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Using Technology to Enhance the Therapeutic Impact of Seclusion

Dr Lucy McCarthy & Dr Gareth Garrett
Dr Gillian Bennett, Dr Patrick Sims,
Ms. Dee Vujkovic & Dr Nicholas Taylor

10th European Congress on Violence in Clinical Psychiatry
Dublin, October 28th 2017
Structure of our presentation

Introducing Arnold Lodge Medium Secure Unit
Technology use in mental health care
The Communication Wall ‘Cowall’
  • Cowall applications
  • Management and governance of Cowall
 Clinical vignettes and patient/staff feedback
Challenges and opportunities
Questions
Arnold Lodge Medium Secure Unit, Leicester
Organisational Structure

Nottinghamshire Healthcare NHS Foundation Trust

Local Partnerships
Corporate Services
Forensic Services

https://www.nottinghamshirehealthcare.nhs.uk/about-us
Forensic Services Division

- Arnold Lodge (Leicester)
- Rampton Hospital (Nottinghamshire)
- Wathwood (Rotherham)
- Wells Road Centre & Community Forensic service (Nottingham)

Offender Health

High Secure

Medium Secure

Low Secure
A Brief History of Arnold Lodge

* Opened in 1983
* One of the first NHS Medium Secure Hospitals in UK
  * Serves a population of over 1 million people
  * Annual budget of approximately £12 million

* Arnold Lodge currently has 102 beds in 7 wards

* Three distinctive care streams
  * Male Mental Illness
  * Male Personality Disorder
  * Women’s service (Standard & Enhanced)
# Arnold Lodge Patient Profile

## Source of admissions:

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Prison</td>
<td>66%</td>
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<tr>
<td>High Secure</td>
<td>22%</td>
</tr>
<tr>
<td>Medium Secure</td>
<td>5%</td>
</tr>
<tr>
<td>Low Secure</td>
<td>7%</td>
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## Discharge locations:

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Prison</td>
<td>30%</td>
</tr>
<tr>
<td>High Secure</td>
<td>15%</td>
</tr>
<tr>
<td>Medium Secure</td>
<td>7%</td>
</tr>
<tr>
<td>Low Secure</td>
<td>30%</td>
</tr>
<tr>
<td>Community</td>
<td>18%</td>
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## Patient cohort length of stay:

<table>
<thead>
<tr>
<th>Length of Stay</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>&lt; 3 months</td>
<td>12%</td>
</tr>
<tr>
<td>3 – 6 months</td>
<td>5%</td>
</tr>
<tr>
<td>7 – 12 months</td>
<td>26%</td>
</tr>
<tr>
<td>1 – 2 years</td>
<td>21%</td>
</tr>
<tr>
<td>2 – 5 years</td>
<td>25%</td>
</tr>
<tr>
<td>5+ years</td>
<td>11%</td>
</tr>
</tbody>
</table>
Technology definitions in healthcare

e-health (Eysenbach, 2001)
“e-health is an emerging field in the intersection of medical informatics, public health and business, referring to health services and information delivered or enhanced through the Internet and related technologies. In a broader sense, the term characterizes not only a technical development, but also a state-of-mind, a way of thinking, an attitude, and a commitment for networked, global thinking, to improve health care locally, regionally, and worldwide by using information and communication technology”

mHealth (WHO, 2011)
“medical and public health practice supported by mobile devices, such as mobile phones, patient monitoring devices, personal digital assistants (PDAs), and other wireless devices.”
Focus on technology in Psychiatry

**Grand challenges in global mental health** (Collins et al., 2011)

- International panel; Delphi method; 25 grand challenges
- ‘Develop mobile and IT technologies to increase access to evidence-based care’

**ROAMER Project: Roadmap for Mental Health Research in Europe** (6 research priorities) (Fiorillo et al., 2013)

- ‘Developing and implementing better interventions for mental health and well-being, using new scientific and technological advances’

**UK National Health Service Five year forward view for mental health** (Mental Health Taskforce, 2016)

- Pivotal role for digital technology
- NHS Choices, MH applications, voluntary sector & social media services
- Nuanced digital delivery backed up with face-to-face interventions
Evidence...
Emerging literature base including systematic reviews:
* Kauppi et al. (2014). Cochrane Review: Information and communication technology based prompting for treatment compliance for people with serious mental illness
* Naslund et al., (2015). Emerging mHealth and eHealth Interventions for Serious Mental Illness: A Review of the Literature

European Psychiatric Association (EPA) guidance on the quality of eMental health interventions in the treatment of psychotic disorders (2016)

Feasible to conduct RCT using mobile devices: Anguera et al., (2016)
* tested feasibility of RCT using assessments and treatments delivered entirely through mobile devices to depressed individuals
* enrolled 1098 participants in 5 months
* suggest that mobile RCTs can recruit large numbers of participants in a short period of time and with minimal cost
### Examples of patient-focused tech use in mental health

