Principles of Implementation and Improvement Science - 7KNIM772

Level: 7
Credits: 30

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This handbook must be read in conjunction with module information provided on KEATS, the King’s E-Learning and Teaching Service. You will be given access to KEATS on enrolment. Important information relating to assessment and related regulations can be found in the Postgraduate Programme Handbook, available on KEATS and via the Student Services Centre.

This handbook can also be provided in alternative formats (such as large print) upon request to asc@kcl.ac.uk.
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Module overview

This module forms part of the MSc Implementation Science and Improvement Science. The module contributes to your programme of study by providing you with the basic knowledge required to conduct implementation and improvement work, whether that is as a researcher or a clinician.

The module can also be taken as a freestanding module.

Module aims

- Introduce the principles of implementation and improvement science.
- Provide a foundation for subsequent modules related to the development and implementation of health interventions.
- Enhance the skills necessary for critiquing published implementation research.
- Establish an understanding of techniques applicable to the development, implementation and evaluation of health interventions.
- Establish an understanding of how knowledge for healthcare can be advanced through the fields of implementation and improvement Science.

Learning outcomes

- Demonstrate an awareness of the role of implementation and improvement science in health and social care, and critically discuss this in relation to fields such as Knowledge Translation, Translational Medicine and Innovation.
- Distinguish implementation outcomes from efficacy, service and client outcomes.
- Display a comprehensive understanding of the core scientific principles and investigative methodologies of implementation and improvement science, including quantitative, qualitative and econometric approaches.
- Display an in-depth understanding of theories, frameworks and tools for the planning, development, implementation and evaluation of health interventions.
- Demonstrate an understanding of how to comparatively critique the roles of systematic reviews and other approaches to making sense of evidence.
- Display an advanced understanding of the application of implementation and improvement research methods in healthcare research, practice and policy.
- Expertly appraise the suitability of different implementation approaches and strategies for different implementation research questions.

Teaching arrangements

College attendance is required for all the sessions in this module. The module will be taught in lectures on key topics, seminars that complement the lecture content and workshops involving a variety of student-focused, group activities.

Module content, including lecturers’ PowerPoint presentations, can be accessed via the College e-Learning service, KEATS. Please check that you can access the module on KEATS before the start of the term and contact the IT Service Desk if you experience problems.

Throughout the module, lecturers will provide supervision and advice.
Submitting coursework
For this module you are assessed by Dr Rachel Davis and Dr James Harris.

Assessment criteria
This module is assessed by a 3000 word essay. The essay will be worth 100% of your final module mark.

Formative assessment
You will be given the opportunity to discuss your assignment plans during the module. This will include allocated time for you to present your improvement project plans with all attendees.

Summative assessment
Listed below are a number of scenarios where an improvement challenge needs to be addressed. You will choose one of these scenarios and state how you would tackle this improvement challenge. You should come up with an idea for an intervention, how you would implement it and the appropriate theory and tools you would use to do so.

If none of the scenarios listed appeal to you, it is possible to choose your own scenario. However, before doing this you must discuss your suggested scenario with the module lead (Dr Rachel Davis: rachel.davis@kcl.ac.uk) and ensure that they have approved it as appropriate for the purpose of the assessment.

Information on the steps you have taken to develop your intervention, how you would monitor both its short and long-term success, as well as how you would account for barriers to implementation, should be included.

Please note: we do not expect you to actually develop an intervention (i.e. a prototype) for this assessment. We just expect you to come up with an idea for an intervention and the steps you would take to put the idea into practice.

You will be expected to produce a 3,000 word essay detailing your plans.

Improvement Challenge Scenarios:

NB: All interventions can be based in a hospital or community setting

a. Improve healthcare professionals’ compliance with hand hygiene guidelines;
b. Improve access to an intervention aimed at improving patients’ effective self-management of a chronic condition (specific chronic condition of your choice);
c. Improve the effective transfer of communication between either a service user and a healthcare professional (eg during a consultation), or two differing groups of healthcare professionals (eg during a transfer of care);
d. Improve adherence to medication/treatment plan for patients with a chronic condition;
e. Reduce the number of medication administration/treatment errors. This could be errors from what was planned (i.e. errors in administration/delivery) or encouraging the right treatments/medications to be selected (i.e. ensuring evidence based care)

Coursework submission are provided on the modules KEATS site. It is essential that you use your candidate number on all assignments/examinations. Your candidate number, will be available via Student Records on the King’s Intranet approximately one month after you enrol.
If you are unable to submit your work by the deadline please refer to the information in your programme handbook on “mitigating circumstances”. If you require further support in these circumstances you are advised to contact KCLSU.

Submission date for coursework: Tuesday 9 January 2017 (by 11:59am)

Late submissions will be accepted for 24 hours following the submission date. All work submitted late will be marked as normal but will be capped at the pass mark for the module. If your assignment is submitted electronically through TurnItIn, information about how to submit late will be provided on KEATS module sites under assessment information. Please label the file with your candidate number and double-check you have submitted the correct file.

