**Supplementary File 1: Coding Frame Describing Texts and Themes Extracted from Articles**

**Domain: Organizational Support**

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| Conducting an organizational needs assessment | * *[Pg 9] "The first stage of the implementation process is characterised by the exploration of organisational needs, intervention-organisational fit as well as capacity and readiness assessment in a given setting". [Summary]Organizational perspective includes: Structure and size, age, maturity, size of the organization, social architecture, organizational structures, formal vs informal networks, organizational policies and guidelines, culture, team dynamics and implementation climate.(1)* * *INNER SETTING: B. Networks and Communications - The nature and quality of webs of social networks and the nature and quality of formal and informal communications within an organization. C. Culture - Norms, values, and basic assumption of a given organization. D Implementation climate: organizational incentives and rewards, goals and feedback, learning climate (2)* * *[Pg 230] "The organizational perspective: We recommend assessment of the organizational readiness for the program, strength of evidence base for clinical target area, proposed implementation strategy, need for coordination across departments, program usability, adaptability to local settings, trialability, reversibility and observability" (3)* * *[Pg 234] "Organizations have characteristics that affect their ability to successfully change behaviours in a clinical area. These factors need to be considered. The organization's financial and structural health and staff history, culture and morale can help predict a given intervention's fit and potential success." (3)* * *[Pg 150] Context is the environment or setting in which the proposed change is to be implemented. Context implies and understanding of the forces at work which give the physical environment a character and a feel. Context has been subdivided into 3 core elements: an understanding of prevailing culture, nature of human relationships as summarised through leadership roles and the organisation's approach to routine monitoring.(4)* * *[Pg 2] Other key aspects of context include: relevance of the innovation to the organisation and organisational fit of the innovation to organisational structures and procedures such that the innovation is more likely to be adopted. (5)* * *[Pg 3 of planning tool] What do you think will be the greatest barriers to other sites or organisations adopting this program? Do you have a system in place for overcoming these barriers? (6)* * *[Pg 177] Prevention delivery system: Organizational factors that influence implementation: Leadership, program, goals, vision, commitment, skills for planning & implementation, climate, structure, size, resource, decision making structures.(7)* * *[Pg 469] Phase 1: Assessment strategies: (1) Conducting a needs and resources assessment. Have we effectively dealt with important concerns/questions/resistance to this innovation? What possible barriers to implementation need to be lessened or removed?(8)* * *[Pg 486] Components of organisational readiness " We propose that organisational readiness has three specific and dynamic components: motivation, general capacity and innovation-specific capacity. Each component can be measured independently and thus offer a specific, actionable understanding of organisational readiness" (9)* * *[Pg 7] Table 4: Organisational factors influencing diffusion of innovation in health setting.(10)* * *[Pg 231] Organizational readiness is defined by the extent to which organizations are both able and willing to adopt new innovations. Several factors which can be addressed via the top-down approach of diffusion of innovation theory., such as relative advantage, compatibility, complexity, Trialability, observability, priority, influence motivation. Implementer should assess organizational readiness when deciding which service settings to target for adoption in order to capitalize on the general capacity of these settings for adoption. (11)* * *[Pg 28 of Appendix] Table C. 4A Summary of validated factors affecting technology diffusion - organizational level: Type and structure of organization, organizational climate, strategic positioning, inter-organizational status. (12)* * *[Additional file 6] Assess for readiness and identify barriers and facilitators: Readiness assessments may focus on agency finances, staffing levels, and other material or logistical resources needed, or available, to support the implementation effort. Further this assessment may also focus on leadership support, the organizational priority for change, and the presence of successful experience with quality improvement techniques and change management. Additional aspects for assessment may include other services provided, as well as community support, stakeholder attitudes, and beliefs and perceptions of evidence for the innovation or change. Rationale for current practices, organizational climate and culture, structure, decision-making styles, and the perceived needs of frontline stakeholders to implement the change or innovation (consider adaptation needs and limits) are also important aspects to consider in this assessment. Readiness assessments can be used to vet, eliminate, or prioritize implementation sites. More so, the assessment can help make internal decisions about whether to go ahead with an implementation initiative. Some barriers can be difficult to observe prior to implementation. Specific measures have been created to assess readiness for change, which may be useful (e.g., [1–3]).(13)* * *[Pg 8] Some antecedent characteristics of organizations have been shown to support innovation at an organizational level [1]. These include a devolved organizational structure (with each department or unit able to make semiautonomous decisions), significant organizational slack (that is, spare resources that can be channelled into new projects), and strong leadership, good managerial relations, a risk-taking climate (staff are rewarded rather than punished for trying things out), opportunities for sense making (that is, collectively arguing out the meaning of an innovation [95]), and what is known as absorptive capacity: “a set of organizational routines and processes by which [organizations] acquire, assimilate, transform, and exploit knowledge to create a dynamic organizational capacity. [Multimedia appendix 2] Domain/question: The organization What is the organization's capacity to innovate? How ready is the organization for this technology-supported change? (14)* * *[Pg 311] It may be questioned whether HTAs take sufficient account of these "organisational issues" and if this could improve the impact of an HTA to optimize the use of a health technology"]. (15)* * *[Pg 312 Table 1.] Barriers to implementation of evidence-based advice. Organisational: Training, staff experience, infrastructure, health system organisation] (15)* * *[Pg 7] From Decision to Implement stage: Are you aware of the characterises of the health system setting in which you are implementing? (Size/readiness for change?)] (16)* * *[Pg 325-6] Assessing contextual factors prior to implementation is a vital step in identifying, understanding and guarding against potential obstacles and enablers in the environment. Collaborative and supportive environments can facilitate implementation. Organizations require resilience during an implementation, and any resistance to change should be assessed, addressed and overcome. Leaders in the organization should promote a culture of safety and teamwork.] (17)* * *[Pg 149] Include factors driving adoption of medical devices systematically in HTA reports to estimate the impact of the interplay of: organizational, regional, environmental factors and manufacturers actions (18)* * *[Pg e400] 3.1.1 | Structural factors: The structural characteristics of hospitals are mentioned as an influential factor in the AMIT diffusion and in the hospitals' decision to purchase this equipment. “Factors affecting the adoption of CT and MRI machines in hospitals include: The number of beds, the medical specialties type and number in hospitals, the type of hospital (specialized or general), the type of hospital ownership (public or private), teaching status (teaching or non‐teaching), hospital revenue, the number of physicians and patients of hospital and the location” (Rep of the hospital—Head of Imaging Department).(19)* |
