2011 INTERNATIONAL WINNER of the IAHSA Excellence in Ageing Services Award

Telehealthcare – An Australian Case Study

Jennene Buckley, CEO Feros Care
Who is Feros Care?

- Aged and Community Care Provider
- Public Benevolent Institution (Charity)
- Owned By the Community
- Origin - Byron Bay Australia
- 1960’s George Feros had a dream
- Established over 30 Years ago (1976)
- Operating Aged Care Services since 1990
Service Coverage

1000 km's
## Future Challenges

<table>
<thead>
<tr>
<th>Category</th>
<th>Now</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>People over 65 years (44% live by themselves)</td>
<td>1:7</td>
<td>1:4</td>
</tr>
<tr>
<td>People over 80 Years</td>
<td>400,000</td>
<td>1,800,000</td>
</tr>
<tr>
<td>Informal Carers</td>
<td>Availability will Increase by 60%</td>
<td>Demand will increase by 160%</td>
</tr>
<tr>
<td>Workforce (People of working age to those over 65 years)</td>
<td>5:1</td>
<td>2.7:1</td>
</tr>
<tr>
<td>Funding</td>
<td>Last 10 years – increase in community care funding rates 18% compared to wage increases of 38%</td>
<td></td>
</tr>
</tbody>
</table>
Service Philosophy

**Preserving Dignity:** The life experiences of every senior is valued and deserves respect.

**Promoting Healthy Ageing:** Focus on ageing as a positive experience involving the mind, body and spirit.

**Empowering Lifestyle Choices:** Empowering seniors to live the way they want by offering service choices.

**Encouraging Independence:** Seniors’ rights to self-reliance is encouraged by whatever means possible.

**Involving Family and Friends:** Involvement of extended family and close friends at every opportunity.

**Community Citizenship:** Seniors are encouraged to remain active participants in their community.

Productivity Report: “caring for older Australians”: Wellness, independence, re-ablement and social inclusion.
# Feros Care’s Technology Enablers

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Technology Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independence &amp; Security</td>
<td>Telecare Smart Home technologies</td>
</tr>
<tr>
<td>Chronic Disease Management</td>
<td>Telehealth Vital Signs Monitoring</td>
</tr>
<tr>
<td>Social Isolation</td>
<td>Senior “e-connecting”</td>
</tr>
<tr>
<td>Complexity of Accessing Services</td>
<td>Feros Community Gateway “central contact and referral centre”</td>
</tr>
</tbody>
</table>
| Efficient & Effective Service Models | Community Gateway Electronic Health record  
                                    | Virtual Offices  
                                    | Cloud Computing              |
Telehealthcare

The use of Information Technology to provide healthcare services at a distance

(Telehealthcare is described as using a range of care options available remotely via telephone, mobile, broadband and videoconferencing)
Telehealthcare - Assistive Technologies

Product Comparison
- Key suppliers: Intel, Telemedcare, Chubb, Tunstalls

Technology in Operation
- Nottingham & Torbay and York, Dublin, UK.
- Trials: Mildura, Ipswich Australia
- Established LifeLink in Dec 2009
- 9 month Trial to Oct 2010
- 6 month Trial to Nov 2011 (NNSWLHD)
- 500 Smart Homes to Dec 2011
Telehealth

Allows people to take their vital signs in their home daily, monitored by a clinical nurse or health professional.
Our Clients

Age: 55 to 89

Conditions:

- Unstable Blood Pressure
- Diabetes
- COPD
- Chronic Heart Failure
Telehealth Devices

- Pulse Oximeter
- Thermometer
- Telehealth Hub
- Glucose Monitor
- Blood Pressure Monitor
- Scales
1. Daily Health Interview
Client is prompted to conduct their interview answering relevant health questions and measuring vital signs using the Telehealth devices and monitor.

4. Proactive Management of Health
A visit to the GP may be necessary, or some other minor adjustment of lifestyle.

2. Telehealth Triage Monitoring Station
Readings and responses are transmitted securely to the monitoring station to be analysed by registered nurse.

3. Follow Up
If any of the readings or responses are outside of the client’s normal or acceptable ranges (as defined by the client’s GP), a follow up call to the client is instigated. If necessary the registered triage nurse will escalate to the client’s GP.
### Triage Screen

#### Main Menu
- Monitoring Dashboard
- Find Patients
- Manage Case Load
- New Patient
- Profile Settings

#### Patient Menu
- Schnieder, Imre (M)
  - Known as: Jim
  - DOB: Jul 06 1930 (31)
  - Ph: 0266 856 949
- Patient Summary
- Patient Info
- Patient Status
- Monitoring Plan
- Devices
- Summary Report
- Vitals
- Interviews

#### Table
<table>
<thead>
<tr>
<th>Severity</th>
<th>Patient</th>
<th>ID Number</th>
<th>Vitals</th>
<th>Questions</th>
<th>Status</th>
<th>Last Received</th>
<th>Expected</th>
<th>Care Manager</th>
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<td>Hanley, Pamela</td>
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<td></td>
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<tr>
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</table>
Telehealth Outcomes

1. **Better understanding of their condition** on a daily basis on how activity, medications and other interventions can improve their condition or general well being.