The external examiner for this module is Mark Pearson. *Students are not to make direct contact with external examiners, in particular regarding their individual performance in assessments.*

The College and its Examination Boards in the ten Faculties (Institutes/Schools, King’s Learning Institute and the Association of King’s College (AKC), work with over 500 external examiners to ensure the quality and standard of our taught awards. Find the latest report on the External Examiners Report page, navigate to the Faculty of Nursing and Midwifery section.

**Results and resubmissions for coursework**

Students will receive a provisional (unratified) mark for their coursework 4 weeks following submission. According to the method of submission as detailed on your KEATS site, if your work was submitted online you will be able to download marked coursework from KEATS; alternatively, if you completed a hard copy submission you can collect your coursework and feedback from the Student Services Centre.

To collect a hard copy assignment, you must provide your candidate number. Alternatively, you may send a stamped addressed envelope to the Student Services Centre ensuring that this is large enough to accommodate your assignments and that you have applied sufficient postage. Hard copy assignments will be retained for four weeks; if you have not collected your assignment by then, it will be destroyed.

Feedback will include the award of a numerical grade which remains provisional until ratified by the examination boards. The dates for the examination boards are available on KEATS. Ratified marks can be viewed via Student Records on the King’s Intranet, the Monday following the relevant examination board.

The marking criteria by which your work is judged are provided in full in your programme handbook. Please also refer to the section in your programme handbook on plagiarism and how to avoid it. If you have a query about how to refer to a specific piece of work please ask your module leader, your group leader or a member of library staff for guidance or please use King’s Libguides site.

The feedback you receive on your assignment will guide you towards how to do better next time or how to maintain your existing high standard!

If you do not understand your mark or the feedback you receive please contact **Dr Rachel Davis:** rachel.davis@kcl.ac.uk
If you are unsuccessful, it is recommended that you contact the module leader before submitting your second attempt. This will enable the module leader to provide you with an appropriate level of support as you prepare to resubmit your work.

**Resubmission date: Tuesday 10 April 2017 (11:59am).**
Learning Resources

Introductory Reading


Please note, further reading lists will be made available following each session.
Module Evaluation
As part of the university’s Student Voice Strategy, King’s uses an electronic module evaluation system known as EvaSys. This provides an opportunity for you to feedback on different aspects of the module through a series of pre-set questions and qualitative comments. At the end of the module you will receive an automated invitation via your KCL email account to complete your evaluation online.

Please take the time to complete as your feedback is important. It informs ongoing developments to individual modules to ensure that the learning needs and expectations of the Faculty’s student community are met to a high standard.

To strengthen the feedback cycle, a report summarizing the quantitative results for the module as a whole and the module lead’s reflections on your feedback will be sent to you after the online evaluation survey has closed.

Action from previous evaluations
Presentation handouts were not provided or not readable.
**ACTION:** Lecturers responded to this problem immediately, and will be reminded of the problem in advance of the coming term.

Students were uncertain of the assessment process.
**ACTION:** An assessment session was added to the timetable.

Rooms were not always suitable.
**ACTION:** All teaching for the module this term will take place in the same room, which is equipped with Lecture Capture.

Reading lists were lengthy.
**ACTION:** This term lecturers have been encouraged to distinguish core reading and further reading, where possible.
**Timetable: Principles of Implementation and Improvement Science**
This module is taught in term 1 (Oct-Dec 2017).

<table>
<thead>
<tr>
<th>Day 1. An Introduction to Implementation and Improvement Science</th>
<th>Time</th>
<th>Lecturer</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>University based study</td>
<td>2 October 2017</td>
<td>Welcome, introductions and overview of module content</td>
<td>10:00-11:00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Challenges of a new science aimed at improving practice</td>
<td>11:00-12:00</td>
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<tr>
<td></td>
<td></td>
<td>An introduction to implementation and improvement science</td>
<td>13:00-14:00</td>
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<tr>
<td></td>
<td></td>
<td>Your future in implementation science: career opportunities</td>
<td>14:00-15:00</td>
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<tr>
<td></td>
<td></td>
<td>Knowledge mobilization and knowledge translation</td>
<td>15:15-16:15</td>
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<thead>
<tr>
<th>Day 2. Intervention and Implementation Design</th>
<th>Time</th>
<th>Lecturer</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>University based study</td>
<td>9 October 2017</td>
<td>An introduction to intervention and implementation design</td>
<td>10:00-11:00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Using a logic model to design an intervention</td>
<td>11:00-12:00</td>
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<tr>
<td></td>
<td></td>
<td>Implementation strategies</td>
<td>13:00-15:00</td>
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<tr>
<td></td>
<td></td>
<td>Implementation outcomes</td>
<td>15:15-16:15</td>
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</table>

