Patient-led Outcomes and Pathways Management using Digital Technologies in Forensic Services

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Outcomes management
OUTCOMES
COMPENDIUM

helping you select the right tools for best mental health care practice in your field
A systematic review of outcome measures used in forensic mental health research with consensus panel opinion


Health Technology Assessment (2010) Vol 14 No 18
“To determine the utility of PbR in FMH, the relationships between diagnoses, care needs assessments and outcomes post-discharge need to be explored”

“…proxy measures undertaken when patients are contained cannot reliably inform on how a patient will behave or feel on release into society”

Gibbons and McCarthney, 2015
Porter & Teisberg (2006)

Principles of Value-Based Health Care Delivery

**Quality improvement** is the key driver of cost containment and value improvement, where quality is **health outcomes**

<table>
<thead>
<tr>
<th>Prevention</th>
<th>Fewer complications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early detection</td>
<td>Fewer mistakes and repeats in</td>
</tr>
<tr>
<td>Right diagnosis</td>
<td>treatment</td>
</tr>
<tr>
<td>Right treatment to the right</td>
<td>Faster recovery</td>
</tr>
<tr>
<td>patient</td>
<td>More complete recovery</td>
</tr>
<tr>
<td>Early and timely treatment</td>
<td>Less disability</td>
</tr>
<tr>
<td>Treatment earlier in the causal</td>
<td>Fewer relapses or acute</td>
</tr>
<tr>
<td>chain of disease</td>
<td>episodes</td>
</tr>
<tr>
<td>Rapid cycle time of diagnosis</td>
<td>Slower disease progression</td>
</tr>
<tr>
<td>and treatment</td>
<td>Less need for long term care</td>
</tr>
<tr>
<td>Less invasive treatment methods</td>
<td>Less care induced illness</td>
</tr>
</tbody>
</table>

- Better health is the goal, not more treatment
- Better health is **inherently less expensive** than poor health
Cost versus Quality, Sweden
Health Care Spending by County, 2008

Note: Cost includes: primary care, specialist somatic care, specialist psychiatric care, other medical care, political health- and medical care activities, other subsidies (e.g. drugs)
Source: Öppna jämlikheter, Socialstyrelsen 2012:11; Jokela/Okola 1998; OECD analysis
Outcomes Framework

- 8 Outcome Areas – higher order clinical outcomes influencing progress along care pathway
  - Getting Insight
  - My Mental Health Recovery
  - Stopping My Problem Behaviours
  - Recovery from Drug and Alcohol Problems
  - Making Feasible Plans
  - Staying Healthy
  - My Lifeskills
  - My Relationships

- “Dundrum Toolkit”; “Milestones to Care” etc
New Care Models Outcome Measures (Suggested Examples)

**Service-led [Pathway & Resources]**
- LoS
- Delayed discharges
- Assessment and pre-admission waiting times
- OATs
- Efficiency savings
- Investment in community services
- External investment in R&D

**Patient-led**
- Mental health [e.g. LoS, re-admission, HoNOS]
- Safety [Restrictive interventions, RAI]
- Insight and Engagement
- Drugs and Alcohol
- Physical health
- Lifeskills and QoL
Digital Transformation
“Information is a source of learning. But unless it is organised, processed, and available to the right people in a format for decision making, it is a burden, not a benefit”

William Pollard
T.E.C
Robert Wachter – ‘The Digital Doctor’

“Each patient carries his own doctor inside him. They come to us not knowing that truth. We are at our best when we give the doctor who resides within each patient a chance to go to work.”
[Albert Schweitzer (1875-1965)]

“If I had asked people what they wanted, they would have said faster horses.”
[Henry Ford (1930)]

“The future is already here, it’s just not evenly distributed”
[William Gibson (1993)]
FIGURE 3: COMPETITIVE LANDSCAPE IN DIGITAL MENTAL HEALTH

*Offer online consultant psychiatrists

Sources: company websites, Crunchbase, Candestic research and analysis
Elysium Healthcare – Implementation Case History
Health Record Evolution

- Path Nav
- CareNotes
- Paper
- Intranet
- IRIS

A single record
Different layers
Integrated
The Context

• Uncertainty about goals can lead to extended lengths of stay and poorly planned pathways can lead to delayed discharge.