| Conducting a pre-implementation context analysis of various domains | * *[Fig 2 Pg. 6] Describes the various domains of the CICI generic checklist i.e. Geographical, epidemiological, socio-cultural, socio-economic, ethical, legal and political domains (1)* * *[Multimedia Appendix 2] 6A. The wider system. What is the political, economic, regulatory, professional and socio-cultural context for program roll out? (14)* * *[Pg 177] Contextualization is often the critical missing ingredient in HTAs from agencies distant from an institutional or a regional setting. At MEDICI Centre in London, Ontario, contextual factors are incorporated into the HTA process through a deliberative process of defining the "Sleepers” i.e., Social, legal, ethical, environmental, political factors; entrepreneurial/innovation value, further research needs and stickiness/sustainability factors. The “SLEEPERS” framework ensures the local decision makers consider the importance of contextual issues on the decision, which are often not addressed by the traditional evidence base, but which are potentially of great import when assessing the range of impacts and considerations inherent in deciding between different technology investment or disinvestment decisions. (20)* * *[Pg 312] However, evaluating a new technology in its specific context, including social, ethical, and organizational aspects, is what makes HTA different from other evidence-based healthcare disciplines. It is the assessment of these elements that can be most enhanced by the involvement of other stakeholders (such as patients, clinicians, industry, etc.).(15)* * *[Pg 325-6] Assessing contextual factors prior to implementation is a vital step in identifying, understanding and guarding against potential obstacles and enablers in the environment. In addition to considering microsystem characteristics , it is vital to examine the political, cultural and social settings, which can impede or promote the implementation effort. (17)* * *[Pg 149] Include factors driving adoption of medical devices systematically in HTA reports to estimate the impact of the interplay of: organizational, regional, environmental factors and manufacturers actions. (18)* * *[Pg 1518] First, the overarching system characteristics of macro-level influencers are environmental and structural features of a health care landscape, which can be modified over time, but not quickly. These characteristics include the political and legal constraints of the health care system, the macroeconomic environment and local fiscal policies, the size and structure of the system, the research environment, and information and communication technology capabilities. These system characteristics set the broad context within which health care innovators can either succeed or struggle. (21)* * *[Pg 7] Implementation approaches and impact will be evaluated according to various domains, such as: geographical, epidemiological, socio-cultural, socioeconomic, ethical, legal, political, and fiscal.(22)* * *[Pg e401] Table 2 Contextual factors : Political factors (Political pressure by the authorities for issuing purchasing license), Legal factors (Medical equipment regionalization regulations, Lack of a referral system and clinical guidelines, weaknesses of payment system), Cultural factors (Cultural differences and ethnic prejudices), Market‐related factors (Competition, Market size (population) (19)* |
| Mapping out current care pathways of the service model involving the innovation | * *[Pg 127] Table 8.1 Process A: Workflow. How is the technology applied specifically? Describe patient flow and work processes? How is the existing patient flow and work processes influenced? Process C: Interaction and communication Interaction with other parts of the structure (other treatment units and interdisciplinary functions e.g., financial management). Interactions with external actors (other hospitals, general practitioners, municipalities, pharmacies, technical consultants).* (23) * *[Pg 1] Process mapping is a well-established method of not only finding the best fit for a technology in a care pathway, but also identifying opportunities for improvement in the existing pathway. It provides an opportunity to capture each part of the patient journey in detail and to understand the technology’s potential impact on both patients and the organisation.] Rest of the document provides a guide on how process mapping should be done. (24)* |
| Aligning innovation to organisations' strategic objectives and work routines | * *[Pg 8]Compatibility: The degree of tangible fit between meaning and values attached to the intervention by involved individuals, how those align with individual's own norms, values and perceived risks and needs and how the intervention fits with exiting workflows and systems. (2)* * *[Pg 230] Organizational perspective: For an organization to accept an intervention and integrate into current work flow or practice, the innovation needs to be aligned with the organisation's mission and stage of development of translational or change capacity.(3)* * *[Pg 2] Context: Relevance to the organizational fit of the innovation to organizational structures and procedures such that the innovation is more likely to be adopted. (5)* * *[RE-AIM planning tool]: Maintenance: How will the intervention be integrated into regular practice.Adoption: Identify the organisational mission and determine how or if your program will support and promote it. [Tips to improve maintenance] Whenever possible, build upon an existing infrastructure for program delivery. Interventions should be integrated into the regular practice of the delivery organisation.(6)* * *[Pg 9, Table 3] Coherence (meaning and sense making by participants) - Will it fit with the overall goals and activity of the organisation? Collective action (the work participants do to make the trial function)- How compatible is it with existing work practices? Will it fit with the overall goals and activity of the organisation. (25)* * *(16): Innovation Characteristics: Relative advantage, Compatibility, Complexity, Trialability, Bandwagon pressures. Compatibility refers to the degree to which an innovation I perceived as being consistent with the existing values, needs and past experiences of potential adopters. (26)* * *[Pg 510] Intervention clusters - Adopters are more likely to select an intervention that is readily compatible with their organizational context and thus needs fewer adaptations of less magnitude to successfully implement. [Pg. 509] - Innovation attributes: Innovations compatibility with a potential adopter's or organization's norms and procedures. (27)* * *[Pg 127 Table 8.1] Culture : How well does the treatment go with existing routines and traditions in the organisation? (23)* * *[Pg 8-9] A specific innovation is more likely to be taken up if there is strong tension for change, good innovation system fit (that is, the innovation fits well with existing work and routines), widespread support for (and limited opposition to) the innovation, and systematic assessment of the implications. (14)* * *[Pg 596] Innovations that are compatible with the intended adopters' values, norms and perceived needs are more readily adopted. Compatibility with organisational or professional norms, values and ways of working is an additional determinant of successful assimilation. (28)* * *[Pg 326] Types of implementation A key goal is to choose the type of implementation that meets needs and is the best fit for the organization and stakeholders. Researching the evidence of the efficacy of an intervention and the context in which it is implemented can aid the decision-making process and potentially save time and resources. (17)* |
| Allocating time, resources and training to allow for system and staff adaptation to innovation | * *[Pg 176] Support system: Apart from having user-friendly information, growing body of evidence shows that adoption/implementation of innovation requires development and support for new skills through specialized training, monitoring and coaching. (7)* * *[Pg 470] Phase 1 (8) Effective pre-innovation staff training: Can we provide sufficient training to teach the why, what how when where regarding the intended innovation? (8)* * *[Pg 9] As Stewart and Williams [105] stated, "Innovation is not restricted to the prior design of an artefact, but continues as artefacts are implemented and used (innofusion). Supplier offerings are inevitably incomplete in relation to the complex, heterogeneous and evolving requirements of users; work needs to be done by specific users to incorporate these generic solutions to their particular contexts and practices (domestication)." Surprisingly, few previous frameworks in the health and social care literature have attempted to capture this insight, which partly explains why on-the-job training in technology use and ongoing helpdesk support are key to the implementation process [1]." (14)* * *[Pg 998] Factors affecting Fidelity. Factors that could be modified during training and adoption: Potentially intervenable characteristics that have been identified as associated with increased fidelity include those that increase the confidence of the individual conducting the intervention, the perceived relevance, ownership, and/or benefit of the intervention to the implementers. Examples of strategies that might increase confidence include (a) intensive in-service training that follows a set curriculum itself (compared with no training, training that is variable in nature, non-participatory training, and/or brief training); (b) less curricular discretion (e.g., a more detailed script or lesson plan); and (c) actual practice in their ability to teach the curriculum and to use interactive methods. (29)* * *[Pg 1520] It has been shown that the implementation of new practices within an established organizational structure often must entail the provision of time and space for staff to learn. In fact, the investment of time and resources to support adaptation and to change or eliminate old patterns of working can be associated with a counterintuitive fall in productivity and efficiency, at least in the short term, before later improvements occur. (21)* * *[Pg 4] Training. Studies showed that staff needs training to setup, configure, use, and disassembly new medical equipment. Training starts during the project with involved project members and based on the project plan and product requirements. Training elements are described in training programs, which entail technical and nontechnical skills. Nontechnical skills are described as skills regarding communication, teamwork, and leadership. Depending on the contents of training, staff gain experience and skills to use medical equipment and to interpret data (on screens if applicable). Skills to troubleshoot when problems occur are needed as well. Based on the type of equipment and corresponding risks, manufacturers and educators should define ways of (ongoing) training assessment. (30)* |
