Evaluation of Practical Feasibility and Acceptability of Home Monitoring in a Residential Home Setting

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Outline

• Need for home monitoring

• Benefits

• Project details (e-Vital)

• Findings/Results
Problem: ageing population

- 16% 65 and older *
- Chronic diseases
- Resource intensive

* Office for National Statistics
** Optimum Population Trust
Remote Patient Monitoring

• Identification of hospitalisations
  => Early detection of deterioration
  => Prompt emergency admission
  => Reduction of unnecessary admissions

Triage
Remote Patient Monitoring

• Hospital monitoring at home
  => Early discharge
  *Alternative to hospital monitoring*

• Effective and efficient provision of care
• Chronic and acute monitoring
  => Better care
  *Safe and improved outcome*
e-Vital Project Design

- EU-funded (eTen)
- 2 residential homes, 1 nursing home
- 1 telemonitor per home
- Aim: Monitoring of vital signs in an acute care environment
- Parameters: 7-lead ECG, BP, SpO₂, HR, temperature, respiration
e-Vital Monitoring

- 24 patients monitored (repeatedly)
- Investigate residents who are unwell
- Results from July 2003 – Nov 2004
Conditions Monitored

- Respiratory diseases
- Cardiac problems
- Hypertension, hypotension
- Diabetes
- Renal problems
- Post OP?
- Terminally ill?
Scenario

Resident Enters Home

Residential Nursing Home

Possible Emergency
Routine Monitor

Resident Registered
Clinical Services Given

Local Surgery

Telemonitor

Emergency

Hospital
Methods

- Phase I: evaluation of practical feasibility and acceptability
- *Phase II: clinical & cost effectiveness*
- Qualitative approach
- Semi-structured one-to-one interviews
- 2 GP’s, 4 managers, 1 carer, 1 nurse
Findings: key benefits

• Early detection of deterioration
• Rapid intervention
• Continuous picture of patient’s health
• Empowers carers
• Potentially fewer GP visits
• Ease of use
• Communication
• Peace of mind for family
Findings: shortcomings

• Early technical problems
  – Wireless network very short range
  – ADSL
• Extra time (set-up)
• Not all involved (locums)
• User interface
• No 24-hour cover
Case Study

- 80 year old lady with previous history of angina
- Mild heart failure
- Parkinson disease
- Feeling unwell during weekend
- Visit by nurse in morning
- Had not complained of chest pain
Equipment
ECG

7 Lead ECG 14:15
(III and aVR only shown)

7 Lead ECG 14:55
(III and aVR only shown)
SpO₂, Temperature, BP and HR
Conclusion

• Good acceptability
• Concept feasibility demonstrated

Lessons learnt:
• Resolve technical issues before going live
• Clinical champions essential
More information

Project website:
• http://crnettest.arbonaut.com/evital/

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Thank you!