**Supplementary Appendix**

**Supplementary Table 1. Relative importance of value to institution attributes to key opinion leaders (n = 12)**

|  |  |  |
| --- | --- | --- |
| **Attribute** | **Rank** | **Mean score out of five (sd)** |
| **Health outcomes** | 1 | 4.25 (0.75) |
| **Patient-centred** | 1 | 4.25 (0.75) |
| **Access** | 2 | 4.00 (0.60) |
| **Sustainability** | 2 | 4.00 (0.60) |
| **Safety** | 3 | 3.90 (0.80) |
| **Evidence-based** | 4 | 3.85 (1.05) |
| **Affordability** | 5 | 3.75 (0.95) |
| **Capability building** | 5 | 3.75 (0.95) |
| **Economic productivity** | 5 | 3.75 (0.95) |
| **Population impact** | 5 | 3.75 (1.05) |
| **Prevention** | 6 | 3.65 (0.90) |
| **Professional development** | 7 | 2.65 (1.15) |
|  |  |  |

Abbreviations used: sd, standard deviation

**Supplementary Table 2. Description of purposive searches conducted by the IAU**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Attribute** | **Short description** | **Databases/Search Engine** | **Scope of purposive search** | **Other forms of data input** |
| 1. **Potential value to the institution** | | | | |
| **Access** | The innovation can improve access to healthcare services for patients | * PubMed * Cochrane Library * Google Scholar | * Published literature of similar innovations, with access to healthcare services as a study outcome. * Level of evidence was rated using the GRADE quality scale. | * Preliminary data provided by the innovation teams |
| **Affordability** | The innovation can eventually result in health savings for the institution and/or the healthcare system. | None | None | * Projected cost calculations provided by the innovation teams, which are assessed by the IAU |
| **Capability building** | The innovation can foster further research and innovation partnerships and/or has the potential to be scaled beyond the SingHealth Duke-NUS AMC. | * PubMed * Cochrane Library * Google Scholar * Google search engine | * Published literature on clinical gaps in other local healthcare institutions locally or globally, that might be addressed by the proposed innovation * Examples of commercialisation /patent of similar innovations | * Evidence of collaborative partnerships fostered provided by the innovation team |
| **Economic productivity** | The innovation can improve the productivity of patient or caregivers (e.g., shorter downtime). | * PubMed * Cochrane Library * Google Scholar | * Published literature on similar innovations, with economic productivity as a study outcome. * Level of evidence was rated using the GRADE quality scale. | * Preliminary data provided by the innovation teams |
| **Evidence-based** | There is existing evidence that the innovation can address the stated healthcare problem | * PubMed * Cochrane Library * Google Scholar | * Published literature on similar innovations and impact on stated problem/healthcare gap as a study outcome. * Level of evidence was rated using the GRADE quality scale. | * Preliminary data provided by the innovation teams |
| **Health outcomes** | The innovation can reduce morbidity and/or mortality | * PubMed * Cochrane Library * Google Scholar | * Published literature on similar innovations, with morbidity/mortality as a study outcome. * Level of evidence was rated using the GRADE quality scale. | * Preliminary data provided by the innovation teams |
| **Patient-centred** | The innovation can address the specific needs of patients and/or caregivers | * PubMed * Cochrane Library * Google Scholar * Google search engine | * Published literature (surveys, structures interviews, focus groups) suggesting gap in patient/caregiver needs * Published reviews and expert opinion papers * Local publications (e.g., news reports, institutional reports) | * Preliminary data provided by the innovation teams |
| **Population impact** | The innovation can impact many patients | * PubMed * Cochrane Library * Google Scholar * Google search engine | * Published literature on local or global epidemiology of stated clinical problem * Local government or census websites | * Preliminary data provided by the innovation teams * Number of patients with the stated clinical problem seen annually, obtained from the SingHealth electronic clinical database |
| **Prevention** | The innovation can directly prevent health deterioration or disease occurrence in the future | * PubMed * Cochrane Library * Google Scholar | * Published literature on similar innovations, with disease prevention as a study outcome. * Level of evidence was rated using the GRADE quality scale. | * Preliminary data provided by the innovation teams |
| **Professional development** | The innovation can enable staff to gain new skills. | None | None | * Evidence of staff development opportunities provided by project teams, which are assessed by the IAU |
| **Safety** | The innovation can improve safety for patients and/or staff | * PubMed * Cochrane Library * Google Scholar | * Published literature on similar innovations, with patient/healthcare worker safety as an outcome measure. * Level of evidence was rated using the GRADE quality scale. | * Preliminary data provided by the innovation teams |
