Telecare & How It Fits in with S.A.P.

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Wrightington Conference Centre
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Community Support Jigsaw

OTHER FORMS OF SUPPORT

HUMAN SUPPORT SERVICES

INFORMAL CARERS
- Family
- Friends
- Neighbours
- Voluntary groups

FORMAL CARERS
- Home helps
- Emergency services
- Therapists
- Wardens
Demographic Realities

- **Europe**
  - 2000: 4
  - 2025: 2.5
- **Asia**
  - 2000: 6
  - 2025: 3

**Dependency ratios:**
- Europe 2000 = 4
- Europe 2025 = 2.5
- Asia 2000 = 6
- Asia 2025 = 3

Percentage of population aged 65 & over:
- Latin America and Caribbean: 7.7 (2000), 14.5 (2025)
- Europe: 19.8 (2000), 28.8 (2025)
- Former USSR: 16.5 (2000), 25 (2025)
- Asia: 14.3 (2000), 25.3 (2025)
- Oceania: 13.5 (2000), 20.7 (2025)
Community Support Jigsaw

OTHER FORMS OF SUPPORT

HUMAN SUPPORT SERVICES

INFORMAL CARERS
- Family
- Friends
- Neighbours
- Voluntary groups

THE HOME
- Supported living
- Extracare schemes
- Lifetime homes
- Smart homes

FORMAL CARERS
- Home helps
- Emergency services
- Therapists
- Wardens
Community Support Jigsaw

**OTHER FORMS OF SUPPORT**

- Assitive Technologies
  - Supported living
  - Extracare schemes
  - Lifetime homes
  - Smart homes

**HUMAN SUPPORT SERVICES**

- Informal Carers
  - Family
  - Friends
  - Neighbours
  - Voluntary groups

- Formal Carers
  - Home helps
  - Emergency services
  - Therapists
  - Wardens

**THE HOME**
Assistive Technologies

Modular, electronic, low-cost, mass-produced.
Suitable for wide range of older and vulnerable people.
Supports independence.
Assessment & Technology Matching Process

Referral

SAP/FACS
Who Will Receive This Level of Service?

% of Local Authorities

Eligibility Threshold for Services

- Low
- Moderate
- Substantial
- Critical
Assessment & Technology Matching Process

Referral
- SAP/FACS
  - Overview Assessment
    - Specialist Assessment
      - Assessment Process
      - Prescription Process
        - Propose Care Package
        - Include Telecare Proposals
          - Refine & Agree Full Care Plan
            - Equipment Installation
              - Monitoring & Response
                - Review
      - Identify Unmet Needs & Risks
Telecare

1st. Generation

REACTIVE
EMERGENCY
ALARM SYSTEM

2nd. Generation

PROACTIVE
LIFE & HEALTH
MONITORING

3rd. Generation

ADVICE,
INFORMATION,
ENTERTAINMENT
AND
COMMUNICATION
SYSTEMS

STAND-ALONE
ELECTRONIC ASSISTIVE
TECHNOLOGIES
Generation Zero

FUNCTIONAL
COMPENSATION

Devices and systems
to help overcome
sensory or functional
problems in
performing activities
of daily living

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Stand-alone Devices

Compensating for sensory deficiencies

Supporting carers

Overcoming functional problems

Strength?

Helping balance
Focus on Standalone Equipment

Project Outcomes

- The project was extremely cost effective as people spent less time in hospital, residential or nursing care.
- The net equivalent saving over 21 months was > £1.5m for 233 service users.

Over 50 different kinds of device were used

- Most were simple ‘stand-alone’ assistive technology devices that don’t need to be installed by professionals.
- The most popular items were calendar clocks, timers, movement activated lights & Memo Minders.
  - Reliability & effectiveness checked every 3 months by project workers.
  - 91% of devices worked perfectly over the course of six reviews.
REACTIVE EMERGENCY ALARM SYSTEM

Overcome anxiety, increase confidence, manage risks to independence

ADVICE, INFORMATION, ENTERTAINMENT AND COMMUNICATION SYSTEMS

ENVIRONMENTAL SENSING & CONTROL TECHNOLOGIES

RISK CONTROL

PROACTIVE LIFE & HEALTH MONITORING

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Risk Management Telecare

Emergency Alarm Systems

Active devices - press or pull in emergency

- Unworn pendant
- Too timid
- Unaware of a problem
- Not wanting to disturb operator
- Denial
How Much We Deny

Chest pain

Ambulance Response

Journey to Hospital

Door to needle

DENIAL TIME

10 mins. 20 mins. 20 mins

Time
British 'reserve' costing lives

Lives are being lost because "reserved" Britons ignore the early signs of heart attacks, rather than call 999, heart experts have warned

A study by the British Heart Foundation (BHF) shows that 42% of people prefer to "wait and see" before calling the emergency services

About a quarter of a million people have heart attacks each year in the UK.

