

 EVERY MINUTE. EVERY HOUR. EVERY DAY. WE CARE.


TRAC: Telehealth Research Across the Community

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What is Telehealth?


- Remote monitoring from the client's own home
- Daily measurements of vital signs
- Nurse monitors daily readings for deterioration in condition


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Why Telehealth?


- Hospital admissions of Silver Chain clients over 5 ½ years
 - 67,674 individuals
 - 286,185 admissions
 - Average LOS 7.6 days
 - Average number admissions 4.2
 - Time in hospital 32.2 days
- Any one day Silver Chain clients use 1,085 beds
 - 886 metro, 198 country
 - 714 public, 371 private
- 51% had a diagnosis of chronic disease




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Objectives


- To implement and evaluate a model of chronic disease self-management which incorporates telehealth self-monitoring supported by remote clinical monitoring.
- To determine if the telehealth monitoring results in a reduction in hospital admissions and emergency department visits.
- To determine whether there are any changes in clients' self-assessed quality of life as a result of the telehealth monitoring.
- To seek feedback from clients and their Consultants/GP's as to their satisfaction with the program and its perceived effectiveness in increasing individuals' self-management of their disease and improving health outcomes.


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Methods


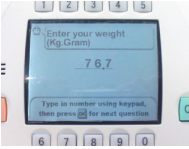
- Randomised Controlled Trial
 - 120 Chronic Heart Failure
 - 80 Chronic Obstructive Pulmonary Disease
- Eligibility
 - English speaking
 - Diagnosis of COPD or CHF
 - Receiving Oxygen services (COPD)
 - At least one hospitalisation in the last year (CHF)
 - Not palliative
 - No diagnosis of dementia
- Recruitment
 - Required specialist/GP consent




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Intervention

- Daily measurements of weight, pulse, blood oxygen levels, temperature and additional questions specific to condition.
- GP sets parameters based on what would be considered 'normal' for their clients.
- Measurements outside set parameters trigger alerts.
- Nurse phones client when alerts are triggered.

Daily Measurements

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Equipment

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Nurse Monitoring

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Telehealth Nurse

Case Study

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Day measurements in detail		
09:42 (UTC+8)	Blood pressure - manual	137/80 mmHg
09:42 (UTC+8)	What is your temperature?	36.7
09:43 (UTC+8)	Are you currently on Oxygen?	Yes
	What is the flow rate of Oxygen machine?	Greater than 2 but lower than 4
09:43 (UTC+8)	SpO2 reading - manual	SpO2: 98%
09:43 (UTC+8)	Enter your Pulse Rate (PR) from Oximeter reading	68
09:43 (UTC+8)	Describe your cough today?	Dry-non productive
09:43 (UTC+8)	How much did you feel sleepy during waking hours?	Slightly
09:44 (UTC+8)	What kind of sputum are you producing?	No Sputum
12:19 (UTC+8)	intervention registered	Clients data shows productive cough and expectorating green sputum, he will see GP today. Tks Anne
14:44 (UTC+8)	intervention registered	Client has been to GP today. Having various tests on Friday 2/10/09. Tks Anne

