Supplementary File 1: Implementation Research Logic Model (IRLM)

Determinants* (CFIR)

Intervention Characteristics

Measures used (+)
PROMs platform (-)
PROMs score access for clinicians (N) and patients (-)
PROMs scores presentation for clinicians (+)
PROMs workflows (-)

Inner setting

Information technology structure (-)
Relative priority of PROMs within the Centre (+)
Recipient-centredness (culture) (+)
Learning centredness (culture) (N)
Compatibility of PROMs within Centres workflows (+)
Access to knowledge about PROMs (training, ongoing support) (+)

Outer setting

Financing (+)
Local attitudes and conditions within AHS (+)
Partnership with academic institution(+)
Partnership with funding body (+)

Characteristics of Individuals

Roles: Implementation facilitators (+), opinion leaders (+), implementation team (+)
Need for staff - expectation of role at Centre (+)
Need for patients (N)
Capability and motivation of clinicians of accessing PROMs scores from EHR and for clinical use (N)
Capability and motivation of intake staff to collect PROMs and upload scores to electronic health record (N)
Motivation of patients to engage with PROMs (N)
Opportunity - clinicians have "time" to do this (N)

Process

Teaming between operations and research team (+)
Teaming between clinicians and research/implementation facilitator (-)
Assessing needs of patients, clinicians, Centre (+/-)
Planning for implementation and evaluation (+)
Tailoring strategies to Centres needs (+)
Engaging clinical staff in delivering MBC(+)
Engaging patients in design and participating in MBC (+)
Plan for reflecting and evaluating implementation success and intervention success (+)
Plan to adapt MBC from evaluation results (+)

Implementation Strategies

1) Choose appropriate measures
- feasible – not too burdensome
- that are relevant to patients and provide valuable information to clinicians
- reliable, valid and responsive to change

2) Design feasible MBC workflow:
- PROMs collection and uploading to EHR is feasible
- Easy to access PROMs results in the EHR
- Summary of PROMs scores output provides valuable information to clinicians

3) Develop resource materials, training sessions and education
- about the value of MBC
- for clinicians (measures themselves, how access results within the EHR, how to talk about PROM scores with patients and use in decision-making)
- for intake coordinators (how to send PROMs, retrieve summary page, and upload to EHR)
- patients (value of MBC within a single page infographic with link to an information video, video on plasma screens in the Centre, education from clinicians about MBC)

4) Have onsite support for MBC (technical and clinical support from implementation team

5) MBC embedded as an expectation of part of Centre's operations – at clinician onboarding, through training and messaging from the Summit leadership

7) Cultivate culture of learning from PROMs data (partnership between academics and AHS)

8) Engage stakeholders in implementation design and evaluation (patients, clinicians, clinical leads, AHS operations lead)

9) Create implementation team (supported by MBC research team)

10) Champions (clinical leads)

11) Understand patient flow through services (process mapping) and choosing appropriate measurement time points

12) Use of pre-implementation "run throughs" to see how PROM workflows will work in real time

13) Implementing in cycles of change to optimize MBC

14) Planned formative evaluation

Mechanisms

- Choosing appropriate measures enhances acceptability of MBC, leads to increased participation by clinicians and patients

- Easy to interpret summary score sheets enhances acceptability of MBC, leads to increased participation by clinicians and patients

- User-friendly PROMs collection platform enhances acceptability of MBC, leads to increased participation by clinicians and patients

- Feasible PROMs workflows (low burden) addresses clinician and support staff perceptions that MBC will be burdensome

- Training and onsite support increases capability and motivation of staff to collect and use PROMs data, enhances fidelity to MBC

- Engaging stakeholders in design of MBC leads to better alignment with clinic workflows and needs of clinicians and patients, enhancing appropriateness of MBC, leads to increased participation by clinicians and patients and sustainability

- Embedding MBC as an expectation of clinicians in the Centre's operations and cultivating a culture of learning/quality improvement increases likelihood of adoption and sustainability

- Implementing in cycles of change and formative evaluation will optimize MBC processes, enhancing appropriateness of MBC, leads to increased participation by clinicians and patients and enhanced sustainability

Outcomes

Implementation

Acceptability – patients, clinicians find MBC acceptable
Appropriateness – measures, score summary page, PROM platform, PROM workflows are appropriate for patients and staff at the Centre
Feasibility – PROMs workflows (collection, upload to EHR, access within EHR, use within clinical encounter) are feasible for intake and clinicians
Adoption – resources, training and support is adequate for staff to feel capable of using MBC
Fidelity – PROMs are being collected and used within clinical encounters as intended
Penetration - All patients and clinicians are participating in MBC
Sustainability – MBC is integrated into usual practice at the Summit and the supports are in place to sustain it**

Service

Efficiency - PROM scores are used at the program or service level for learning**
Patient-Centredness - MBC perceived as enhancing patient centred care

Patient

Patient experience - patient experiences enhanced by MBC**
Patient outcomes – MBC improves patient outcomes**

** not evaluated in this study

***Determinants coding:**
+ = expected facilitator
- = expected barrier
N = not known or neutral

Abbreviations
PROM: Patient-reported outcome measure
MBC: Measurement-based care
EHR: Electronic health record
CFIR: Consolidated framework for Implementation Research