• PathNav is the first software application for mental health that can be used by both care teams and their patients in a transparent way to care plan and review recovery.
What does PathNav do?

**Access & Participation**

- Helps manage or reflect on the patient experience of care
- Captures the clinical & risk formulation
- Plans a pathway of care & records reasons for change to pathways

**Collaborative Care Planning**

- Helps choose which outcomes a patient needs to work on
- Builds any person-specific outcomes
- Helps show what level someone needs to reach for outcome item & how long it should take

**Collaborative Care Planning**

- Shows an estimated length of stay
- Prepares and runs care review and CPA meetings
- Automatic clinical reports

**Patient benefits**

- Meaningful involvement in care planning
- Access to my clinical records, assessments and professional reports written about me
- Honesty about the care pathway I probably need
- Clarity about what I need to demonstrate to move on
- Understanding how each activities help me
- Having a say in how I think I’m progressing
- Openness around expected time-frames
- Getting a say in whether my care reviews are meeting my needs.

**Commissioner benefits**

- Clear understanding of pathway forecast
- Ability to forecast usage
- Evidence for real patient engagement
- Clear links between outcomes and prescribed therapeutic programme
- Evidence of reasons for changes in LoS and Pathway
- Professional reporting focussed on outcome
- Minimised length of stay.
Critical milestones in design

1. Reviewing current ‘health outcomes’ models (England & Wales). This shows flaws in design of outcomes (many are inputs, processes etc.) and that the instruments are ineffective for planning and reviewing

2. Clearly defining a health outcome, an intervention, a patient experience measure etc.
The **specific health result** a patient and clinical team need to achieve (or contribute to) together to enable the treatment pathway to be completed. They need to be specific, measurable and **fair**.

**Risk management arrangements** is putting in place arrangements to prevent, minimise or manage understood risks. i.e. 1:1 observation, access to high risk items or observation of visits etc.

**Personal support arrangements** are putting in place arrangements to support personal care, physical health or other cultural/personal needs etc. i.e. personal care plan, detailed chronic condition plan etc.
Critical milestones in design

1. Reviewing current ‘health outcomes’ models (England & Wales).
2. Clearly defining a health outcome, an intervention, a patient experience measure etc.
3. Development of new clinical health outcomes set with range of clinical experts
Outcomes Domains

• Mental health recovery
• Insight
• Problem behaviours
• Drugs and alcohol
• Independent living
• Physical health
### Moving On

<table>
<thead>
<tr>
<th>Health Outcome: My mental health is stable</th>
</tr>
</thead>
</table>

#### Outcome items I need to achieve

<table>
<thead>
<tr>
<th>Item</th>
<th>N/A</th>
<th>Where I think I am</th>
<th>MDT View</th>
</tr>
</thead>
<tbody>
<tr>
<td>I show interest in my recovery and I engage in activities that help me get better</td>
<td></td>
<td>Making progress</td>
<td>Major difficulties</td>
</tr>
<tr>
<td>I maintain good contact with my care team and can ask for help when I need it</td>
<td></td>
<td>Major strengths</td>
<td>Some difficulties</td>
</tr>
<tr>
<td>My symptoms are well controlled with treatment and/or medication</td>
<td></td>
<td>Major strengths</td>
<td>Some difficulties</td>
</tr>
<tr>
<td>I take my medication when I should without prompting and I can do this reliably on my own</td>
<td></td>
<td>Major strengths</td>
<td>Making progress</td>
</tr>
<tr>
<td>I comply with my depot medication</td>
<td></td>
<td>Major strengths</td>
<td>Making progress</td>
</tr>
</tbody>
</table>

Add a new outcome item
Critical milestones in design

1. Reviewing current ‘health outcomes’ models (England & Wales).
2. Clearly defining a health outcome, an intervention, a patient experience measure etc.
3. Development of new clinical health outcomes set with range of clinical experts
4. Clarification and definition of key points in the forensic care pathway (MS, LS, Rehabilitation etc.)
### Moving On

Click each service starting with current location to plan the pathway. To undo or re-plan, click in reverse from last location and re-select then Save.