| **Sustainability** | The innovation is likely to be adopted in a continued manner in the future in the local healthcare setting | None | None | * Evidence of buy-in from relevant stakeholders provided by project team in submitted proposals, which are assessed by the IAU * Endorsement by clinical chairperson and support from centre representatives |
| 1. **Novelty** | | | | |
| **Novelty** | The innovation offers a novel solution to the existing healthcare problem | * PubMed * Cochrane Library * Google Scholar * Google search engine | * Published literature with similar innovations * Published literature describing alternative solutions to the existing healthcare problem * Commercial websites offering similar innovations * Local and international non-peer reviewed publications (e.g., news reports, institutional reports, presentations) describing similar innovations * Local and international non-peer reviewed publications (e.g., news reports, institutional reports, presentations) describing alternative solutions to the existing healthcare problem | None |
| 1. **Potential barriers to implementation** | | | | |
| **Social** | There are foreseeable social barriers that may prevent implementation of the innovation | * PubMed * Cochrane Library * Google Scholar * Google search engine | * Published literature describing the implementation of similar innovations to identify social issues that were encountered * Reviews and expert opinions of similar innovations * Local publications (e.g., news reports, institutional reports) relevant to the innovation | * Preliminary evidence provided by project teams |
| **Environmental** | There are potential limitations in the present resources that may prevent the implementation of the innovation | * PubMed * Cochrane Library * Google Scholar * Google search engine | * Published literature describing the implementation of similar innovations to identify environmental resources required * Reviews and expert opinions of similar innovations * Local publications (e.g., news reports, institutional reports) relevant to the innovation | * Preliminary evidence provided by project teams * Discussion with key opinion leaders in the SingHealth Duke-NUS AMC |
| **Intention** | Relevant stakeholders demonstrate a certainty of commitment to implement of the innovation | None | None | * Evidence of buy-in from relevant stakeholders provided by project team in submitted proposals, which are assessed by the IAU |
| **Professional roles** | The stakeholders involved are the appropriate group to implement the innovation | * PubMed * Cochrane Library * Google Scholar | * Published literature describing the implementation of similar innovations to identify stakeholders involved * Reviews and expert opinions of similar innovations | * Evidence of buy-in from relevant stakeholders provided by project team in submitted proposals, which are assessed by the IAU |
| **Belief about consequences** | Expectations of the impact of the proposed innovation is reasonable | * PubMed * Cochrane Library * Google Scholar | * Published literature on similar innovations and impact on stated problem/healthcare gap * Reviews and expert opinions of similar innovations | * Timeline and milestones provided by the project team |
| **Belief about capabilities** | The stakeholders are empowered to implement the innovation. | None | None | * Discussion with key opinion leaders in the SingHealth Duke-NUS AMC |
| **Goals** | Proper priority setting and action planning for implementation are in place. | None | None | * Timeline and milestones provided by the project team |
| **Emotions** | The stakeholders have no emotional barriers preventing the implementation of the innovation. | * PubMed * Cochrane Library * Google Scholar | * Published literature describing the implementation of similar innovations to identify stakeholders involved and any potential emotional barriers | * Evidence of buy-in from relevant stakeholders provided by project team in submitted proposals, which are assessed by the IAU |
| **Knowledge** | Significant advancement of knowledge for the users is required before the innovation can be implemented | * PubMed * Cochrane Library * Google Scholar | * Published literature describing the implementation of similar innovations to identify any potential knowledge barriers | * Methodology provided by project teams |
| **Skills** | Specialized training for users is required before the innovation can be implemented | * PubMed * Cochrane Library * Google Scholar | * Published literature describing the implementation of similar innovations to identify any potential skill barriers | * Methodology provided by project teams |

Abbreviations used: AMC, academic medicine centre; GRADE, Grading of Recommendations, Assessment, Development and Evaluations; IAU, impact assessment unit.

**Supplementary Figure 1. Example of (a) feedback provided to innovation teams, and (b) impact assessment report for independent panel of assessors.**

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