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<thead>
<tr>
<th>Day 3. Improvement Science: Approaches, Design and Measurement</th>
<th>Time</th>
<th>Lecturer</th>
<th>Room</th>
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</thead>
<tbody>
<tr>
<td>University based study</td>
<td>16 October 2017</td>
<td>All-day workshop</td>
<td>10:00-13:00</td>
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<tr>
<td></td>
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<td></td>
<td>14:00-16:30</td>
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</tbody>
</table>
### Day 4. The Use of Theories in Intervention Design and Evaluation

<table>
<thead>
<tr>
<th>University based study</th>
<th>30 October 2017</th>
<th>The use of theory in intervention development</th>
<th>10:00-11:00</th>
<th>Danielle D’Lima</th>
<th>JCMB B.18</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Normalization Process Theory</td>
<td>11:00-12:00</td>
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<td></td>
<td></td>
<td>COM-B and the Behaviour Change Wheel</td>
<td>13:00-14:00</td>
<td>Caroline Nicholson</td>
<td>FWB 1.17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Using RE-AIM and the CFIR</td>
<td>14:15-16:30</td>
<td>Rachel Davis &amp; Zarnie Khadjiesari</td>
<td></td>
</tr>
</tbody>
</table>

### Day 5. Evaluation

<table>
<thead>
<tr>
<th>University based study</th>
<th>6 November 2017</th>
<th>Evaluation: An introduction</th>
<th>10:00-11:30</th>
<th>Rachel Davis</th>
<th>JCMB B.18</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Evaluating interventions in practice: Examples from Oncology and Diabetes</td>
<td>11:30-12:00</td>
<td>Tayana Soukup</td>
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<tr>
<td></td>
<td></td>
<td>Realistic evaluation</td>
<td>13:00-14:00</td>
<td>Annette Boaz</td>
<td>JCMB G.16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Economic evaluation</td>
<td>14:15-16:15</td>
<td>Andy Healy &amp; Murali Radhakrishnan</td>
<td></td>
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</tbody>
</table>

### Day 6. Patient and Public Involvement and Experience

<table>
<thead>
<tr>
<th>University based study</th>
<th>13 November 2017</th>
<th>The importance of patient involvement</th>
<th>10:00-11:00</th>
<th>Josephine Ocloo</th>
<th>JCMB B.18</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Patient involvement in quality improvement – an evaluation</td>
<td>11:00-12:00</td>
<td>Sophie Wilson</td>
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<tr>
<td></td>
<td></td>
<td>Learning from mental health – history and practice in collaborative research</td>
<td>13:00-14:30</td>
<td>Stan Papoulias</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Experience Based Co Design/Patient experience</td>
<td>14:45-16:00</td>
<td>Annette Boaz/Rachel Davis</td>
<td></td>
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</tbody>
</table>
### Day 7. Sustainability and Scalability

<table>
<thead>
<tr>
<th>University based study</th>
<th>27 November 2017</th>
<th>An introduction to scalability and sustainability</th>
<th>10:00-11:00</th>
<th>Rachel Davis</th>
<th>JCMB G.16</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Leadership and how it can promote long-term change</td>
<td>11:00-12:30</td>
<td>Michael Holland</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Sustainability and Spread</td>
<td>13:30-16:30</td>
<td>NHS Improvement</td>
<td>JCM B.18</td>
</tr>
</tbody>
</table>

### Day 8. Systems, Cultural and Organisational change

<table>
<thead>
<tr>
<th>University based study</th>
<th>4 December 2017</th>
<th>Assessing the readiness of change</th>
<th>10:00-11:30</th>
<th>James Harris</th>
<th>FWB 1.17</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>System level change</td>
<td>13:00-14:30</td>
<td>Alexandra Ziemann &amp; Euan Sadler</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Considering system changes within your own projects</td>
<td>14:45-15:45</td>
<td>James Harris, Alexandra Ziemann &amp; Euan Sadler</td>
<td></td>
</tr>
</tbody>
</table>

### Day 9. The IMPRES tool and Assessment of the Module

<table>
<thead>
<tr>
<th>University based study</th>
<th>11 December 2017</th>
<th>Using the IMPRES tool to design high-quality implementation research</th>
<th>10:00-12:00</th>
<th>Louise Hull</th>
<th>FWB 1.17</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Assessment of the module</td>
<td>13:00-16:00</td>
<td>Rachel Davis</td>
<td>FWB 1.67</td>
</tr>
</tbody>
</table>

NB: This timetable may be subject to alteration at short notice. Please check the announcements on the KEATS module site for updates.

- All teaching is at the Waterloo campus in either the Franklin-Wilkins Building (FWB) or the James Clerk Maxwell Building (JCMB)
- Assignment submission deadline: **9 January 2018**