#### SAFETY MANAGEMENT & RISK REDUCTION

**Medium secure care**
For people who need a treatment environment with perimeter security of 5.2m (and the associated policies and procedures) to be able to provide effective care and risk management.

Outcomes at this level are primarily focussed on the sustained reduction of offending or other behaviours related to risk to others or risk to self and others.

**Low secure care**
For people whose risk to others need to be managed within a treatment environment with 3m perimeter security (and the associated policies and procedures) to be able to provide effective care and risk management.

Outcomes at this level are primarily focussed on the sustained reduction of offending or other behaviours related to risk to others or risk to self and others.

**Enduring care (Secure)**
For people that, because of the enduring nature of their illness and the abiding risk they present to others, cannot in the long term currently be expected to progress to a health setting that does not provide the security of a secure (medium or low) service. They may have previously concluded a more intensive programme of treatment but reached their realistic potential for recovery and now need a plan of care that supports their long term health and social care needs.

Outcomes at this level of care are likely to centre on sustaining the levels of progress attained so far, relapse prevention, retaining a self-determined quality of life, maintaining motivation and protecting the safety of self and others.

#### RE-INTEGRATION & SKILLS

**In-patient rehabilitation**
For people who need a comprehensive package of rehabilitation to be able to live more independently in the future.

Services at this level can be locked to achieve a safe environment but they integrate with local services and encourage independent living skills.

Outcomes at this level focus on continued risk management, relapse prevention, skill development and positive social integration in preparation for community living.

**Community transition**
For people who do not or no longer need secure or comprehensive packages of rehabilitative care but who have need of a limited period of support in an in-patient rehabilitation service to ensure long-term success in the community.

Outcomes at this level focus on testing the occupational and coping skills necessary to function independently and safely in the community.

#### COMMUNITY LIVING

**Supported living**
For people who have either completed or who do not need an in-patient rehabilitation service. At this level of care patients will for the most part live independently in a community-based health service with a package of support developed specifically for their needs to ensure their mental wellbeing continues to be well managed. This can include packages of 24-hour care.

**Independent tenancies**
For people who have either completed or do not need a residential rehabilitation service. At this level of care patients will live in their own accommodation often holding a contract for their housing but will receive a package of mental health support developed specifically for their needs to ensure their wellbeing continues to be well managed and that relapse is prevented.

**Other**
This includes other medium to long-term living arrangements such as living with family, returning to own home or returning to prison.

Usually patients will receive a package of community mental health support developed specifically for their needs to ensure that their mental wellbeing continues to be well managed and that relapse is prevented.
Critical milestones in design

1. Reviewing current ‘health outcomes’ models (England & Wales).
2. Clearly defining a health outcome, an intervention, a patient experience measure etc.
3. Development of new clinical health outcomes set with range of clinical experts
4. Clarification and definition of key points in the forensic care pathway (MS, LS, Rehabilitation etc.)
5. Successful testing of first prototype (building software supported care plans with patients)
6. Expansion of health outcomes set inc clinical definitions for levels of progress within each outcome & algorithms that map points of progress to forensic pathway
"I show interest in my recovery and I engage in activities that help me get better"