2. Daily monitoring by a Registered Nurse allows for timely intervention that can reduce the need for a GP visit or hospital stay.

3. Excellent trend information on daily vital signs that GP’s can use in clinical decision making.

4. **Peace of mind** knowing a clinician is watching over them daily.

5. Ability for Aged and community care services better understanding of and better management of clients conditions.

6. Ability to reduce the number of hospital bed days through both early intervention (hospital avoidance) and early discharge.
Outcomes

Our Clients

- Decreased worry about not being aware of daily severity of condition (69%)
- Technology allows me to be more independent (94%)
- I can manage better with the technology (100%)

“With Telehealth the RN is monitoring mums vitals everyday.
No hospital admission this winter – the first time in 3 years”

Daughter

General Practitioners

- Involving patients in monitoring has a positive compliance impact (69%)
- Daily monitoring helps reduce A&E visits and re-hospitalisation (86%)
- I would recommend monitoring services to other physicians (86%)

Daily monitoring of BSL and BP has assisted in stabilizing her medical conditions

GP
Financial Model

$15 per week data and website
$33 per week monitoring
$20 per week equipment
$68 per week

<table>
<thead>
<tr>
<th>Average Cost</th>
<th>Telehealth</th>
<th>Residential Care Bed</th>
<th>Acute Hospital Bed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Day</td>
<td>$9.50</td>
<td>$180</td>
<td>$1285</td>
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</tbody>
</table>
## Telehealth Efficiency

203,814 sets of vital sign readings

<table>
<thead>
<tr>
<th>Telehealth - Remotely</th>
<th>Registered Nurse Visiting</th>
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</thead>
<tbody>
<tr>
<td><strong>Cost per Client Day</strong></td>
<td><strong>Cost per Client Day</strong></td>
</tr>
<tr>
<td>$9.50</td>
<td>$82.50</td>
</tr>
<tr>
<td><strong>No. of RN's required</strong></td>
<td><strong>No. of RN's required</strong></td>
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<tr>
<td>2.5 FTE's</td>
<td>34 FTE's</td>
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Telecare provides a range of environmental, movement and personal triggers that automatically rings through to an emergency response centre 24/7.
Client Profile

Age: 63 to 91

6 out of 10 clients live alone
2 out of 10 clients living with dementia (50% living alone)

Risk Factors:
- Falls risk
- Wandering & Dementia related Behaviours
- Forgetting Medication
- Anxious about being alone
- Physical Disability
A smart home is created by combining telematics devices to support people to live independently with the flexibility to add, remove or change sensors as a user's needs change.

Feros Care has 500 smart homes installed.
How does Telecare work?

24/7 RESPONSE

Alert is raised

The user actively alerts the response centre using their base alarm or their personal alarm pendant. Alternatively, an automated alert is raised by any other installed sensors such as a fall detector.

Speak to response centre operator

The user speaks to the response centre operator through the powerful hands free speaker on the base alarm. The range can be up to 50 metres from the base alarm.

Response centre operator organises help

The operator contacts the user’s designated family member, neighbour, carer or emergency services to provide appropriate help.

Operator stays on the phone

Added reassurance as the operator stays on the phone until help arrives.
Base Alarm

**Features:**
- Pendant Triggers
- Medication Reminders
- Critical Visits
- Answer calls via the pendant

Emergency Calls can be sent to:
- Response Centre
- Family Members Mobile Phone
- Carer pager
Daisy and her “Ladies”

Challenge:
- Daisy lives alone on a remote property
- The “Ladies” and cows need feeding every day
- Animals are further than 50m range of pendant
- Daisy and family want peace of mind so she can stay at home active and happy, yet safe

Solution:
- Base alarm and pendant installed for emergency help if needed in the home
- Passive Infra Red (PIR) sensor to search for Daisy’s movement in the evenings after her return from tending to the animals
- If the PIR does not detect movement in the evening, an alert is sent automatically to the emergency response centre to call Daisy’s house to check on her
Property Exit Sensor

Features:
• Alarm call is sent when a person leaves the home
• Can configure to set timeframes (to allow person to visit mail box or clothes line and return).
• Carer’s Switch Available
• Alarm can be sent to Response Centre, pager, mobile phone or pillow shaker

Considerations:
• How many entry/exit points are there in the house
• ‘Door Left Open’ alarm is always active
Falls Detector

Features:
- Automatic Trigger
- Can be worn on a waist belt

Considerations:
- Requires careful management by client to reduce false alarms
- May not be suitable for client that uses a recliner
- What other devices will be used when the Fall Detector is not worn eg. in bed or the shower
Automatic Nightlights & Bed Sensor

