Theme 1: Current Practice

UPDATE & INTRODUCTION TO BREAKOUT SESSIONS

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The Patient Journey

PATIENT PRESENTS TO HOSPITAL

REQUIRED FOR PROCESSES - PHYSICAL:
- Staff
- Equipment
- Reagents
- Money
- Electricity

PROCESSES:
- Susception of BI
- Assessment by a clinician
- Doing the LP
- Doing other tests
- Requesting the right tests
- Getting samples to the lab
- Sample storage
- Sample processing
- Sample testing
- Reporting of results
- Communication to patient

PATIENT RECEIVES A DIAGNOSIS

REQUIRED FOR PROCESSES - NON-PHYSICAL:
- Expertise
- Quality control and assurance
- Belief in the (value of the) tests and their results!
- Motivation

INFLUENCED BY TIME:
- To assessment by a clinician
- To LP, from presentation
- To LP, from treatment
- To LP, from pre-hospital treatment
- To CSF storage
- To CSF processing
- To CSF testing
- To reporting, from LP
- To reporting, from presentation
Baseline (pre-intervention) Plan

8 patients & 8 samples per hospital

[A] Journey observation → ANALYSIS

Should answer:
1. What’s currently happening?
2. What within this might be impacting on diagnosis (+management)?

Should guide who is best to answer these, and with which questions (updated topic guide):
3. What are the factors responsible for these challenges and barriers to optimal diagnosis (+management)?
4. What can/should be done about these?

[B] Key informant interviews → ANALYSIS

Should answer:
3. What are the factors responsible for these challenges and barriers to optimal diagnosis (+management)?
4. What can/should be done about these?

3 from each of 3 key areas of each hospital: administration, clinical and laboratory
Journey Observations

DATA COLLECTION

JOURNEY ANALYSIS: QUANTITATIVE

JOURNEY ANALYSIS: QUALITATIVE

WITHIN-CENTRE TEAM ANALYSIS

CROSS-CENTRE ANALYSIS
Integration & interpretation

QUALITATIVE JOURNEY RESULTS

QUANTITATIVE JOURNEY RESULTS

QUANTITATIVE OUTCOMES RESULTS

IDEALLY: LAB CAPACITY ASSESSMENT RESULTS

INTEGRATION AT EACH CENTRE BY LOCAL TEAM: SOCIAL SCIENTIST, CLINICIAN & MICROBIOLOGIST

CROSS-CENTRE DISCUSSION WITHIN WHOLE THEME 1 TEAM

FOLLOW-UP DISCUSSION AT EACH CENTRE BY LOCAL TEAM

IDENTIFY CHALLENGES IN EACH HOSPITAL, & ACROSS EACH CENTRE

PRIORITISE: CONSIDER IMPACT & EASE/COST OF INTERVENTION

COMPARE CHALLENGES & PRIORITIES IN EACH CENTRE:
1: COMMON & DIVERGENT THEMES
2: INFORM LOCAL CONCLUSIONS

DECIDE:
1: WHOM TO INTERVIEW
2: WHAT TO ASK (TOPIC GUIDE)
3: WHO CONDUCTS INTERVIEW
Pre-intervention patients: 450 per centre

Post-intervention patients: 450 per centre

Patient journey observations:
- ~8 per hospital: 24-36 per centre

Sample journey observations:
- ~8 per hospital: 24-36 per centre

Staff interviews:
- ~9 per hospital: 27-36 per centre

Staff survey & interviews:
- ~9 per hospital: 27-36 per centre

8 months
Baseline (pre-intervention) Plan

| Activity                                    | Wk 1 | Wk 2 | Wk 3 | Wk 4 | Wk 5 | Wk 6 | Wk 7 | Wk 8 | Wk 9 | Wk 10 | Wk 11 | Wk 12 | Wk 13 | Wk 14 | Wk 15 | Wk 16 | Wk 17 | Wk 18 | Wk 19 | Wk 20 | Wk 21 |
|---------------------------------------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Journey data collection                     |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |
| Journey observation analysis                |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |
| Conducting interviews                       |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |
| Transcription of 2-3 interviews per site    |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |
| Transcription and translation of all interviews |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |
| Inductive coding within each centre         |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |
| Cross-centre coding framework development   |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |
| Indexing of transcripts                     |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |
| Charting per hospital and per centre        |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |
| Cross-centre mapping and interpretation     |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |       |       |       |
Journey Modelling (Process Mapping)