| Ensuring that management's support has been obtained upstream in implementation efforts | * *[Pg 9] Inner setting: Readiness for implementation: leadership engagement. Commitment, involvement, and accountability of leaders and managers with the implementation.(2)* * *[Pg 488, Table 3] Factors affecting innovation specific capacity: Specific implementation climate support: Extent to which the innovation is supported; presence of strong convincing, informed and demonstrable management support.(9)* * *[Pg. 283, Table 1] Management support is manager's commitment to conduct transformation of the organization and to invest in quality implementation policies and procedures to implement the innovation.(31)* * *[Pg 7] From Decision to Implement stage: From Decision to Implement stage: Is there buy-in from leadership that has the decision making power. (16)* * *[Pg 1373] Proactive surveillance and Confirmation of clinical opportunities Securing support from the healthcare delivery organization leadership is crucial. The leadership's willingness to allocate sufficient time and resources towards the clinical opportunity must reflect the necessary level of support. (32)* |
| Having good inter-organisational relationships between organizations contributes toward successful implementation | * *[Pg 488, Table 3]Factors affecting innovation specific capacity: Specific implementation climate support: -Inter-organizational relationships: Relationships between (a) providers and support systems and (b) between different provider organizations that are used to facilitate implementation. (9)* * *(21) Environmental Characteristics related to the socioeconomic infrastructure of the community have been shown to impact on such organizational structures. Environment factors associated with the diffusion of innovations include Collaboration among community networks, reporting relationships between top management team and local board of health, regulations, urbanization, peer pressure, competition among institutions. (26)* * *[Pg 511] Societal Sectors: i. A societal sector is a collection of focal organization, operating in the same domain without respect to proximity as identified by the similarity of their services, products or functions. ii. Organizational members share useful and valuable information among themselves across organizations to solve problems. iii. Understanding the degree to which a societal sector is integrated is a key to subsequent dissemination intervention. To know where influence flows through relational ties or through mediated specialty channels on the basis of structural similarity of potential adopters. (27)* * *[Pg 6] Table 3: Group factors influencing diffusion of innovation in health settings. Boundary spanners: An organisation is more likely to adopt an innovation if those people who have significant social ties both inside and outside the organisation are able and willing to link the organisation to the outside world in relation to this particular innovation. (10)* * *[Pg 121] The surroundings of the organisation. The surroundings can have different meanings for different organisations, especially because of the organisation’s variation of external dependencies. Consequently, it is important to pinpoint the surroundings in the introductory description of the organisation: The nature of the surroundings? (use, for instance, classical concept pairs, like simple- complex; stable-dynamic; homogeneous-heterogeneous; structured- unstructured, referring to H. Minzberg 1979) (6) The relationship with the surroundings? (use, for instance, classical concept pairs, like friendly-hostile; high dependency-low dependency (6) The main stakeholders? (professional groups, patient groups, other hospitals, regions, politicians, interest groups, etc.) (23)* |
| Ensuring the organisation has appropriate resources to implement | * *[Pg 9] Inner setting: readiness to implement: Available resources: the level of resources dedicated for implementation and ongoing operations including money, training, education, physical space and time.(2)* * *[Pg. 2] Context: adequate resources for implementation, where resources are appropriately allocated, targeted and managed.(5)* * *[Tips to improving effectiveness] Effectiveness: Assess resources available to you: prior to implementation, ensure you have sufficient resources to deliver the program.(6)* * *[Pg 175-6] Support system: General capacity building: to enhance general infrastructure, skills and motivation. E.g., writing by laws, grant writing, creating strong partnerships, developing strong leadership skills. General capacity building can take place in conjunction with implementation or as a separate activity. (7)* * *[Pg 469] Phase 1 Assessment strategies: (3) Conducting capacity/readiness assessment: To what degree does the organization/community have the will and the means to implement the innovation; (6) Building general organizational capacity: What infrastructure, skills and motivation of the organization/community need enhancement in order to ensure the innovation to be implemented with quality (8)* * *[Pg. 283, Table 1] Resource availability (that cushion of actual or potential resources which allows an organization to adapt successfully to internal pressure for adjustment or to external pressure for change in policy as well as to initiate changes in strategy with respect to the external environment. (31)* * *[Pg 231] Organizations must have the tools needed to support adoption. Organizational barriers such as funding, create apprehension about the ability to use these in clinical practice.(11)* * *[Pg 2164]: Dedicated funding for diffusion: All eight case studies showed that if there is dedicated funding for implementation, innovations are more likely to be adopted and implemented as routine. (33)* * *[Pg 326]: Organizations with limited resources obviously may struggle during an implementation process. Green and Aarons [18] observed that policymakers and clinicians rated funding and costs as amongst the most important factors in implementing evidence-based practice. In an implementation, context resources encompass much more than discretionary budgets. Organizational structure [53], managerial support [27, 33], infrastructure [10, 18], technology [54], time [35] and staff capabilities [23] are all essential resources with potential to enable or constrain implementation. (17)* |

**Domain: Stakeholder Engagement**

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| Engaging all stakeholders such as clinician champions or key opinion leaders involved in the service provision of the innovation | * *[Pg 10] "Implementation agents comprise all individuals and organisations engaged with (i) deciding to implement a given intervention, (ii) implementing this intervention or (iii) being the target or otherwise affected by an intervention. These individuals have particular personality attributes, skills, knowledge, beliefs as well as attitudes that exert their influence on implementation of an intervention."(1)* * *[Pg 11] Process: Engaging: Attracting and involving appropriate individuals in the implementation and use of the intervention through a combine strategy of social marketing, education, role modelling, training and other similar activities. Engaging members of the team tasked with implementing an intervention is an often overlooked part of implementation. [Pg 11] Champions “Individuals who dedicate themselves to supporting, marketing, and ‘driving through’ an [implementation]” [101](p. 182), overcoming indifference or resistance that the intervention may provoke in an organization. Champions actively associate themselves with support of the intervention during implementation. [Pg 11] Opinion Leaders Individuals in an organization who have formal or informal influence on the attitudes and beliefs of their colleagues with respect to implementing the intervention.