A third die before reaching hospital, often because they have delayed asking for help.

Delays

Two thirds of the 2,523 people questioned for the BHF YouGov poll admitted they would call a partner, friend, relative, GP or NHS direct before dialling for an ambulance.

Experts warn these delays are costing lives and urge anyone experiencing chest pain - the main symptom of a heart attack, to dial 999 immediately.

Evidence shows that people experiencing heart attack symptoms wait an average of 90 minutes before an ambulance is called.

“Maybe it is our natural reserve and stoicism, but it is costing lives”

Professor Peter Weissberg, British Heart Foundation
How Much We Deny

Chest pain
Ambulance Response
Journey to Hospital
Door to needle

DENIAL TIME

90 mins.  10 mins.  20 mins.  20 mins

Total Time = 140 mins.
Effects of Denial

- About 1/3\textsuperscript{rd} of heart attack victims die within 20 days
- Additional 3% to 12% die within a year
- About 30% survive 10 years

![Diagram showing percent of heart muscle saved from onset of heart attack to emergency-room treatment.](image)

- 60% of heart muscle damaged
- 140 minutes
Social Alarms to Telecare

Active devices – press or pull in an emergency

SMART Sensors

Specific Modular Automatic Rapid Tested
Telecare to Manage Risk

1. Environmental
   - Low temperature
   - Gas
   - Air quality
   - Fire
   - High temperature
   - Carbon monoxide

2. Security
   - Bogus caller
   - Intruders
   - Door status
   - Noise
   - Flood
Components of a Social Alarm Telecare System

SMART Sensors

Key-holder (Family, friends, & Neighbours)

Response Team

Wireless alarm

Advanced Lifeline Unit

Telecare Contact Centre
Adequacy of Community Alarm Response Arrangements (2006)

**Response Category**
- Did Not Answer
- Aged 70+
- No Car / Can't Drive
- Lives > 40 miles/1 hour away
- Dead

**Percentage of Sample**
- Did Not Answer: 30%
- Aged 70+: 20%
- No Car / Can't Drive: 15%
- Lives > 40 miles/1 hour away: 10%
- Dead: 5%
Evidence for Success – the West Lothian Story

Area = 42,733 hs. Population = 161,200
Average age = 39 yrs 65+ = 11.9%

- Started their “Safe Smart Home” initiative in 2001
- 1400 standard or enhanced packages of telecare by Dec 04
- 2600 packages by October 2006 (free to over 65s)

DeToCs
April 2001,
48 patients waiting discharge into LA care
(17 waiting > 6 wks)
April 2006,
3 waiting discharge
(2 waiting > 6 weeks)
i.e. 88% reduction in 5 years.

Homecare
Total homecare hours in a week (as rate per 1000 population aged 65+) FELL from 312.8 in 2003/4 to 298.8 in 2004/5
c.f. Rest of Scotland 512.2 in 2003/4 INCREASED to 561.6 in 2004/5
Telecare to Manage Risk

3. Social care
4. Medical emergencies

Nutrition  Cognition  Hygiene 

Incontinence  Wandering  Diabetic coma

Medication  Mobility/Instability  

Cardiac arrest  Stroke  Sleep apnoea

Seizures  Asthma attack
Why Do People Move into Care?

- Confusion/dementia
- More Support Needed
- Hospital Discharge
- Depressed
- 24 hour support
- Unable to Self-care
- Personal preference
- Physical deterioration
- Carer stress
- Fear of falling
### Causes of Unplanned Hospital Admissions