- Identifying what steps occur, when, and how:
  - Patient: from presentation to discharge
  - Sample: from acquisition to result
- Can be used to identify bottlenecks, delays, barriers, challenges
- Could allow modelling of effects of intervention

Process map – ED patient flow (Martin Int Emerg Nurs 2011)
Example 1:
Fever, headache, has been sleepy.
Has rapid malaria test by triage nurse, which is positive.
Sees clinical officer, who gives malaria treatment, and discharges.
Example 1 - SIMPLIFIED:
Fever, headache, has been sleepy.
Has rapid malaria test by triage nurse, which is positive.
Sees clinical officer, who gives malaria treatment, and discharges.
Journey Observations - Domains

• What (process/event)
• Where (location (of patient/of sample/of process e.g. test or storage)
• Who (team? Individual? Cadre?)
• When (date, day of week, month, time (day/night))
• How (decisions / communications / organized or *ad hoc* e.g. standard procedure or one-off requirement)
• Why -> more detail to be captured now: data collection and narrative summaries by social scientists & coordinators in each centre
## Sampling Criteria for Journey Observation

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Patient 1</th>
<th>Patient 2</th>
<th>Patient 3</th>
<th>Patient 4</th>
<th>Patient...</th>
<th>Total of category 1</th>
<th>Total of category 2</th>
<th>Total of category 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Adult</td>
<td>Child &lt;12mo</td>
<td>Child &lt;12mo</td>
<td>Adult</td>
<td></td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Categories:</td>
<td>1 = Child &lt;12mo</td>
<td>2 = Child &gt;12mo</td>
<td>3 = Adult</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Gender</td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Male</td>
<td></td>
<td>1</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Categories:</td>
<td>1 = Female</td>
<td>2 = Male</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV co-infection status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Blood taken for tests (SAMPLE 1)

Brain imaging test requested (SCAN 1)

Any other Event NOT captured above

Anti-infective treatment PRESCRIBED (1st drug)

Anti-infective treatment ADMINISTERED (1st drug)

Lumbar puncture: ATTEMPT BY PERSON 1

Lumbar puncture: ATTEMPT BY PERSON 2

Lumbar puncture: ATTEMPT BY PERSON 3

Brain imaging test done (SCAN 1)

Brain imaging result received (SCAN 1)

Any other Event NOT captured above

Blood test result 1 received

Blood test result 2 received

Any other Event NOT captured above

Diagnosis made - INITIAL

Diagnosis made - FINAL

Any other Event NOT captured above

Diagnosis made - INITIAL

Diagnosis made - FINAL

Any other Event NOT captured above

Anti-infective treatment ADMINISTERED (2nd drug)

Anti-infective treatment ADMINISTERED (2nd drug)

Event: Seen by 1st health professional

Occurred?

How captured?

Date

Time

Time certainty

Job title

Department

Where?

Reflective?

Why did the event happen this way?

Further notes

Journey Analysis: Visual (see later for framework)
WHO Health Systems Building Blocks
COM-B Model (S Michie et al 2014)

- Capability
- Opportunity
- Motivation
Our Draft Intervention Domains & Components

<table>
<thead>
<tr>
<th>HUMAN RESOURCES</th>
<th>ACCESS &amp; PROCUREMENT</th>
<th>PROCESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical training</td>
<td>Diagnostic kits</td>
<td>Clinical algorithms</td>
</tr>
<tr>
<td>Lab training</td>
<td>Consumables</td>
<td>Lab algorithms</td>
</tr>
<tr>
<td>HR management</td>
<td>Equipment</td>
<td>Lumbar puncture pack</td>
</tr>
<tr>
<td></td>
<td>Medicines</td>
<td>Logistics</td>
</tr>
</tbody>
</table>