(2)* * *[Tips to improve effectiveness] Include organizational partners, where possible collaborate with organizations that have similar target population. [Tips to improve implementation] Use a participatory route. Implementation: Use a participatory route. (6)* * *[Pg 469] (5): Obtaining explicit buy-in from critical stake holders and fostering a supportive community climate: Do we have genuine buy in from: leadership with decision-making power in the organization? From front line staff who will deliver the innovation? The local community (if applicable?). [Pg 469] (5):Can we identify and recruit an innovation champion? Are there one or more individuals who can inspire and lead others to implement the innovation and its associated practices? (8)* * *[Pg 9 table 3] Cognitive participation - (commitment and engagement by participants). Are the target users likely to think the intervention is a good idea? (25)* * *[Pg 488, Table 3]Factors affecting innovation specific capacity: Program champion: individuals who put charismatic support behind an innovation through connections, expertise and social influence. (9)* * *[Pg 283 Table 1]Innovation champion is a charismatic individual who throws his/her weight behind the innovation, thus overcoming the indifference or resistance that a new idea often provokes in an organization.(31)* * *(28) Decision: Recent work in Canada indicates that decisions are made based on the values and beliefs of those making the decision, individual experiences, stakeholder interests and "evidence". Ongoing involvement of relevant decision-makers in the conceptualization and conduct of a research study is best predictor of utilization. (12) Knowledge: Extent to which organization becomes knowledgeable is dependent on dissemination strategies. Most effective methods include academic detailing, audit, feedback and use of opinion leaders. Strategies that involve 1-1 contact are more effective in facilitating research compared to group strategies. (26)* * *[Pg 513] Although knowledge is often gained though the largely one way communication of information, persuasion occurs through the two-way communication of social influence, most commonly in the form of local informal opinion leaders who are embedded in social networks.(27)* * *[Pg 253] Principle 10: Those conducting HTAs should actively engage all key stakeholder groups .This is likely to result in technology assessments of higher quality that is more widely accepted and stand a greater chance of being implemented. (34)* * *[Pg 6] Table 3: Group factors influencing diffusion of innovation in health settings. Champions: The adoption of an innovation by individuals in an organisation is more likely if key individuals in their social networks are willing to support the innovation. Opinion leaders: Expert opinion leaders exert influence through their authority and status, and peer opinion leaders exert influence through their representativeness and credibility. (10)* * *[Pg 226] Stage 1: Optimize technology-enhanced services for adoption and use: Involving clinician stakeholders from diverse backgrounds including a range of service settings, educational background and expertise will account adoption in different settings and widespread feasibility of adoption use. [Pg 231] Innovation champions can also work with organizations to foster openness and promote climates more amenable to adoption. The innovation champion can and should work to build internal support by training select clinicians to be "master users" who can then provide ongoing support other staff and clinicians on site. (11)* * *[Pg 12] The nature of stakeholder involvement at different stages of the process can affect the decisions made and the outcomes. A study on the adoption of new technologies for infection prevention and control (IPC) by NHS organisations54 produced a number of pertinent findings. Stakeholder involvement at initiation impacted on which technologies and IPC areas were considered. Those involved in the adoption decision influenced how the technologies were critiqued and what was finally selected. [Pg 14] Champions may be effective in spreading a new technology in their immediate locale, but not necessarily more widely. (35)* * *[Pg 126] Surroundings. Here one typically moves into a (defined) stakeholder analysis. Depending on the nature and complexity of the health technology one has to select the stakeholders that are particularly relevant for, as well as task and resource dependent on, the HTA project. Some typical stakeholder groups would be: various professionals in the secondary health care sector (nurses, physiotherapists, physicians, etc.) various professionals in the primary health care sector (district nurses, social workers, general practitioners, etc.) pharmacies and pharmacists municipal and regional players from the political/administrative levels managements at various levels (department managements, hospital managements) other departments, other hospitals stakeholder organisations (unions, patient groups) the pharmaceutical industry. (23)* * *[Pg 12] There should be contact with the primary clients (decision makers) early in the assessment process and while the project is in progress. It is necessary to maintain a dialogue. [Pg 13] The Ambassador Program concept was developed in Sweden by SBU to help initiate changes in clinical practice. Well-known local opinion leaders, often physicians in clinical practice, disseminated SBU reports and also served as representatives of their County Councils in influencing clinical practice.7 Activities of the ambassadors included arrangement of local workshops within their counties for disseminating information about reports. The Ambassador Program approach has also been used in Alberta with an initial focus on management of chronic, non-cancer pain. (36)* * *[Additional file 6] Provide ongoing consultation: Ongoing consultations could include in-person or distance consultation and feedback on taped clinical encounters. Consultations are tailored to the clinician’s actual practice, thus, differentiating a consultation from ongoing trainings. Feedback may be from a consultant external to the organization, which distinguishes consultation from clinical supervision. Some practice changes can involve a recertification process, thus, involving consultation ensures adequate fidelity. Consultation may also be necessary for non-clinical staff such as administrators and those responsible for billing, constructing feedback systems, or other staff with duties that impact the implementation process. [Additional file 6] Identify and prepare champions: This strategy includes preparing individuals for their role as champions. Champions are primarily internal to the organization. Additional issues raised include the need for guidance regarding: a) Methods and considerations related to the selection and identification of champions. Social network theory and methods may be useful in this regard, b) Training and or providing champions support materials, c) Addressing incentives or disincentives to the champion role, d) Whether there are needs for champions at different levels of an organization (e.g., clinic, region, national). Champions are often distinguished from opinion leaders. Opinion leaders may be considered more of an objective third party with relevant expertise. [Additional file 6] Inform providers identified by colleagues as opinion leaders or ‘educationally influential’ about the clinical innovation in the hopes that they will influence colleagues to adopt it. The opinions of individuals who refer people to services, or who initiate the connection to services also function in a key opinion role. Keeping opinion leaders informed from pre-implementation through maintenance of the clinical innovation is important. Ensuring that opinion leaders do not serve as implementation obstacles if they are not actively promoting the innovation is also important. (13)* * *[Pg 8] Local champions appear key to persuading their peers that the technology-supported service is effective, safe, and “normal” (ie, professionally appropriate). [Pg 10] Local champions are likely to be key to participatory and developmental approaches; they should be identified early and partnered over time.