Features:
• Lights turn on automatically when person gets out of bed, and automatically dims when client returns to bed.
• Alarm generated if a person isn’t back in bed within a pre-set time (eg. 20 minutes)
• In and out of bed alerts

Considerations:
• Programmed by client’s weight
• Specify ‘under sheet’ or ‘under mattress’ pad
Challenge:
• 86 years old, lives alone and has dementia
• Pauline is high falls risk
• She has regular family support along with community care services
• Her family and Pauline want to remain in familiar home environment, safe and independent

Solution:
• Base alarm, pendant, property exit sensor, bed sensor with automatic night lighting
• An alert is raised if Pauline leaves her flat for extended time, OR if she does return but does not close her door
• Pauline’s light comes on when she gets out of bed at night to reduce falls risk. If she does not return to bed an alert is raised that perhaps she has had a fall in another part of house
Pressure Mat

Features:
• Triggers alarm as soon as a person puts weight onto the mat
• Can go straight to the family members pager or pillow shaker.
• Does not require the base alarm if used with bellman range

Considerations:
• No timing windows can be programmed
Graham - Returning Home

**Challenge:**
- Graham suffered a massive brain injury spending more than 12 months in hospital to “never be able to return home”
- Feros Care Nursing Home rehabilitated him with a goal to return home to his wife
- Brain injury left Graham wearing protective head cover and at very high risk of falls
- Graham’s wife housebound during the day and sleeping on the floor every night next to Graham’s bed to assist him each time he gets up in the night

**Solution:**
- Base alarm and pendant for emergency help in the home
- Pressure mat with carer pager for daytime – to alert his wife when mat is stepped on
- Pillow Shaker connected to Graeme’s bed sensor means his wife can sleep in her own bed rather than on the floor!
Other Triggers

- Epilepsy
- Custom triggers
- Wall Buttons
- Unwanted caller
- Pull cords
Telecare Outcomes

1. **Less anxious** about living alone

2. **Peace of mind knowing** someone will know if they have had a fall, heart attack or home emergency

3. **Peace of mind for carers** knowing they can leave the house and be alerted if their loved one has had a fall.

4. Improved **quality of life for carers** - ability to be alerted if person with dementia wanders.

5. Reduced likelihood of **premature admission** to residential aged care.

6. Ability to **reduce hospital bed days** knowing 24/7 emergency response (early discharge)

Feros Care celebrated 500 installations in December 2012
## Outcomes

### Our Clients

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>88%</td>
<td>Reduced fear of undetected falls</td>
</tr>
<tr>
<td>87%</td>
<td>Increased confidence for household activities</td>
</tr>
<tr>
<td>94%</td>
<td>The technology improves my security</td>
</tr>
</tbody>
</table>

“the emergency devices give me more confidence and make me feel safer at home by myself”

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### Their Carers and Family

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>56%</td>
<td>Improved client independence</td>
</tr>
<tr>
<td>44%</td>
<td>Reduction in carer anxiety</td>
</tr>
<tr>
<td>28%</td>
<td>Reduced need for residential care</td>
</tr>
</tbody>
</table>

I can’t provide much assistance myself, but with the Feros visits and telehealthcare services, I think mum can remain at home for years.
Financial Model

Rental & Monitoring Charge

- Bathroom Safety: $13.50 p/w
- Inactivity Monitoring Package: $15.65 p/w
- Falls detection (including night lights): $20.75 p/w
- Environmental Safety: $24.60 p/w
- Night Time Exit Seekers: $24.25 p/w

(Installation from $170 to $510)

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<td>$1285</td>
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</table>
UK Health Initiatives

• Launch of 3 million lives

January 2012

The commitment by Department of Health to work with the industry in the implementation of telecare and telehealth.

“The aim of 3 million lives is to enhance the lives of three million people over the next 5 years by accelerating the roll-out of telehealth and telecare in the NHS and social care and in turn reduce the burden on acute hospital inpatient use and increase the cost effectively of care”.

Department of Health
WSD Headline Findings for Telehealth

- 45% reduction in mortality rates
- 20% reduction in emergency admissions
- 15% reduction in A&E visits
- 14% reduction in elective admissions
- 14% reduction in bed days
- 8% reduction in tariff costs
UK Health Initiatives

• Whole Systems demonstrator Program
  December 2011
  (results of the world’s largest randomised control trial of telehealthcare)

45% reduction in mortality rates
15% reduction in A&E visits
20% reduction in emergency admissions
14% reduction in elective admissions
14% reduction in in-bed days
Where to from Here for Feros Care?

1. Educate and lobby all levels of government and key industry stakeholders on the benefits and opportunities that telehealthcare can play in supporting seniors to remain living safely, securely and more happily in their own home.

2. Participate in interest groups, forums and steering committees or other forums related to the use of technologies in the support of independent living.

Noted Anthropologist Margaret Mead once wrote:

“never doubt that a small group of committed people can change the world – indeed it is the only thing that ever has”.
www.feroscare.com.au
www.lifelinkresponse.com.au

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