<table>
<thead>
<tr>
<th>Focus Group of Community Matrons</th>
<th>Actual Reasons (based on HES data 2003-04)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. COPD</td>
<td>1. Mental health conditions</td>
</tr>
<tr>
<td>2. Chest pain/heart failure</td>
<td>2. COPD</td>
</tr>
<tr>
<td>3. Polypharmacy (drug errors)</td>
<td>3. Heart disease</td>
</tr>
<tr>
<td>4. Falls (and “off legs”)</td>
<td>4. Gastrointestinal complaints</td>
</tr>
<tr>
<td>5. Panic with long term conditions</td>
<td>5. Renal disease</td>
</tr>
<tr>
<td>7. Constipation</td>
<td>7. Falls (and “off legs”)</td>
</tr>
<tr>
<td>8. Urinary retention</td>
<td>8. Polypharmacy</td>
</tr>
</tbody>
</table>
Emergency Response Team

- Telecare Control Centre
- Relatives & friends
- Rapid Response Team
- Lifting service
- Out-of-hours GP
- Fire service
- Ambulance
- Police
- Emergency Treatment Team
- Social Worker - EDT
- Floating Support
- Emergency plumber
- 24 hour Gas fitter
- 24 hr Home Care

Individual protocols
- for each service user
- for every time of day
- for every alarm
+ escalation procedure
Integrated Care Team

- Strength training
- Sitting service
- Osteoporosis check
- Dietician
- Healthy living centre
- Tai Chi
- Continence advice
- Medication review
- Medical assessment
- O.T.
- Energy adviser
- Electric blanket checks
- Safety checks
- Keep warm
- Keep well
- Day centre
- Therapy
- Optician
- Balance training
- A.T. Installer
- Meals on wheels
- Bobbyvan
- Care & Support Coordination Centre
- Medical assessment
- Medication review
- Healthy living centre
- Energy adviser
- Electric blanket checks
- Safety checks
- Keep warm
- Keep well
- Day centre
- Therapy
- Optician
- Balance training
- A.T. Installer
- Meals on wheels
- Bobbyvan
- Care & Support Coordination Centre
Guildford Falls Project

- People with a history of falls were randomly separated into control and intervention groups
- Both groups had advice, medication review and home hazards survey
- Intervention group had fall detector, bed monitor & automatic lighting

Both groups were assessed pre- and post-project using the Falls Efficacy Scale (FES)

<table>
<thead>
<tr>
<th>Percentage scared of falling</th>
<th>Baseline control group</th>
<th>Post project control group</th>
<th>Baseline intervention group</th>
<th>Post project intervention group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in FES score</td>
<td>Confidence in bathing</td>
<td>20</td>
<td>Confidence in meal preparation</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Confidence in dressing</td>
<td>19</td>
<td>Confidence in getting up out of chair</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Confidence to clean the house</td>
<td>12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Learning Disabilities – Glamorgan

- Many who lived for dozens of years in long-stay hospitals are supported in group bungalows, often with a sleep-in carer
- These homes are in clusters, with 7 – 10 properties within 5 minutes of each other
- Are sleep-in carers necessary?
### Types of Illness

<table>
<thead>
<tr>
<th>Feature</th>
<th>Acute Disease</th>
<th>Chronic Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example</td>
<td>Urinary tract infection</td>
<td>Chronic Obstructive Pulmonary Disease</td>
</tr>
<tr>
<td>Onset</td>
<td>Abrupt</td>
<td>Usually gradual</td>
</tr>
<tr>
<td>Cause</td>
<td>Single</td>
<td>Multiple over time</td>
</tr>
<tr>
<td>Outcome</td>
<td>Can be cured</td>
<td>Incurable</td>
</tr>
<tr>
<td>Duration</td>
<td>Limited (a few days)</td>
<td>Lengthy &amp; indefinite</td>
</tr>
<tr>
<td>Effect of medication</td>
<td>Usually effective</td>
<td>Indecisive with adverse effects</td>
</tr>
</tbody>
</table>
Effect of Chronic Disease on Functional Performance

Number of chronic diseases

Percentage Limited

0
10
20
30
40
50
60
70
80

None
one
two
three
four
5+
Dealing with Chronic Disease

75% of chronic disease is the result of unhealthy lifestyle - and preventable!