(14)* * *[Pg 603] Champions - the adoption of an innovation by individuals in an organization is more likely if key individuals in their social networks are willing to support the innovation. The different champion roles for organizational innovations include: The organizational maverick, the transformational leader, the organizational buffer, the network facilitator. [Pg 602 Expert opinion leaders exert influence through their authority and status, and peer opinion leaders exert influence through their representativeness and credibility. (28)* * *[Pg 177] It is crucial that local HTA is methodologically sound and based on a systematic, transparent and participatory process. To achieve this, numerous Canadian local HTA programs engage stakeholders throughout the HTA process. Integrating local stakeholders and end-users ensures that the recommendations reflect the multidisciplinary perspectives and contextual considerations of those who will be using the technology. (20)* * *[Pg 560] This case study suggests that stakeholder involvement is both feasible and worthwhile throughout HTA. Stakeholders’ experience and expertise can help to identify key issues in the field; inform the focus of the assessment (e.g., interventions, comparators, questions, and sub questions), provide evidence and assist the interpretation of the evidence. Furthermore, stakeholders can highlight applicability issues and potentially contribute to decision making. The immediate benefit for HTA researchers and stakeholders themselves is potentially more widely realized after decision makers have agreed the action, if any, required. Challenges to stakeholder involvement relate to ensuring inclusivity, especially for patients and the public, and overcoming resource limitations, notably with regard to the time required for such activities in some assessments. (37)* * *[Pg 427] Stakeholder Engagement: Ensuring appropriate stakeholder engagement in the development of a HTA is important to the integrity of the process, the quality of the outputs, and acceptance of the findings (18). Stakeholder engagement facilitates the generation of relevant, transparent, and effective advice providing quality assurance of both the process and content of the HTA. It also allows the creation of a shared understanding and acceptance of the findings. [Pg 429] One to one interaction with key stakeholders, engagement with the Expert Advisory group, use of public and targeted consultation and positive media management facilitated acceptance of the message among those responsible for implementation and support of uptake of the HTA advice. Appropriately tailored stakeholder engagement is integral to the impact of HTA. (38)* * *[Pg 312] An HTA report should be relevant, timely, with up-to-date evidence, produced by means of transparent procedures and easy to interpret. To achieve this, all stakeholders should be actively involved in the HTA process. It is the assessment of these elements that can be most enhanced by the involvement of other stakeholders (such as patients, clinicians, industry, etc.) (15)* * *[Pg 7] From Decision to Implement stage: From Decision to Implement stage: Do you have "innovation champions" / "assertive strong leaders" to catalyse implementation of innovation. (16)* * *[Pg 1374] During this localization step, the implementation team should include clinical providers (e.g. physicians, nurses, social workers) and facilitate administrators with knowledge of the financial implications of the clinical opportunity and the selected evidence-based solution. (32)* * *[Pg 245] 2. Involvement of relevant stakeholders in the HTA process. Some of the groups believed that this principle should be implemented immediately because it is seen as essential to legitimize the HTA and decision-making processes and thereby reduce the risks of conflicts and/or judicial appeals. Moreover, the involvement of stakeholders (including patients, users, health professionals, decision makers and other interested groups such as industry) is important from the very beginning of the HTA process. (39)* * *[Pg 326] Leverage: Beyond resources, successful implementation is more likely if leverage and enablers are harnessed. Opinion leaders, champions and change agents can assist adoption and diffusion. Champions are more effective at implementing technologies than more general ‘behaviour’ change, particularly in organizations where professional relationships are poor. (17)* * *[Pg 149] Concentrate on the identification of key opinion leaders in hospital to better understand the adoption and the diffusion process. (18)* * *[Pg 7] The interactions with stakeholders have been recognized as helpful in identifying the needs, interests and values of patients, practitioners and decision-makers, and understanding the professional, organizational, social and cultural contexts in which they evolve. Varvasovsky and Brugha [26] (p. 341) define stakeholders as “actors who have an interest in the issue under consideration, who are affected by the issue, or who - because of their position - have or could have an active or passive influence on the decision-making and implementation processes. (40)* * *[Pg 1518] ▸Identifying and supporting champions: Strong leaders in the form of “champions” who believe in a vision of improvement and innovation can be a powerful force in eliciting systemwide social and cultural change. Leaders who use the principles of inclusion and effective communication can catalyse workforce engagement and have an enabling effect on the introduction of new practices and innovations across multiple levels of a system. (21)* * *[Pg 6] Throughout the review process, health system leaders and relevant stakeholders provide clinical, administrative, operational and implementation expertise, as well as advice on the conduct of the review, interpretation of findings, proposed policy options, and implementation. Stakeholders are engaged early and often throughout the process to ensure that findings and recommendations are accurate, relevant, and reflective of the Alberta context. [Pg 1] To support successful implementation, the Department will identify, prior to undertaking a review, the appropriate operational, clinical, and financial health system leaders who are able to champion change in the relevant area(s) and then work with them throughout the process. (22)* * *[Pg e401] Table 2 Key actors and stakeholders- MoH role - (Decision making on the adoption of AMITs in the country based on HTA studies, Issuing license for purchasing AMITs, License for importing AMITs into the country), Vendor companies' role - (Use of different marketing methods, Financial assistance to applicants for purchasing CT and MRI machine), Insurer organizations' role - (Reluctance in contracting with hospitals, imaging centres, and physicians; Utilization control of advanced imaging services by payment based on a referral system and clinical guidelines), Physicians' role -(Demand for CT and MRI machines, Induced demand for CT and MRI services, Physicians' dual practice) (19)* * *[Pg 110] Broadly implementation agents comprise all individuals engaged with deciding to implement a given object (e.g. funders, administrators), implementing a given object (e.g. providers, advocates) or being the target or otherwise affected by that same object. Indeed as an intervention is adopted and used by individuals within a unit, organization, community or system these individuals are also key stakeholders and at as active agents whose buy-in is critical for successful implementation as opinion leaders, internal implementation leaders, champions and external change agents.(41)* |
| Customizing implementation efforts according stakeholders’ needs | * *[Pg 10] Implementation plans can be evaluated by the degree to which five considerations guide planning; b. Strategies are tailored for appropriate subgroups (professional, demographic, cultural, organizational)* (2) * *[Pg 255] Principle 14: HTA findings need to be communicated appropriately to different decision makers. Given multiple audiences, HTA findings, effective communication strategies need to be developed to meet the needs of different users.(34)* * *[Pg 243] The use of diverse dissemination strategies. A variety of communication tools and dissemination strategies is sometimes used in order to multiply the entry points to different stakeholders. For example, in one case, the results were presented, in person, to all concerned stakeholders. A CD containing the results was sent to the hospitals’ professional services. A scientific article was published in a medical journal [29], which gave great credibility to the results. The team has collaborated with renowned experts and leaders throughout Canada and participated in many conferences.* (39) * *[Pg 32] Implementation efforts need to be tailored to the needs of the parties involved, as clinicians, administrators, policymakers and external stakeholders will likely have differing priorities for the implementation effort. Green and Aarons noted that clinicians involved in direct practice rate the impact of the implementation on clinical practice significantly more highly than do policymakers. Customizing the implementation to different stakeholders’ needs may promote more positive attitudes towards the implementation.* (17) * *[Pg 8] Dissemination mechanisms for the HTA findings will be tailored to the specific needs of the client and other target audiences, as well as the intended purpose of the evidence (to inform, support, provoke or motivate improvements.* (22) |