30.9.2009

Case Study 2

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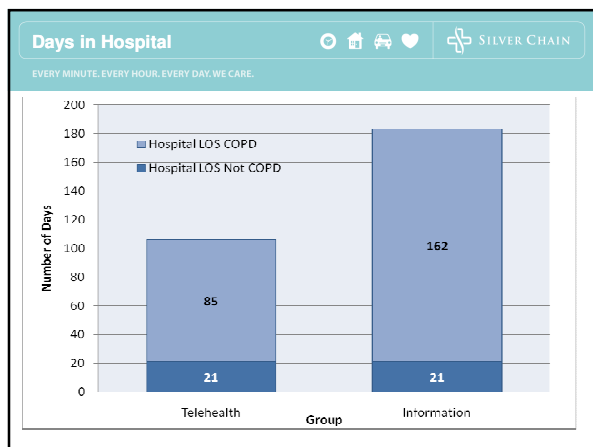
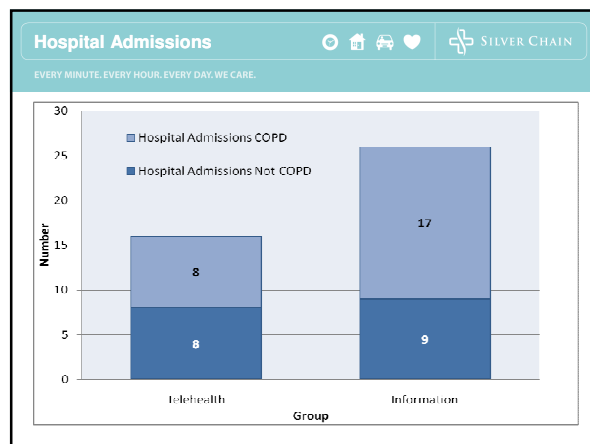
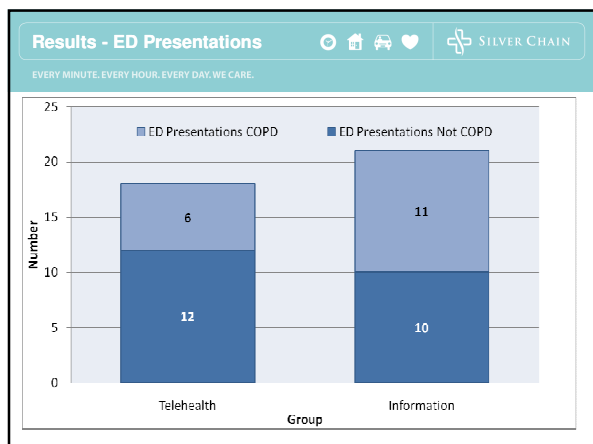
Day measurements in detail		
10:42 (UTC+8)	intervention registered	Spoke with client as pulse over 100 (but within 15% of mean average), client states he was watching AFL final and getting upset with outcome of match. He had not realised that it would make a difference to his pulse. Nil other concerns at this time. Tks Anne
12:24 (UTC+8)	Blood pressure - manual	113/70 mmHg
12:24 (UTC+8)	What is your temperature?	36.6
12:24 (UTC+8)	Are you currently on Oxygen?	Yes
	What is the flow rate of Oxygen machine?	Greater than 2 but lower than 4
12:24 (UTC+8)	SpO2 reading - manual	SpO2: 92%
12:25 (UTC+8)	Enter your Pulse Rate (PR) from Oximeter reading	68
12:25 (UTC+8)	Describe your cough today?	No cough
12:25 (UTC+8)	How much did you feel sleepy during waking hours?	Not at all
12:25 (UTC+8)	How much do you have any difficulty breathing today?	Short of breath whilst hurrying
12:25 (UTC+8)	What kind of sputum are you producing?	No Sputum
12:25 (UTC+8)	How many times did you visit a doctor this week?	1
12:25 (UTC+8)	How many times did you go to an Emergency Department this week?	0
12:25 (UTC+8)	How many nights did you spend in hospital this week?	0

27.9.2009

Data Collection

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- Hospital Admissions, ED presentations and GP and specialist visits
- Health Related Quality of Life
- Participant and Stakeholder Satisfaction
- Comparative total costs



Annual Cost Savings

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Items	Costs/Cost Savings
Equipment costs	\$48,768
Labour costs	\$70,582
Total costs	\$119,350
Health system usage cost savings	\$224,876
Annual cost savings	\$105,528
Per person cost savings	\$2,931

Participant feedback

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"There is no doubt that it [telehealth] has probably saved a couple of trips to hospital or has made me go to the doctor where previously I would have hung on and hung on and ended up going to hospital by ambulance."

"You can see the pattern of how your medication and breathing is going. You can keep an eye on it. With my COPD I have been able to control it a hell of a lot better. I was going into hospital every 3 months prior to having this, but now it has been six months since the last time I was in."

"It stops you worrying...instead of wondering what was wrong and if you are alright you've got the evidence there."


"The fear of breathing and panic is less now because I am understanding more about my condition and I feel more confident."

- ### Key Findings
- EVERY MINUTE. EVERY HOUR. EVERY DAY. WE CARE.
- Telehealth Group had less COPD related ED presentations and hospitalisations and a shorter LOS.
 - Considerable cost savings for Telehealth Group (\$2,931 per person annually)
 - Participants reported a high level of satisfaction with the user friendliness of the equipment and were receptive to using such a service in the future.
 - Participants reported increased self confidence, control and awareness in managing their condition, as well as an improved sense of security and reduced anxiety.

Where to now?  SILVER CHAIN

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- Complete the CHF trial
- Cross-over trial
- Telehealth will be incorporated into Silver Chain's Respiratory Model of Care
- Investigate the impact on other groups (multiple co-morbidities, diabetes)
- Investigate the feasibility of telehealth for special needs groups such as people with dementia

Acknowledgements  SILVER CHAIN

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The people who participated in the research