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</thead>
<tbody>
<tr>
<td>Shows no evidence of understanding/belief that recovery or better management of illness is attainable. Shows no inclination to progress towards recovery. Is disengaged from recovery oriented activities and may even incite other peers to disengage.</td>
<td>Accepts that recovery may be attainable for others but no understanding/is sceptical that personal improvement is possible. May participate in some activities but remains uncommitted to critical therapeutic programmes recommended for clinical recovery.</td>
<td>Is progressing towards an understanding/view that personal mental health/lifestyle could be improved. Participates in some treatment programmes though on a coerced or involuntary basis.</td>
<td>Accepts/has developed a view that recovery is attainable. Participates in some treatment programmes on a voluntary basis.</td>
<td>Shows evidence of a determination to attain recovery and can describe what recovery looks like for them. Understands the likely benefits and disadvantages of treatment to the extent that can make informed decisions and reaches agreements with the MDT to follow a course of treatment. Reliably follows this course of treatment with clear evidence of sincere participation.</td>
</tr>
</tbody>
</table>

I'm not interested in any of the activities here. I'm not interested in 'recovery'.

I get involved in some things but I'm not really interested in the therapy. I don't think there's any point for me.

I'm learning about my mental health. I can see it might be possible to get better. I can be persuaded to do some therapy.

I've thought about what 'recovery' means for me and I've learned about what's realistic. I'm getting involved in some treatments because I want to.

I'm determined to have as good a life as I can. I know what 'recovery' looks like for me and I know what's realistic. I talk to my care team about what treatments and services are available and get involved in whatever will help me.
"I have insight into my problem behaviors"

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</thead>
<tbody>
<tr>
<td><strong>Medium secure</strong></td>
<td><strong>Medium secure</strong></td>
<td><strong>Medium secure</strong></td>
<td><strong>In-patient rehabilitation</strong></td>
<td><strong>Supported living</strong></td>
</tr>
<tr>
<td><strong>Low secure</strong></td>
<td><strong>Low secure</strong></td>
<td><strong>Low secure</strong></td>
<td><strong>Supported re-integration</strong></td>
<td><strong>Independent tenancies</strong></td>
</tr>
<tr>
<td><strong>Secure level enduring care</strong></td>
<td><strong>Secure level enduring care</strong></td>
<td><strong>Secure level enduring care</strong></td>
<td><strong>Rehabilitation level enduring care</strong></td>
<td><strong>Other</strong></td>
</tr>
</tbody>
</table>

- Has no understanding/acceptance of the connections identified by the care team between risk factors and previous harmful or potentially harmful situations. Has no understanding/acceptance of risk of harm to self or others in connection with past behaviour.
- Is aware of situations in which the person has harmed or been at risk of harming in the past but has little understanding of/belief in the risk of that situation reoccurring.
- Is developing an understanding about the situations that have been unsafe in the past and is building an awareness of the circumstances in which these might reoccur. May be aware of the need to avoid these situations/factors but is still to develop skills to actively manage risk factors.
- Understands situations/factors that might occur in the future that could cause harm, including some situations that may not have occurred in the past but might have common themes with previously risky situations. Is aware of the need to prepare for these situations and shown some abilities to manage them appropriately.
- Is fully aware of the situations/factors that can lead to harm, including indirect harm. Has repeatedly demonstrated is able identify old and new risk factors as they arise and to manage them well enough to avoid relapse or harm.

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I don't understand/agree with what the care team are saying about my risk or the things they think might put me at risk of harm in the future.

I'm aware of what's happened in the past but I don't think we need to do any work on preventing it happen again.

I've started to think about what's happened in the past and I'm identifying situations when that could happen again so I can learn the skills to deal with it.

I know the situations I might face in the future that might be harmful. I've had some practice at managing them and I did ok.