**Domain: Information Dissemination**

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| Employing diverse and intelligent strategies to disseminate information e.g., Knowledge translation tools | * *[Pg 2] Facilitation is a discrete intervention, knowledge translation strategy. (5)* * *[Pg 175] Synthesis and Translation System (Process of compiling and summarizing information about innovations is synthesis, and is accomplished by a variety of methods: evidence synthesis, systematic review, integrative review, meta-analysis). 1. When information about innovations is accessible, user friendly and clearly demonstrates utility of innovations, likely hood of successful dissemination/implementation of innovation is increased. The prevention synthesis and translation system works to distil information generated through research and to prepare it for dissemination and implementation in the field. The primary activities of this system are to synthesize existing research and translate it of ruse by practitioners.(7)* * *(12) Knowledge: Extent to which organization becomes knowledgeable is dependent on dissemination strategies. Most effective methods include academic detailing, audit, feedback and use of opinion leaders. Strategies that involve 1-1 contact are more effective in facilitating research compared to group strategies. (26)* * *[Pg 507] Gross reporting on the diffusion of hybrid seek corn in two American farming communities (Ryan & Gross, 1943). This seminal article set the paradigm for many hundreds of future diffusion studies by emphasizing individuals as the locus of decision, adoption as the key dependent variable, the key role of a centralised change agency that employed change agents, the importance of different communication channels for different purposes at different times in the individual innovation- decision process. (27)* * *[Pg 230] For evidence-based treatments, more broadly, solely targeting clinician education and training has historically not promoted sustainable adoption of evidence-based treatments. As such, Gallo et al. (2013) proposed direct-to-consumer marketing strategies to promote evidence-based practice adoption, including using the Internet, offering local information sessions, and increasing media coverage to disseminate information about evidence-based interventions to consumers. Dissemination and implementation literatures in general also highlight the need for both push and pull strategies; therefore, direct-to-consumer marketing (a pull strategy) should work to create a demand and further incentivize clinicians and organizations to adopt these strategies.(11)* * *[Pg 13] Mail-outs and presentations in journals are relatively inefficient and may not be timely, although publication in relevant journals may be a good conduit to the appropriate audience. Use of the Internet offers advantages of speed of transmission, and potential for dialogue. A mixed strategy may be appropriate, using several approaches, but will tend to be demanding of resources and expertise. (36)* * *[Pg 148] Diffusion and use of knowledge in healthcare: Dissemination methods must depend on recipient of information and how individual uses information to make decisions. Hence, methods must be developed with awareness of such factors.(42)* * *[Pg 612 Diffusion and Dissemination - Formal dissemination program. When a planned dissemination program is used for the innovation (e.g. led by a change agency), it will be more effective if the program organizers (1) take full account of the potential adopters' needs and perspectives, (2) tailor different strategies to the different demographic, structural and cultural features of different subgroups (3) use a message with appropriate style, imagery, metaphors and so on and (4) identify and use appropriate communication channels and milestones. (28)* * *[Pg 314 There is clearly a need for “intelligent dissemination” of HTA findings, contextualizing the HTA for different audiences and ensuring that those audiences receive, understand, and can use the information, all of which may be achieved with evidence-based approaches. (15)* * *[Pg 8] The use of diverse dissemination strategies. A variety of communication tools and dissemination strategies is sometimes used in order to multiply the entry points to different stakeholders. For example, in one case, the results were presented, in person, to all concerned stakeholders. A CD containing the results was sent to the hospitals’ professional services. A scientific article was published in a medical journal [29], which gave great credibility to the results. The team has collaborated with renowned experts and leaders throughout Canada and participated in many conferences. (40)* * *[Pg 8] Potential dissemination mechanisms will include:*   + *Research and summary reports: All HTA and reassessment reviews will yield a formal paper outlining research objectives, methods, findings, discussion, and options for next steps. A summary report of findings and policy options will also be produced for expeditious knowledge translation and absorption. Dissemination and consultation: Throughout the HTA process and at the conclusion of the formal report, the Department and HTA Partner will hold presentations, meetings, and consultations with clients, health system leaders, and other relevant stakeholders. In-person dissemination, where possible, will facilitate critical knowledge translation and encourage discussion of implementation considerations to assist change management. Online distribution: Where appropriate, HTAs and other evidence products will be housed online to disseminate information to interested parties and the public.*   + *Project-specific KT tools: Where the intention of the HTA is to produce evidence that will provoke a change in provider behaviours and practices, evidence-based tools (e.g. infographics) will be developed to support knowledge translation and change management. These tools may be provided directly to frontline providers. This mechanism may be particularly useful for sub-populations that would benefit from concise, rapidly interpretable materials and or large, wide-spread and semi-autonomous audiences (e.g. physicians). (22)*   + *[Pg 4 ] Communication with relevant stakeholders is one of the factors to prevent errors when introducing new technological equipment. )e use of updated checklists is described as one of the communication tools, which regulate activities and the workflow for stakeholders such as surgeons, anaesthesiologists, and surgical supporting staff. Use of these updated checklists contributes to improved safety in the OR. (30)* |
| Producing an adoption toolkit as part of dissemination materials | * *[Tips to improve implementation] Provide resources to implement the program (Develop a detailed resource and implementation manual). (15)* * *[Additional file 6] Develop educational materials. Develop and format manuals, toolkits, and other supporting materials in ways that make it easier for stakeholders to learn about the innovation and for clinicians to learn how to deliver the clinical innovation. Create eye-catching, easy-to-use educational documents. Distil complex information into easier-to-learn components. Consider teaching skills modularly. Use different forms of media, and target messages for different audiences. Educational materials should reflect principles of adult learning theory. Assessment of current, available technology infrastructure to accommodate educational media (e.g., firewalls, old hardware, old software) is merited. Consider how the educational materials will be used over time. For example, will the educational materials’ primary use be to train new or rotating staff; or to refresh staff knowledge; or to be incorporated into existing supervision, competency, and performance review structures. Educational materials may be refined through the use of formative evaluation feedback. (33)* * *Process guide for adoption support, working example. (42)* |
| Including informal networks for bottom-up dissemination | * *[Pg 95] However, as noted above, local, practice-based, peer-mediated networks diffused best practice on clinical technologies better than centralised policy guidance so there seems to be good potential for AHSNs to link bottom-up adoption with top-down national policy processes; however, other linkages may also be necessary. (36)* * *[Pg 601] Network structure. The adoption of innovations by individuals is powerfully influenced by the structure and quality of their social networks. Doctors for example, tend to operate in informal, horizontal networks and nurses more often have formal vertical networks. Different networks have different uses for different types of influence. For example, horizontal networks are more effective for spreading peer influence and supporting the construction and reframing of meaning; vertical networks are more effective for cascading codified information and passing on authoritative decisions. (31)* * *[Pg 325] Burnett et al. found that a ‘bottom-up’ approach was associated with a high level of organizational readiness. In another study, a ‘bottom-up’ approach in the implementation of chronic obstructive pulmonary disease management programmes led to significant improvements on various quality-of-life measures. But other research recommends a hybrid of ‘top-down’ and ‘bottom-up’ approaches. In such ‘middle-out’ approaches, the implementation effort benefits from high-level leadership and support with local autonomy. (21)* |
