Video-based telehomecare for the delivery of disease management programs

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redefine THE POSSIBLE.

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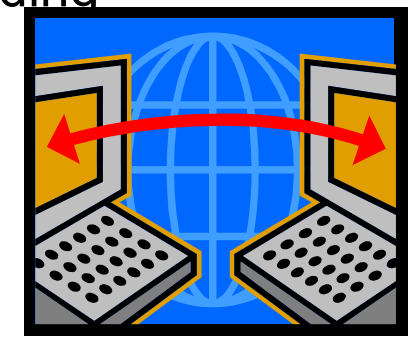
- Comcare Health Services: nursing service provider
- Toronto East General Hospital: patient referral from family physicians with medical follow-up and funding for nursing care
- American TeleCare Inc: technology provider
- Clinidata: After hours care



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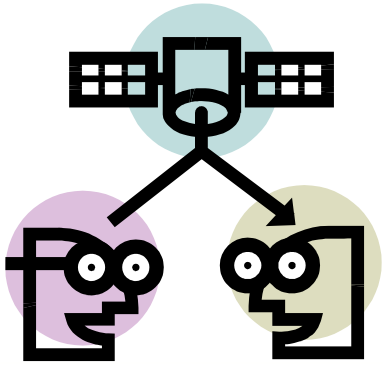
Telehomecare



- Telehomecare uses telecommunication technology to provide video-based face-to-face communication, observation, and remote monitoring of heart and lung sounds, blood pressure, pulse, oxygen saturation etc.

- This technology links patients with clinicians

- A THC visit replaces or augments a home visit by a nurse (or other health care provider) or visit to a hospital-based clinic.

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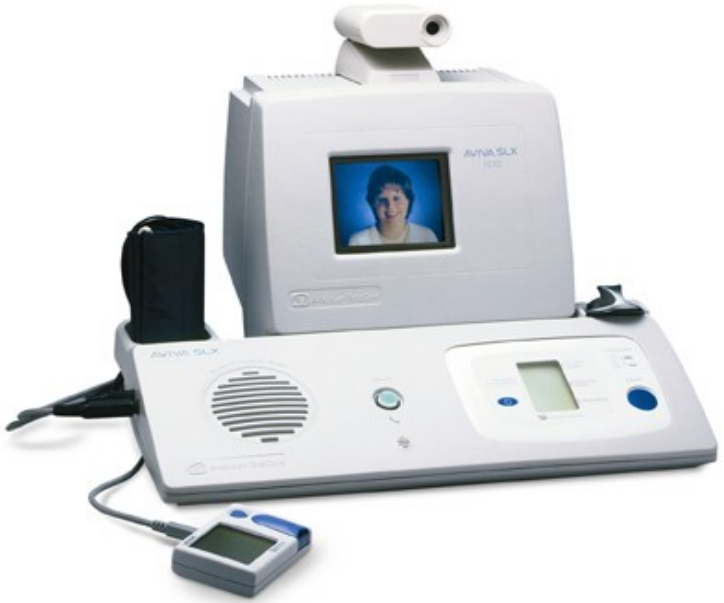
The Technology

Provider Station

Patient Station



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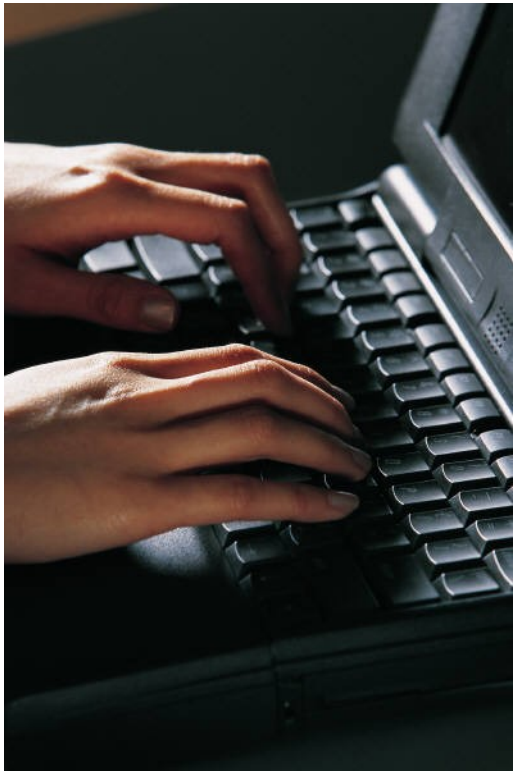
Purpose



The East York Telehomecare project was undertaken to develop models of delivering telehomecare, to understand how patients adapt to telehomecare services, and to evaluate the effectiveness of the technology in improving access to timely care for community-dwelling adults who have chronic illness.

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Methods

Descriptive exploratory study used mixed methods:

- In-depth interviews of patients were used to develop a grounded theory of participant concerns and experiences.
- Content analysis of notes recorded in the electronic health record as well as demographic data collection.
- Participants also completed a telehomecare satisfaction survey.

