Technology in palliative care

The changing digital landscape of healthcare worker and patient involvement

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Objectives

- Historical context of IT systems in the NHS over the last 10 years
- Background to telemedicine – pros and cons / criticisms
- Changing landscape of healthcare apps and mobile technology
- Implementing technology assisted care in palliative care
- Some examples of potentially relevant apps for palliative care

Context

- National programme for IT
  - Commenced 2002
  - Store data for 220 trusts at a cost of £3.1 billion
  - Dismantled 2011
    - Only 22 trusts using system
  - Estimated cost of £12 billion
    - Changing specifications
    - Technical challenges
    - Disputes with suppliers
    - NHS could not make 160 trusts accept the new system

Wider NHS context

- Technology enabled Care (TEC)
  - Telehealth
  - Telemedicine
  - Telecare
  - Mobile Health (mHealth)

Fujitsu, NHS IT contract dispute set to drag on for another two years
### Saint Francis Hospice strategy

**Overarching Strategy Objectives 2015 – 2020**

1. Deliver excellent care and support, at home, in our community and at the hospice.
2. Continually train and develop our people to ensure high quality service delivery.
3. Develop easier access to all hospice services, ensuring our services are easily understood and available.
4. Provide education and training in palliative care to support those who deliver front line care, ensuring high quality care for local people.
5. Engage pro-actively with the public and our healthcare community to meet their identified needs, ensuring best use of this latest technology and our facilities.
6. Build strong relationships and work collaboratively with our partners to deliver and inspire better care for those affected by life-limiting illness.

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### Ambitions for palliative care

**Professional ethos**
- To ensure people receive the care they need and to ensure all staff are supported and encouraged to deliver a professional ethos in this care.

**Support and resilience**
- To plan care for individuals and families, employing organisational and professional values to ensure psychological safety, support staff and enhance the professional environment.

**Knowledge based judgement**
- To ensure that our care, support and wide range of services are continually evaluated, with comprehensive clinical and peer-reviewed evidence to support the delivery of high quality care.

**Awareness of legislation**
- All those who provide palliative and end of life care must be trained and equipped with knowledge and skills to ensure an individualised approach.

**Using new technology**
- To ensure that all services are enabled by and supported by the latest technology, that allows the delivery of care in a more efficient way.

**Executive governance**
- Every organisation should have a clear governance framework in place, to ensure that support and governance is provided.

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### Technology enabled care

- **Digital media**
- **Mobile devices**
- **Health technology**

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### Mobile Health market

- **$2.4 billion in 2013**
- **Forecast to grow to $21.5 billion in 2018**

Over 100,000 health related apps in the android and itunes store
Telehealth

“Telehealth is the remote exchange of data between a patient at home and their clinician(s) to assist in diagnosis and monitoring typically used to support patients with Long Term Conditions”

Whole system demonstrator programme

- Largest RCT for telehealth launched 2008
- 6191 patients and 238 GP practices
- Diabetes, heart failure and COPD patients

- Initial results 2011
  - 5% reduction in A&E visits
  - 20% reduction in emergency admissions
  - 14% reduction in elective admissions
  - 14% reduction in bed days
  - 8% reduction in tariff costs
  - 45% reduction in mortality rates

Center for eHealth Research


BMJ

- “Second generation, home based telehealth… was not effective or efficacious compared with usual care only”
- “Telehealth did not improve quality of life or psychological outcomes for patients… over 12 months”
- The QALY gain by patients using telehealth in addition to usual care was similar to that by patients receiving usual care only, and total costs associated with the telehealth intervention were higher


Henderson et al 2013. Cost effectiveness of telehealth for patients with long term conditions (Whole Systems Demonstrator telehealth questionnaire study) nested economic evaluation in a pragmatic, cluster randomised controlled trial BMJ 2013;346
Healthcare apps for smartphones

- 2011 systematic review
- 57 healthcare applications
- 7 apps for students
- 15 apps for patients


Telehealth in palliative care

- “Moving from idea to application is not linear but iterative, informed by what is learned and what is experienced”
- Complex interplay – technical ability, death at home and change in relationship as a result.
- Divergence in values and competencies
- Technical, political, social, clinical domains
- Substantial time and focus required

Tieman et al. Designing Clinically Valuable Telehealth Resources: Processes to Develop a Community-Based Palliative Care Prototype. JMIR Res Protoc. 2014 Jul-Sep; 3(3): e41

The digital divide

- Gap in computer and internet access
- Age
- Income
- Education level
- Access to infrastructure only one aspect
  - Health literacy?
  - Web based content?

The digital divide

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Aiding informal caregivers

- Enhancing team functioning
- Fewer perceptions of pain management barriers for caregivers
- Problem solving therapy (CBT) for caregivers – lower anxiety and slightly better quality of life


Aiding informal caregivers

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**Commissioning perspective**

- Preventing and managing chronic illness
- Sustaining independence as people age
  - How can TECS help people to manage their own care?
- Averting admission to acute and institutional care
  - Anticipating need (primary care) monitoring vital signs etc
  - Coordinate / exchange info
- 5 year forward view
- Better care fund £3.8 billion (combined health and social care)

**Example**

- COPD patient
  - Acute exacerbation – telehealth contact with GP
  - Falls monitor at home
  - Paramedic consult via telehealth with A+E doctor
  - Early discharge from hospital
  - Community nurse telehealth follow up
  - Pulmonary rehab via telehealth

**How to measure impact of TECS**

- Personal goal metric
- Key risk indicator
  - Slowing progression of loss of independence
- Service use metric
  - E.g. A+E attendance / emergency admission
- Patient experience metric
  - Satisfaction etc
- Socio-economic impact
  - Social contact, happiness, QOL, unemployment levels
- Staff engagement

**Airedale NHS trust**

- Immedicare
- Care home based telehealth care
  - In 1 year
    - 35% reduction in hospital admissions
    - 53% reduction in A+E attendances

"Capturing the costs of service utilisation"
Patients know best

● Patients know best
  ● 230,000 patients in 2016
  ● 40 hospitals in the UK
    ● Initially for patients with rare conditions
  ● 7 countries
  ● Emphasis on patient control of information and allowing healthcare professionals access to their record

ResearchKit

Potential for large scale research
• Aids patients in writing advance directives
• United States based app
Summary

- Execution of technology (i.e. not technology itself) is often problematic
- Major mistakes in the past with IT nationally
- Challenges with integrating IT systems
- Mixed reports of benefits of telehealth initiatives
- The digital divide for our palliative care patients
- Major concerns regarding information governance and safety (WannaCry Ransomware)