| Having a dedicated unit within the organisation responsible for implementation | * *[Pg 10] Implementation agents: An implementation effort can be promoted and facilitated by single implementation leaders and/or implementation teams. Implementation agents/teams that are actively involved in funding, administering or implementing an intervention are usually embedded in an organisation that critically influences their attitudes and behaviours. Relationship between organization and team that can influence one another. (1)* * *[Pg 11] Formally appointed internal implementation leaders Individuals from within the organization who have been formally appointed with responsibility for implementing an intervention as coordinator, project manager, team leader, or other similar role. (3)* * *[Pg 237] “Implementation and sustainability infrastructure: Successful implementation requires carefully crafted infrastructure. QI literature suggests the following success factors: (i) A dedicated team for implementation as opposed to addition of unrealistic new work expectations for already committed staff". (8)* * *[Pate 152] Facilitation is a technique by which on person makes things easier for others. Facilitators are seen as people who make things easier, help others towards achieving particular goals, encourage others and promote action. (20)* * *[Pg. 470] (9) Phase 2: creating a structure for implementation Creating implementation teams: Who will have organizational responsibility for implementation? Can we develop a support team of qualified staff to work with front-line workers who are delivering the innovation? Can we specify roles, process and responsibilities of these team members? (9)* * *[Pg 507] Gross reporting on the diffusion of hybrid seek corn in two American farming communities (Ryan & Gross, 1943). This seminal article set the paradigm for many hundreds of future diffusion studies by emphasizing individuals as the locus of decision, adoption as the key dependent variable, the key role of a centralised change agency that employed change agents, the importance of different communication channels for different purposes at different times in the individual innovation- decision process. (14)* * *[Pg 1016] Box 2 Summary: Establish a '3S' scale up system (1) A structure of people and groups at different management levels accountable for achieving scale up, with a reporting and review process. (44)* * *[Pg 4 Multiple articles mention the allocation of a multidisciplinary team as one of the necessary factors for the implementation of new technology, as different perspectives to the implementation are addressed. Examples of these perspectives are change management, simulations, and stakeholder management] (26)* |

**Domain: Implementation Outcomes and Evaluation**

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| Having a clear implementation strategy prior to execution | * *[Pg 10] "The fundamental objective of planning is to design a course of action to promote effective implementation by building local capacity for using the intervention, collectively and individually." "Implementation plans can be evaluated by the degree to which five considerations guide planning i.e. if stakeholders needs and perspectives are considered, strategies are tailored for appropriate subgroups, appropriate style, imagery and metaphors are identified and used for delivering information and education, appropriate communication channels are identified and used, progress towards goals and milestones is tracked using rigorous monitoring and evaluation methods and strategies are used to simplify execution". (3)* * *[Pg 470] (10): Developing an implementation plan: Can we create a clear plan that includes specific tasks and timelines to enhance accountability during implementation? (9)* * *[Pg 6] Table 3: Group factors influencing diffusion of innovation in health settings. When a planned dissemination program is used for the innovation, it will be more effective if it takes potential adopters' needs and perspective into account, uses strategies to match demographic, structural and cultural features of subgroups, uses appropriate style, imagery and communication channels and incorporates rigorous evaluation and monitoring of defined goals and milestones. (19)* * *[Pg 85] NTAC introduced a structured implementation schedule including meetings, presentations and awaydays, the formality of these processes imposed a dynamic that gave implementation an additional impetus alongside the day-to-day clinical use of the technology concerned. (36)* * *[Pg 148] At the time of the EUR-Assess report, a survey of HTA agencies showed that only 4 of 18 European agencies surveyed had an explicit strategy for dissemination, implementation and evaluation activities. [Pg 149] A report for INAHTA suggests appropriate methods of dissemination. The report states that it is necessary to build in a consideration of dissemination needs from the beginning of a report. (43)* * *[Additional file 6] Develop a formal implementation blueprint. Develop a formal implementation blueprint that includes all goals and strategies. The blueprint should include: 1) aim/purpose of the implementation; 2) scope of the change (e.g., what organizational units are affected); 3) timeframe and milestones; and 4) appropriate performance/progress measures. Use and update this plan to guide the implementation effort over time. Ancillary Material: The implementation blueprint or manual may be informed by one or more theories or conceptual frameworks and/or data from pre-implementation needs assessments. This blueprint can also provide a useful historical record of the implementation process, as well as provide a mechanism to track changes over time. The implementation blueprint is often useful to ensure feedback is received from prospective frontline users of the blueprint prior to implementation. Consider coordinating this strategy with the development of a fidelity monitoring tool. (33)* * *[Pg 13] The last question in domain 5 concerns the work involved in implementation. All 6 case studies affirmed previous research that such work is extensive, often hidden and typically underestimated at the planning stage. Multimedia appendix 2: What work is involved in implementation and who will do it. (6)* * *[Pg 2162-63] There is increasing acknowledgment around the world of societies’ failure in what Jim Yong Kim, president of the World Bank, has called the “science of delivery,” or “the design, execution and demonstration of results.”14 A recent publication by Sir Michael Barber—who served from 2001 to 2005 as chief adviser on delivery and as head of the Prime Minister’s Delivery Unit for Tony Blair, then prime minister of the United Kingdom—underscores the need to have a clearly managed plan and program for implementing large-scale change within health systems. (29)* * *[Pg 1373 -74] Localizing the selected solution: The success of introducing evidence-based solutions in to the daily operation of any complex adaptive healthcare delivery organization relies heavily on localization of the content (i.e., tailoring the content to the local environment and setting), delivery processes and the desired outcomes of the selected evidence-based solutions. (24)* * *[Pg 325] Designing an implementation strategy should be a collaborative and coordinated effort between all stakeholders involved in the initiative. According to this logic, it is important to develop realistic timetables, clearly define the roles and responsibilities of the stakeholders in the early stages of the implementation, and champion an explicit implementation strategy. (21)* * *[Pg 4] Involved, executing various protocolled tasks and activities. Implementation of new technological equipment as a project requires management to achieve predetermined goals. Identified elements for project management regard the identification of stakeholders, defining the purpose of the project, as well as benefits and gains. A project plan and planning are considered to be part of this category. During the process of implementation, team members are identified to execute a project plan. (26)* * *[Pg 1016] Box 2 Summary: Establish a 3S scale up system: (2) a strategy of actions and tasks that these people with positions in the structure are responsible for undertaking and a plan with timetable and milestones.* (43) |