I've proved I can identify things happening around me that are a risk to me getting ill again and I can manage them so I don't relapse.
Creating an Interventions Library

Select ‘Mental Health Awareness’
Aligning Interventions with Outcomes

Moving On

PathNav

Formulation | My profile | Pathway | Outcomes | Activities | Plan | Dashboard | Meetings | Reports
---|---|---|---|---|---|---|---|---
Plan activities | Show summary | Delivery detail | Delivered by
Add New | Current

- Chiropractor/Podiatrist
- Horticulture group
- Medical Session
- Mental Health Awareness
- Nature awareness
- Ophthalmology
- Physical Health Check
- Physiotherapy
- Primary Nurse Session
- Psychology Session
- Speaking up for myself

Mental health recovery:
- Engagement in treatment
- Contact with care team
- Symptom control
- Taking medication

Insight:
- Understanding my illness
- Identifying triggers
- The effect on my life
- The effect on others

Problem behaviours:
- Attitude to others
- Avoiding trouble
- Coping with stress
- Managing frustration
- Coping with relationships
- Safe in the community
- Firing setting

Independent living:
- Personal care
- Daily living skills
- Support networks
- Employment/occupation

Physical health:
- Health awareness
- Smoking cessation
- Food and nutrition
- Physical activity
- Healthy weight

Save
Critical milestones in design

1. Reviewing current ‘health outcomes’ models (England & Wales).
2. Clearly defining a health outcome, an intervention, a patient experience measure etc.
3. Development of new clinical health outcomes set with range of clinical experts
4. Clarification and definition of key points in the forensic care pathway (MS, LS, Rehabilitation etc.)
5. Successful testing of first prototype (building software supported care plans with patients)
6. Expansion of health outcomes set including clinical definitions for 1-5 levels of progress within each outcome
7. Additional functionality added to manage Care Review Meetings, auto generated meeting minutes, automatically generate dynamic care plans, dynamically adjust projected length of stay etc.
Implementation Dependencies: Cultural

• Senior clinical sponsorship/advocate of innovation in clinical practice

• An ‘evolved’ attitude to clinical purposefulness in clinical teams i.e. an enthusiasm about making a difference rather than simply ‘managing’ patients.

• Teams that continually reach for patient engagement in therapy & care planning – even when it’s difficult.

• Willingness to question old practices in relation to forensic pathway utilization, health outcomes and care review meetings.

• Confidence to stop doing the things that aren’t useful.
Implementation Dependencies: Operational

• Development structure that captures patient and clinical feedback

• Reliable IT capability (wifi, laptops, operating systems)

• Security assessment of patient access to IT

• Discussions already taken place with patients about likely pathway

• Formulation complete
Clinical notes generated by patients

Patients can write clinical notes
  • Typically during primary nurse sessions
  • Preparation for 4-weekly care review
  • Preparation for CPA meeting

Review of patient care note activity:
  • 780 patients
  • Mean 30.8 weeks
  • Median number of patient notes (per month) 1.69 (IQR = 0.59 – 3.48)
Patient-generated clinical notes, by level of security

<table>
<thead>
<tr>
<th>Security Level</th>
<th>n</th>
<th>Notes per month</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rehabilitation</td>
<td>168</td>
<td>1.6 (2.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Security</td>
<td>307</td>
<td>2.9 (3.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium Security</td>
<td>305</td>
<td>2.9 (3.3)</td>
<td>11.7</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td><strong>Diagnosis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intellectual disability</td>
<td>109</td>
<td>1.9 (2.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental illness</td>
<td>485</td>
<td>2.8 (2.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personality disorder</td>
<td>168</td>
<td>2.6 (2.6)</td>
<td>4.01</td>
<td>0.02</td>
</tr>
</tbody>
</table>
Integration with incident reporting system

**Moving On**

<table>
<thead>
<tr>
<th>Formulation</th>
<th>My profile</th>
<th>Pathway</th>
<th>Outcomes</th>
<th>Activities</th>
<th>Plan</th>
<th>Dashboard</th>
<th>Meetings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start date: 13-05-2016</td>
<td>End date: 12-06-2016</td>
<td>30 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Hours On Leave**: 33h 39m
- **Average Daily Meaningful Activities**: 2h 48m
- **Number Of Incidents**: 11
- **Current OBS Level**: 1
- **Hours In Seclusion/LTS**: 0
- **Primary Nurse Clinical Notes**: 0

*Data in charts is grouped by day.*
Moving On

11 Incidents

Incidents where...

