West Sussex Digital Programme: Use of Telehealth for Monitoring Patients with Complex Long Term Conditions

Novel Methodology for Evaluating Impact
Project Overview

The KSS AHSN are undertaking a service evaluation of the 1\textsuperscript{st} years implementation and outcomes of the Docobo Digital Health programme

- The evaluation is a requirement of the funding from the Wolfson Foundation
- KSS AHSN act as an impartial 3\textsuperscript{rd} party
- Project runs throughout West Sussex with 3 CCGs, SCFT, Care homes, Docobo, WSCC
- Regular stakeholder evaluation engagement working group
- Utilising mixed methods approach
- Evaluation evolving as project is operationalised
Who will receive digital health?

Care Home
- Multiple patients
- Care homes with higher than average unplanned hospital admission attendance

Patients at Home
- Single patient
- High service user
- High risk of admission
- Selected by nursing team
- Multi Morbidities
Operational Process and Data Flows

Current Model

Risk Stratification

GP

Community Care
Primary Care
Secondary Care
Operational Process and Data Flows

Digital Health Model

- DOC@HOME
  - PREM / PROM
  - Vital signs monitoring

- Alert monitoring

- One Call

- Registering Clinician

- Community Care
  - Primary Care
  - Secondary Care
Operational Process and Data Flows

Digital Health Model

DOC@HOME

- PREM / PROM
- Vital signs monitoring

CAREPORTAL

Alert monitoring

One Call

- Community Care
- Primary Care
- Secondary Care

Registering Clinician

Automation using technology
Operational Process and Data Flows

Digital Health Model

- Registering Clinician
- DOC@HOME
  - PREM / PROM
  - Vital signs monitoring
- CAREPORTAL
- Alert monitoring
- One Call
- Community Care
- Primary Care
- Secondary Care
- Automation using technology
- Proactive Care
Operational Process and Data Flows

Digital Health Model

Patient Activation

DOC@HOME

registering Clinician

Automation Using Technology

CAREPORTAL

Alert monitoring

One Call

Proactive Care

Community Care

Primary Care

Secondary Care

PREM / PROM

Vital signs monitoring

Vital signs monitoring

PREM / PROM
Project Objectives

• Improved patient health
• Improved patient (and carer) experience
• Improved service use distributions (e.g. enabled proactive management by community nurse team leading to reduced hospital admissions)
• Improved staff experience
• Increased integration of care (including between care and health settings)
• Satisfactory technological performance (low number of false positives / negatives, low number of technical faults)
• Increased cost effectiveness
Evaluating Impact: What data can we use?

Digital Health Model

- DOC@HOME
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Alert monitoring

One Call

- Community Care
- Primary Care
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Registering Clinician
Evaluating Impact: What data can we use?

Digital Health Model

- PREM / PROM
- Vital signs monitoring
- Activity data from DOC@HOME
- Alert monitoring
- Community Care
- Primary Care
- Secondary Care
- One Call
- Registering Clinician
- DOC@HOME

PREM / PROM

Vital signs monitoring

Alert monitoring

One Call

Registering Clinician

DOC@HOME

Community Care

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Activity data from DOC@HOME
Evaluating Impact: What data can we use?

Digital Health Model

- Patient recorded measures from DOC@HOME
- Vital signs monitoring
- PREM / PROM

DOC@HOME

DOC@HOME

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- Activity data from DOC@HOME

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Evaluating Impact: What data can we use?

Digital Health Model

- Patient recorded measures from DOC@HOME
- Risk data from CCGs
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Evaluating Impact: What data can we use?

Digital Health Model

- Patient recorded data from DOC@HOME
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- Community Care
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- Quantitative data on staff caseloads
- Risk data from CCGs
- Activity data from DOC@HOME
- Staff survey and case studies
Focus Point: Risk Data and Need for a Comparator Group

- Risk stratification is a systematic process used in commissioning to divide a population into different strata of risk for a specified outcome.
- Two risk systems are in use in West Sussex: Artemus (developed by Docobo) in Horsham & Mid-Sussex and Crawley and the Predictive Risk Model in the Coastal region.
- A key benefit of using risk data is that it can potentially provide a control group.

Key Insight:
- Understanding of benefits arising from reduction / redistribution in care contacts
- Understanding of variation of risk over time for telehealth vs. control patients (does digital health improve health?)
- Validation of the eligibility criteria
- Understanding of recruitment of patients in practice
- Understanding of activity by patient risk strata – understanding of the actual need level of patients compared to predicted need level – this can be fed back to the risk stratification model
- Verification of recorded outcomes in different data sets
Focus Point: Patient Reported Outcomes

- The importance of patient reported measures well recognised BUT...
- Requires voluntary participation, time consuming, data quality is variable, clinicians are often reluctant to use routinely.
- Patient may only submit data in case of extreme feelings on care episode. Patient may respond favourably due to good relationships with implementation staff, response doesn’t reflect experience of all aspects of service.

Patient Reported Outcome Measures (PROMs)
- IPOS and UCLA3

Patient Reported Experience Measures (PREMs)
- PREM question set has been constructed using questions from the Picker Institute question bank

Key Insight:
- Determine whether telehealth portal is effective for administering PROM and PREM surveys to avoid above listed issues
- Understand variation of PROMs and whether patient experience of digital health is positive
- Link reported measures with demographics and alerts data
Focus Point: Case Studies

- Qualitative element of evaluation.
- Staff insight captured as implementation progresses.
- Will be complimented by staff focus groups.

<table>
<thead>
<tr>
<th>Key Insight:</th>
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<tbody>
<tr>
<td><strong>Patient Experiences:</strong></td>
<td>example of a patient saying how through using digital health this improved a sense of safety and security, or if they find it too time consuming.</td>
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<tr>
<td><strong>Patient benefit</strong></td>
<td>examples of when you think a patient’s health improved (or not) through digital health, like early detection of deterioration and timely response to changes in care/treatment.</td>
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<tr>
<td><strong>CAREPORTAL® Technology</strong></td>
<td>tell us about what the technology is like to use? How have Docobo responded to any technical issues?</td>
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<td><strong>Integrated professional working</strong></td>
<td>between health care services, between health and social care. Examples that you felt better connected to colleagues in the same or different services.</td>
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<tr>
<td><strong>Day to day working</strong></td>
<td>examples of how digital health has improved your day to day work or made it harder.</td>
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Focus Point: Cost-Benefit Analysis

• All measures evaluated will have a cost associated with them and a cost benefit where telehealth acts to reduce cost over normal care e.g. reduction of unplanned admissions.
• Additional costs include the cost of equipment, technical support staff training.
• Costs will be forecasted over a 5 year period.
• Sensitivity analysis will be used to allow for uncertainty in associated costs and to enable comparison of different scenarios.
Any Questions?