| Ensuring interventions are adaptable | * *[Pg 6] I. Intervention characteristics. D Adaptability: The degree to which an intervention can be adapted, tailored, refined, or reinvented to meet local needs. Interventions can be conceptualized as having "core components" (the essential and indispensable elements of the intervention). An "Adaptable periphery". (2)* * *[Pg. 469] (4): Possibility for adaptation. Should the planned innovation be modified in any way to fit the host setting and target group. (9)* * *[Pg 6] Table 2: Individual factors influencing diffusion of innovation in health settings. Fuzzy boundaries: Complex innovations in service organizations can be conceptualised as "hard core" (irreducible elements of the innovation) and a "soft periphery" (organisational structures and systems required for full implementation); the addictiveness of the "soft periphery" is a key attribute of the innovation. (19)* * *[Additional file 6] Promote adaptability. Identify the ways a clinical innovation can be tailored to meet local needs and clarify which elements of the innovation must be maintained to preserve fidelity. Preserving fidelity to the innovation can be an uncertain process if the core elements of the innovation are not empirically defined. (33)* * *[Pg 10 Chambers et al’s dynamic sustainability. framework recognizes that, in order to be sustained, an innovation must adapt to its unique local environment and evolve over time, echoing Hawe et al’s conceptualization of interventions as “events in [complex] systems”. Several other recently published technology implementation frameworks have embraced complexity theory and argued strongly for a developmental, contextualized, and adaptive approach. Because adaptation is key to embedding, inflexible milestones and overzealous measures of fidelity should be avoided. (6)* * *Pg 2165: Phase 3: Implementing And Sustaining The Changes: In the third phase of change, adaptation of the innovation to reap local benefits, continued monitoring of progress and impact, and consolidation of gains to embed change in the culture of the system are all crucial. (29)* |

**Domain: Implementation Strategy**

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| Evaluating implementation outcomes | * *[Pg 10] Implementation outcomes: implementation outcome is the result or implication of the implementation effort and forms part of good monitoring/evaluation practices. Important implementation outcomes are adoption, uptake, acceptability, implementation cost, penetration, sustainability and dissemination to another context. Table 5: Which implementation outcomes are reported? How do these implementation outcomes interact with the intervention outcomes? (1)* * *[Pg 11] Process: Reflecting & Evaluating Quantitative and qualitative feedback about the progress and quality of implementation accompanied with regular personal and team debriefing about progress and experience. It is important to differentiate this processual construct from goals and feedback under inner setting, described above. The focus here is specifically related to implementation efforts. Evaluation includes traditional forms of feedback, such as reports, graphs and qualitative feedback and anecdotal stories of success. Dedicating time for reflecting or debriefing before, during and after implementation is one way to promote shared learning and improvements along the way. (3)* * *[Pg. 237] Implementation and sustainability infrastructure: Successful implementation requires carefully crafted infrastructure. QI literature suggests the following success factors: (ii) Routine performance measurement and data sharing. (8)* * *[Pg. 151] Figure 3, B. Context measurement. Figure 3 of paper. B. Context: Measurement: Low (absence of audit & feedback, peer review, external audit, performance review of junior staff) vs High (Internal measures used routinely, audit or feedback used routinely, peer review and external measures). (20)* * *[Planning tool] Effectiveness: have you come to an agreement with key stakeholders about how you will define and measure success? List the measurable objectives that you wish to achieve in order to complies your goal. (15)* * *[Pg 470] (12) Process evaluation: Do we have a plan to evaluate the relative strengths and limitations in the innovation's implementation as it unfolds over time? Data are needed on how well different aspects of the innovation are being conducted as well as the performance of different individuals implementing the innovation. (9)* * *[Pg 254] Principle 12: The implementation of HTA findings need to be monitored. This ensures original investment in conducting HTAs is valuable and to ensure that findings are being implemented in a fair and even-handed manner. (34)* * *[Additional file 6] Develop and implement tools for quality monitoring. Develop, test, and introduce into quality-monitoring systems the right input—the appropriate language, protocols, algorithms, standards, and measures (of processes, patient/consumer outcomes, and implementation outcomes) that are often specific to the innovation being implemented. These tools should be flexible enough to reflect fidelity, even after adaptations to the setting or client. Performance sites can benefit when these tools are available locally, particularly to help clinicians develop a sense of ownership for the change process. Quality monitoring tools can be coordinated with other strategies to encourage or reward performance that is in alignment with the clinical innovation. See Krein et al. [11] for an example of this process. (33)* * *[Pg 612] Implementation and Routinization - Feedback. Accurate and timely information about the impact of the implementation process (through efficient data collection and review systems) increases the changes of successful Routinization. (31)* * *[Pg 2165] Phase 3: Implementing And Sustaining The Change: In the third phase of change, adaptation of the innovation to reap local benefits, continued monitoring of progress and impact, and consolidation of gains to embed change in the culture of the system are all crucial. (29)* * *[Pg 313] Monitoring may be generically described as a set of tools for generating and collecting data on health technologies from the time they are introduced to the healthcare system. The information arising from such monitoring activities could be used to refine technology utilization, in terms of methods of use, the setting, patient selection and concordance, or for staff training] (16)* * *[Pg 1374] The implementation team should establish a timeline and specific criteria for evaluating the success or failure of each iteration of the localization effort. These criteria should be based on past research, program and organizational goals, and overall effect on patients and the healthcare organization and, at a minimum, should include measurements of progress in the implementation process, fidelity to the evidence-based intervention, cost, and clinical outcomes. The implementation team should establish a timeline and specific criteria for evaluating the success or failure of each iteration of the localization effort. These criteria should be based on past research, program and organizational goals, and overall effect on patients and the healthcare organization and, at a minimum, should include measurements of progress in the implementation process, fidelity to the evidence-based intervention, cost, and clinical outcomes. To support sustainability, the performance feedback loop should be expanded beyond the factors critical to early success to include data necessary to monitor the long-term, system-wide effect of the implemented solution. (24)* * *[Pg 326] There should be systematic evaluations of an implementation, and benchmarking can be adopted to help judge progress. (21)* * *[Pg 8] The inclusion of a monitoring process. Two of the projects have led to the implementation of a form of monitoring since their publication. In one case, the project was designed in such a way that a second evaluation could be planned to measure, two years after the first study, the progress with time delays to treatment. In the other case, ongoing cooperation mechanisms with all the key stakeholders of a network of services for a specific health condition were put forward in order to exchange new evidence and decisional algorithms. The efficiency of this network relies on a tight and constant follow-up of the implementation of measures and adjustments. A Website was created to monitor the activities and performance of services, to provide access to articles and references in the field, and to publish the validated protocols in the network. For each data update, posters of decisional algorithms were transmitted to all concerned centres and regional agencies. (40)* * *[Pg 1016] Box 2 Summary: Establish a 3S scale up system: (3) Supports: systems and facilitation for information and expertise, including monitoring and evaluation data with analysis to support regular reviews so as to make corrections during the scale up. (44)* |
| Having an appeals or feedback mechanism for stakeholders. | * *[Tips to improve effectiveness] Solicit ongoing feedback from your target population. (15)* * *[Pg. 470] (13): Support feedback mechanism: Is there an effective process through which key findings from process data related to implementation are communicated? How will process data on implementation be shared with all those involved in the innovation? (9)* * *[Pg 10, table 3] Reflexive monitoring: Can users/staff contribute feedback about the intervention once it is in use? (22)* * *[Pg 245] 3. Existence of a mechanism for appeals. These mechanisms allow different stakeholders to appeal the results of decisions make as part of the HTA process. Some participants agreed that this is not a complex matter and should be implemented without delay because in many countries it should already be part of every administrative act. However, other participants viewed this matter as complex and possibly a negative influence on the process by leaving it exposed to unfounded appeals and weakening the recommendations of the ministry or agency. (35)* |

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