#### Computerised CBT
- RCT with 3-year follow-up (Andersson et al, 2013)
- Internet-delivered vs. face-to-face group Cognitive Behavioural Therapy for depression
- Guided ICBT is at least as effective as group-based CBT and long-term effects can be sustained up to 3 years after treatment

#### Wearable technology
- Tested Digital Medicine System (DMS) a drug-device combination that objectively measures and reports medication ingestion in adults with schizophrenia treated with sensor-embedded tablets of aripiprazole (Peters-Strickland et al., 2016)
- 78% of patients with schizophrenia were able to use the DMS and reported satisfaction with the DMS; potential utility of the DMS in clinical practice

#### Tablet technology
- Open-label trial of tablet devices in the management of agitation among inpatients with dementia (Vahia et al., 2017). All participants, regardless of dementia severity, were able to use apps and were rated by staff to have clinical benefit
- Tablet computers to improve inpatient engagement (Greysen et al., 2014) “tablet-based access to educational modules and personal health records can increase inpatient engagement in care with high satisfaction and minimal time for orientation.”
Review conclusions

**Strong evidence:**
- web- and mobile-based interventions for people with schizophrenia and/or other psychotic disorders **are feasible and acceptable** both for patients and caregivers.

**Moderate evidence:**
- E-Mental health interventions may improve specific elements of mental healthcare processes
  - shared decision making
  - symptom monitoring
  - disease self-management / relapse prevention
  - information provision, psychoeducation, health promotion
  - empowerment

**Preliminary evidence:**
- that E-Mental health interventions may also improve outcomes by
  - fostering symptom reduction and
  - encouraging treatment adherence
Target of tech interventions

Community out-patients
Inpatient (general hospital)
Inpatient (psychiatric)
Target of tech interventions

Community out-patients

Inpatient (general hospital)

Inpatient (psychiatric)

? Forensic mental health (secure)
Target of tech interventions

Community out-patients

Inpatient (general hospital)

Inpatient (psychiatric)

? Forensic mental health (secure)

? Patients in seclusion
What is Cowall?

- Cowall is a door-sized, touch-screen device
- Developed in Netherlands by Recorrect

- Cowall aims to help patients
  - to control aspects of their environment
  - to re-engage and communicate with nursing staff and their multi-disciplinary clinical team
What does the Cowall provide?

Patient perspective

Access to personalised, multi-media applications though an interactive screen

- Easy navigation to ‘apps’ in 1-2 touch actions
- Control of environmental stimuli (light, music, imagery, entertainment)

- Access to communication tools
Visual imagery
Glow wall
Adjustable colour lighting
Brightness and intensity of light can be varied
Artistic drawing and photo-collage ‘apps’
Multi-level Puzzles & Games
Music player, Television & Radio
Communication apps

- Telephone
- Video phone
- Document viewer
Patient profiles on Cowall

Individual patient profiles
Content easily adapted by staff

Responsive to patient needs:
* social / emotional needs
* capabilities (accessible apps)
* clinical presentation

Personalised content:
* photographs
* music
* documentation
Video of Cowall

* [https://www.youtube.com/watch?v=XpNfdzgmrX4](https://www.youtube.com/watch?v=XpNfdzgmrX4)

* This video shows a Mental Health service user who communicates with staff and family whilst being in a seclusion room. It shows how the communication wall can support the service user in re-gaining control and the start of the recovery process.

* Two persons, playing three roles in the film
  * Service user (Judith Koolen)
  * Caregiver and Father (Erik Kuijpers)
Management of Cowall

* Multi-disciplinary steering group
  * Consultant psychiatrists and medics from MMI service
  * Ward manager and senior nurses
  * Occupational therapists
  * Consultant clinical psychologist
  * Research fellow
  * I.T. Technical support officer and manager

* Local procedure for Cowall use developed and published
* Monthly meetings enables Cowall development to be responsive to patient and staff feedback
* Formal evaluation plan (including case studies, staff and patient feedback, application use)
Developing Cowall for patients

- **Video clips**
  - demonstrating exercises and relaxation techniques appropriate to the setting
  - demonstrating review procedures (e.g. how staff will enter and exit the room)
- **TED talks**
- **Encyclopaedia**
- **Postcards** to myself (written by patient to themselves, to read in the event of entering seclusion)
- **Menus and timetables** (provide choice/structure)
Evaluation plan

* Series of case studies
* Small number of patients (n=6)
* Monitor overall interaction with the Cowall
* Assess use of specific applications
* Patient feedback (demonstrating Cowall to patients from MMI service; feedback from patients nursed in the Cowall suite)
* Staff feedback
* Time lines of patient use; link to Incident reports, total time in seclusion
* Aware of potential bias; unique circumstances, confounding variables
Evaluating Cowall