Each component tailored to hospitals’ needs & capacity
Why? - Interviews

• Minimal “why” data from journey CRFs analysed in a team:
  • Social scientist
  • Clinician
  • Microbiologist

• Decide which questions to ask, and to whom

• Semi-structured with per-hospital topic guide

• 3 from each of three key areas at each hospital (data saturation at 2 in some smaller hospitals?):
  • Administration
  • Clinical
  • Laboratory
Framework analysis

• Used widely in policy and systems research
• Creates charts and maps
• Steps (after transcription):
  1. Inductive coding
  2. Cross-centre meeting -> coding framework
  3. Indexing of each transcript using coding framework
  4. Charting of indexed data for each hospital
  5. Cross-centre meeting – mapping and interpretation
Framework analysis – charting & mapping

**Table 1. Extract of thematic chart for experience**

<table>
<thead>
<tr>
<th>Experience</th>
<th>2.1</th>
<th>2.2</th>
<th>2.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant number</td>
<td>Length of time since first qualification</td>
<td>Length of time in position as a school nurse</td>
<td>Importance of experience</td>
</tr>
<tr>
<td>School nurse 2</td>
<td>Qualified in 1995 (17 years)</td>
<td>Started in 2005 (six years)</td>
<td>‘Life experience brings you to that too. If I had come into school nursing straight as a newly qualified nurse without a whole load of life experience, I probably would not have the same ability to pick up on little things’</td>
</tr>
</tbody>
</table>

Hackett *Nurs Res* 2018

**Figure 9.7 Mapping motivations**

**RESEARCH NOTES ON MOTIVATIONS TO VOLUNTEER**

- **Why volunteer**
  - Because asked
  - Had time to spare
  - To continue existing association
  - Personal circumstances or link with need
  - A chance to make a contribution/pay back
  - General philosophy/beliefs
  - Interest/enjoyment

- **Why not volunteer**
  - Never been asked
  - Can’t spare the time
  - Potential disadvantages (cost, involvement, embarrassment)
  - Not that sort of person
  - Suspicion

Bryman & Burgess 1994
Operational simulation modelling

Can simulate the impact of modifications of processes on:

1. Achievement of diagnosis
2. Likelihood of events occurring, e.g. tests
3. Resource use
4. Time to events

This will now use a more focused approach, at the point of intervention development.
Post-intervention – Survey & Interview

• Purpose:
  • Evaluation of perceived impact
  • Perceptions of acceptability, ease of implementation and sustainability

• 2 methods:
  1. Structured electronic survey -> descriptive tables & figures
  2. Semi-structured interviews 30min -> framework analysis again

• 3 people from each of 3 key areas at each hospital (data saturation at 2 in some smaller hospitals?):
  • Administration
  • Clinical
  • Laboratory

• Total process: ~15 weeks (~3 months)
Outcomes

1. Confirm sampling criteria for patient and sample journeys, and who will collect data, based on feedback from pilot
2. Finalise 1st stage of theme 1 qualitative analysis (patient & sample journey data), using a trial run

*Breakout sessions today: late morning & afternoon*
Outcomes

1. Confirm sampling criteria for patient and sample journeys, and who will collect data, based on feedback from pilot
   1. Break out into Theme 1 group
   2. Feedback from pilot data collection from Brazil and Malawi
   3. Break out into groups by Centre
   4. Decide strategies for ongoing data collection in each Centre
   5. Review sampling criteria for each Centre
Outcomes

2. Finalise 1st stage of theme 1 qualitative analysis (patient & sample journey data), using a trial run
1. Break out into 4 smaller groups
2. Review example journey data
3. Using revised framework matrix, analyse these data
4. Discuss in the wider Theme 1 group
Questions/Discussion