Demographics

- n=133
- 2900 scheduled THC visits

Age of Participants

<40 years old	4%
40-49	6%
50-59	11%
60-69	25%
70-79	28%
80-89	20%
90-99	5%

Primary diagnosis of participants

- Other 33%
- COPD 29%
- Diabetes 13%
- Other Respiratory 13%
- Hips and Knees 7%
- Stroke 5%

Grounded Theory: Living in a comfort zone

- 10 patients interviewed at various stages of the THC experience
- Participants were asked about:
  - their health situation
  - the THC experience
  - what helped them get started with THC
  - difficulties or concerns
  - recommendations
  - the impact on their relationship with the nursing provider
  - the impact of THC on their health
- Participants were given choice for setting and format for the interviews
  - conducted face-to-face (3) and by telephone (7)
- Data were also collected from two patient videos that were filmed as part of an e-learning project

- Interviews were recorded (audio or video) and transcribed, or recorded using field notes.
- Data were analyzed using classical methods described by Glaser and Strauss (1967) to explicate a preliminary substantive mid-range theory that identifies common processes and experience trajectories over time
- Conceptual categories and their properties were identified from substantive coding using the constant comparative method of theoretical memoing.
- 6 patients participated in interviews following the development of the THC model to confirm stages and utility of the theory.

Patients' Experiences
" Living confidently with illness"

- The overarching process involved in participants' experience with THC was that they were *Living in a Comfort Zone*

- The transition period following discharge from the hospital was a time of anxiety; desire expressed to learn to live with chronic illness in a way that allowed them to feel confident in their health and able to participate more fully in their lives.

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Living in a Comfort Zone

Four categories sequenced in overlapping phases

Making a connection

- health situation
- community care provider
- technology

Focusing on vitals

- focused on norms
- understanding norms and variations
- identifying potential for change

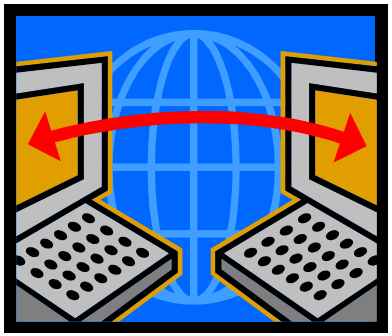
Understanding illness

- exploring signs & symptoms
- connecting with directives
- integrating medications

Taking control

- stabilizing
- exploring capacity and limitations
- becoming proactive
- fewer visits to hospital emergency rooms

Making a Connection…



- Connecting to their own health situation
- Adapting to health care providers and THC equipment

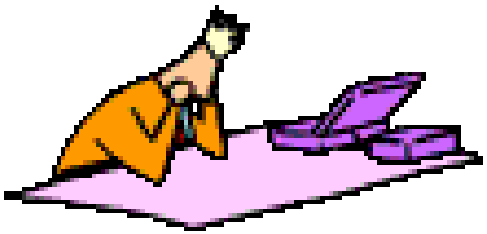
" The equipment was very straightforward to use … I liked it right from the beginning. The nurse is very good … she has a good personality … I liked it when she cane [to my home] as well … but is more convenient with the equipment … I like that I can do it [self-monitoring] myself at other times. I use it to give myself a check-up every morning."

- THC is not for everyone; one patient described feeling overwhelmed with his health situation so changed his mind about using THC

Focusing on vitals …

Once initial challenges surmounted, there is a tendency on the part of both patients and providers to focus on vital signs.

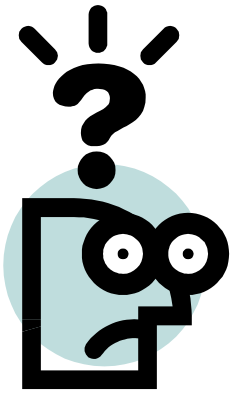
- establishing baseline
- ensuring patients maintain adequate health



"What I like best is that I can monitor myself whenever I feel I need to do it … if I am tired or I am short of breath … I can use the equipment … and it is relaxing my mind to know that actually I am find … it lets me know maybe I should rest but that I am find … I don't need to worry like before that maybe I should phone for the doctor."

Understanding illness …

Patients learn to use THC equipment results and feedback from health care providers to better understand their illness ands its impact on their lives.



"I do this [vital signs] first thing in the morning. If it's a bit high I can usually hit the nail on the head about what's come along and triggered it…and I do adjust like my fluid intake or activity…then I can take it the next day or later in the day just to see if it's up…it gives me a comfort zone."

Taking control …

Many patients monitor to gauge their activities or to determine when to call health care provider

- stabilizing
- exploring capacity and limitations
- becoming proactive
- fewer visits to hospital emergency rooms

"If I was up [my weight] now I know and I can phone into my doctor for a change in my medications like my water pills … or sometimes if it is just a little bit up I will make sure to keep my legs wrapped [with compression bandages] and maybe have less to drink the next day … so maybe it will come down again. Before, I didn't like the bandages and it was not something I would have thought would have an effect … but now I can be in control and I don't need to be in touch with the doctor and this is saving a call to the doctor."

Conclusion

- THC has the potential to promote and maintain quality of life for community-dwelling adults with chronic illness.
- The over-arching process of their THC experience was that they were: Living in a Comfort Zone.
- The cost effectiveness of THC delivery is yet to be determined given challenges to doing so in Canada

- Balancing the delivery of clinical care and evaluating its effectiveness was a challenge

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Key Findings

- Quality of life was maintained. Participants credited THC with preventing disease exacerbation and said ongoing connection to providers furthered understanding/management of their illness.
- Patients and nurses learned THC processes quickly and were very satisfied with care delivery
- THC enabled patients to live with increased confidence, security, engage in disease management, improve quality of life
- THC enabled nurses to deliver more timely patient care, provided patients with a decision-making tool regarding daily activities and disease management
- In the absence of providing physical care, nurses' focus turned to patient education, monitoring, and support.