- Apology! No empirical data to report at present
- Systems updates from Recornect
- Working on an analytics report
<table>
<thead>
<tr>
<th>Name</th>
<th>Time_Used</th>
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<tbody>
<tr>
<td>Draw</td>
<td>00:00:07</td>
</tr>
<tr>
<td>Glow Wall</td>
<td>00:00:17</td>
</tr>
<tr>
<td>Information</td>
<td>00:00:09</td>
</tr>
<tr>
<td>Music</td>
<td>00:02:53</td>
</tr>
<tr>
<td>Phone</td>
<td>00:00:41</td>
</tr>
<tr>
<td>Photos</td>
<td>00:00:46</td>
</tr>
<tr>
<td>Relax</td>
<td>00:02:04</td>
</tr>
<tr>
<td>TV</td>
<td>00:00:41</td>
</tr>
</tbody>
</table>
Initial feedback on Cowall

- ‘Cowall is easy and fun to use’
- ‘It will give patients another way to communicate with staff’
- ‘Cowall will help patients manage their feelings’
- ‘Cowall will help patients communicate with their friends & family’
- ‘It may help patients move out of seclusion or long-term segregation more quickly’
JS – man in mid-30s, diagnosed with Schizophrenia 14 years ago
Longstanding inability to articulate his inner world
Highly concerning behavioural instability: disinhibited sexualised
behaviour and threatens and undertakes interpersonal violence
Required seclusion for much of his current 6-month admission
In the Cowall suite he was found to enjoy the stimulating and
relaxing use of music.
Patient has made more specific use of the glow colour change
function to aid relaxation
Staff are able to refer to his use of Cowall to enable less-problem
focused discussion and as such, aid overall engagement
AB – 29 year-old man with Hebephrenic Schizophrenia and severe Borderline Personality Disorder

Multiple episodes of seclusion and long-term segregation in last 2 years

Secluded due to increasing risk to staff in early September

For 4 weeks patient’s usual behaviour in seclusion: sleeping all day, disengaged from nursing staff and MDT, ongoing hostility to staff

Moved to Cowall: patient remains hostile towards nursing staff, but more occupied / has better structure to the day (enjoying films on Film4 and music)

Patient is beginning to engage with MDT to discuss progression
NJ- man with long-standing treatment-resistant schizophrenia
Multiple episodes of seclusion and long-term segregation
RiO reports: Patient declining to attending structured day activities but will make use of Cowall functions
Self harm risk
Patient has no access to pens and paper
Patient used the Cowall drawing app to write list of issues he wished to discuss with the multi-disciplinary review team
Aide memoire
Patient able to view the Cowall during his seclusion review and cover all issues
Increased patient’s sense of control over review proceedings, helped improve engagement with the multi-disciplinary team
Competing clinical concerns

- Least restrictive practice
- Safe use of technology
Competing clinical concerns

Engagement

Encouraging change
Multi-disciplinary team perspective

Positive feedback:
✓ Easy to use and adapt for individual patients
✓ Offers additional environmental stimuli
✓ Offers patients in seclusion additional activities and opportunities to communicate and express themselves

Initial concerns:
? Is Cowall safe for use by patients who are agitated or distressed
? Is Cowall secure-can it be damaged?
Security and resilience of Cowall

https://www.youtube.com/watch?v=qEbkogGJwEg
Alignment with priority areas of development in mental health care

- Technology use
- Reducing restrictive practice
- Service user & carer engagement

Cowall
‘The development, implementation and evaluation of a framework for the reduction of restrictive practices within adult secure services, in order to improve service user experience whilst maintaining safe services.’
Guidance

Department of Health: Positive and Proactive Care: reducing the need for physical interventions (2014)

Mental Health Act Code of Practice (2015)

MIND Report ‘Restraint in Crisis’ (2013)

NICE guidance (NG10) Violence and Aggression: Short Term Management in mental health, health and community settings (2015)
“Especially relevant for human rights monitoring are protocols for involuntary admission, restraint and violence management” WHO (2008)
Opportunities & challenges

Cyber security (NHS attack - May 2017)

Safe use of IT in forensic environment

Systems updates

Data analytics (interactive adaptable reports)
Future aspirations

Develop use of Cowall to support clinical care of the most vulnerable/challenging patients

Extend and develop innovative use of the technology

Publish results of our Cowall evaluation

Network opportunities-learning from others, support, ideas... Who’s in?
Thank you for listening... any questions?

* Please feel free to contact us for more information

* lucy.mccarthy@nottshc.nhs.uk

* gareth.garrett@nottshc.nhs.uk


Gaebel, W et al. (2016) Eur Arch Psychiatry Clinical Neuroscience, 266, 12-137.