Chronic diseases can be managed:
- Through medication
- Through education
- Through monitoring
Evidence for Success With Medication Management

- **Schizophrenia**
  - Baseline medication adherence rate 53%
  - With Med-eMonitor: 95% Medication Adherence Rating

- **Congestive Heart Failure**
  - Paper diary for Blood Pressure = 51% compliance
  - Paper diary for Weight Monitoring = 79% compliance
  - Med-eMonitor: 96% Compliance

- **Diabetes**
  - Medication adherence rates increased from 40% baseline to 92%
  - HbA1c levels dropped an average of 15.5%

- **General Polypharmacy**
  - Medication adherence without support ~ 50%
  - Compliance with medication aids > 90%
Mental Health Problems

• One person a week dies at the hand of a mentally ill patient - almost a third were rated as a low risk.
• 29% of patients who committed homicide had seen mental health services in the previous week.
• One in three of the homicides committed by mentally ill people could be prevented
• One in six of the killings was blamed on the failure to ensure patients took their medications properly
• ~3000 mental health patients commit suicide each year
• 49% of those who killed themselves had been in contact with services in the previous week, and 19% in the previous 24 hours.
• Yet immediate suicide risk was estimated by staff in England and Wales to be low or absent in 86% of cases
ATLAS – Analysing The Log of Activities & Sequences

- Monitors levels of functional performance to provide a continuous assessment of need & risk
- Trends in activities indicate the efficacy of interventions or the need for support
Daily Summary Screen

Friday, April 8th, 2005

Morning Activity

Sleep Quality

Use of Bathroom

Feeding & drinking

Medication

Level of Mobility

- 7 days

- 28 days

No. of Days in Intermediate Care

No. of Sleep Disturbances

0 1 2 3 4 5 6

0 5 10 15 20 25 30

No. of Days in Intermediate Care

0 5 10 15 20 25 30

No. of Days in Intermediate Care
Technology systems to provide advice, news, entertainment and new on-line services.
Information, Communication, Entertainment & Exercise

Methods of providing people with advice and for collecting information from the home

Chart: Death Rate Over 12 Years (%) in Men of Japanese ancestry from Honolulu, Original Ages 45-68

- < 1 mile
- 1 - 2 miles
- > 2 miles

Walking Exercise Per Day

Example device showing a screen with information.
Telecare for All Solution

- Facilitates internet access through the TV set-top box.
- Allows video consultations with doctors/nurses or social workers and therapists.
- Overcomes social isolation through video telephony to friends and family.
- Provides access to digital TV services.
- Allows control over the home environment.
- Offers opportunity for establishing support networks for vulnerable groups.

IMS Research forecasts that worldwide shipments of digital cable and DTH set-top boxes will increase by 15% by 2010, approaching 74.8 million units by the end of 2010.

- There are > 78 million televisions in the UK – that's 1.3 sets for every person and an average of over 3 sets per home.
- The number of web-enabled cameras in UK homes now exceeds 1 million.
- Average UK home now has 6 remote controller units – at least two don’t operate anything.
- One remote controller does not work.
- At least two remote controllers don’t work.
- One remote controller unit is missing.
- One remote controller unit is lost.
- One remote controller unit is not working.
- One remote controller unit is broken.
- One remote controller unit is not available.
- One remote controller unit is not working correctly.

Remote controller

Set-top box

Television

Set-top cam

Remote controller

Environmental

The remote controller is not working correctly.

Average UK home now has 6 remote controller units – at least two don’t operate anything.

Remote controller

Set-top box

Television

Set-top cam

Remote controller

Environmental

The remote controller is not working correctly.

Average UK home now has 6 remote controller units – at least two don’t operate anything.
People suffering with respiratory illness are set to benefit this winter from a pilot scheme being introduced by the Met Office, designed to improve patient wellbeing.

Chronic obstructive pulmonary disease (COPD) is a debilitating condition that causes suffering for thousands in the UK. Symptoms include breathlessness and coughing, and, for people with more severe COPD, normal activities can become difficult. Sometimes, especially in the winter, many people with COPD find their symptoms worse.

This link between cold weather and COPD is the basis of the innovative service, developed by the Met Office and funded by Cornwall Adult Social Care, which will provide up to 1,000 patients registered at 10 practices across Cornwall with automatic telephone monitoring.
Virtual Presence

Remote consultation

3D Displays

Surround Sound
Internet Shopping

Also shopping on-line in this aisle are:

John Smith
Mary Jones
Doris Davies

Click on 📞 to speak to them
Click on 🛒 to see in their trolley
Remote or Virtual Friends

- Rose Smith is a remote friend of Janet Johnson – a video pen-friend with whom she can have a chat
  - The relationship works well even though they’ve not met

- George is a chat robot, with whom lonely people could develop a relationship through conversations
  - George may become so good (and look so real) that a remote friend may not know that he is a virtual being
THANK YOU FOR YOUR ATTENTION

For copies of papers and articles on which this presentation has been based, please e-mail:

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