- Other patients were involved: 0.0% (0)
- Patient was injured: 100.0% (11)
- Injuries requiring first aid: 45.5% (5)

Average duration: 33.2 minutes
Injuries Received

- Laceration/Cut: 90.9% (10 patients)
- Cuts on both legs: 9.1% (1 patient)

Injury Causes

- Self-harm: Cut with sharp material or object: 90.9% (10 patients)
- Reopened previous wounds: 9.1% (1 patient)
<table>
<thead>
<tr>
<th>Top 3 things identified by patients</th>
<th>Freq.</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>400</td>
<td>29.63</td>
</tr>
<tr>
<td>Planning / Reviewing own care and progress</td>
<td>140</td>
<td>10.37</td>
</tr>
<tr>
<td>Feeling safe/get on with peers</td>
<td>134</td>
<td>9.93</td>
</tr>
<tr>
<td>Community leave</td>
<td>119</td>
<td>8.81</td>
</tr>
<tr>
<td>Manage illness / symptoms</td>
<td>114</td>
<td>8.44</td>
</tr>
<tr>
<td>Employment / skills</td>
<td>98</td>
<td>7.26</td>
</tr>
<tr>
<td>Move on from hospital</td>
<td>69</td>
<td>5.11</td>
</tr>
<tr>
<td>Support from care team</td>
<td>62</td>
<td>4.59</td>
</tr>
<tr>
<td>Reduce risks</td>
<td>58</td>
<td>4.30</td>
</tr>
<tr>
<td>Therapies</td>
<td>56</td>
<td>4.15</td>
</tr>
<tr>
<td>Other</td>
<td>37</td>
<td>2.74</td>
</tr>
<tr>
<td>Not stated</td>
<td>33</td>
<td>2.44</td>
</tr>
<tr>
<td>Hobbies</td>
<td>21</td>
<td>1.56</td>
</tr>
<tr>
<td>Spirituality</td>
<td>5</td>
<td>0.37</td>
</tr>
<tr>
<td>Money</td>
<td>4</td>
<td>0.30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,350</td>
<td>100.00</td>
</tr>
</tbody>
</table>
Patient experience

A positive experience of care is critical to the recovery journey. PathNav maps the moment a patient moves into hospital and how they feel. It then builds a profile of the patient with the patient matching a care plan to be developed. This is then laid out to the patient, care co-ord where they are now and what’s on the horizon going forward. The clinicians and the patient become a connected team. They are focused, care is truly personalized and measured. There is greater patient engagement and not a moment is lost as the visual journey shows the progress, step by step along the recovery road.

It’s good; it helps me to address my communication problems. I can track where my treatment is going. I feel I have an active role in my treatment pathway

By giving the patient a visual picture and program to work in where they are sat side by side with a clinician the patient gains another key skill for today’s lifestyle. They develop their IT skills in a safe and supported environment in a subject that’s really important to them. The system has enhanced accessibility features e.g. audio footage so that patients can listen to footage as well as read it.

PathNav means a lot to me because I can express my thoughts and opinions to the Multidisciplinary Team

I have never used a computer before and now I am planning my own care on a laptop. I never thought this could happen

With the PathNav system I have a clear view in front of me so I can identify any requests that will help with my recovery

Here I can set my own goals so that others know what I want to achieve

The plan section shows my recovery in a bar chart. It gives me an estimated timescale for stepping down. It gives me a clear visual image of what I am doing and my progress whilst hear. It is simplified and easy to understand
Next steps

• Extension along forensic care pathway
• Multi-provider scaleability
• Link to health apps
• Co-production from development to delivery
• Evaluation