and pm meds) X \$3/hour = \$6/day or \$182.50/month

Frank



SITUATION

- 49 yrs, MR, CP, Manic Depressive, Epilepsy, Hypertension, Tardive Dyskensia
- Independent in most ADLs
- Motivated to be more independent
- Has a great support team of family, community and professionals, lives in townhome bought by family

CHALLENGES/RISKS:

- Was assaultive in group living situation and repeatedly becomes upset when ever increasing staff hours is discussed
- Frequency of falls increasing
- Concern that seizures may have increased
- Safety in home and community is increasing concern (forget walker, wallet, jacket, etc.)

DESIRES/GOALS:

- Maintain as much of independence as possible, for as long as possible
- Better monitor/asses health & safety in least intrusive manner
- Minimize risk and better assure if injured, help arrives fast

Frank - PLAN

Keep hourly supports at current level

- HPC service used only when Frank needs direct assistance

Remote suppo sensors used to monitor safety and gather data 24/7

- Sensors used in private areas for fall detection (motion & bed)
- Chair sensor provides data on time in chair
- Call pendant – to notify when needs help

Remote Supervision (SENS Vision) added for direct observation and availability of guidance

- Late evening, overnight & morning
- Afternoons Mon - Fri

Frank - OUTCOME

Services

- Goes about his day without seeming to notice the technology until he needs something
- Team pleased with the information they receive on health and safety and the flexibility of the system
- 3 months in, Sengistix advocate witnessed first grand mal seizure during middle of night, got & worked with emergency services at site
- After 3 hospital days & 3 days with 24 hr staff, returned to previous remote supervision schedule

Financial

- Service provider bills I/O Waiver \$9.83/hr for every authorized remote suppo hour. Equipment lease is \$2330/yr. Compared to \$18.64/hr if an HPC staff had provided supervision
- County determined they are saving over \$25k/yr

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