

# Monitoring and Evaluating Guideline Implementation

Organizations implementing the recommendations in this Guideline are encouraged to consider how the implementation and its impact will be monitored and evaluated. **Table 10** is based on a framework outlined in RNAO's *Toolkit: Implementation of Best Practice Guidelines (2nd ed.)*.<sup>203</sup> It provides some examples of monitoring and evaluation indicators (categorized as structure, process and outcome indicators) to determine the impact of implementing this Guideline. It also includes information on tools or resources to aid monitoring and evaluation.

**Table 10. Structure, Process, and Outcome Indicators for Monitoring and Evaluating This Guideline**

eHEALTH MONITORING AND EVALUATION INDICATORS			
Structure	Process	Outcome	Tools
<b>Recommendations 1.1-1.2</b>			
<ul style="list-style-type: none"> <li>■ Executive leadership established a formalized governance structure with roles, responsibilities, and sponsorship to guide and support all phases of the implementation of the eHealth solution.</li> </ul>	<ul style="list-style-type: none"> <li>■ Governance structure established with diverse representation (e.g., interprofessional and cross-functional) and clearly delineated roles and responsibilities.</li> </ul>	<ul style="list-style-type: none"> <li>■ Governance structure supports successful implementation of the eHealth solution.</li> </ul>	<ul style="list-style-type: none"> <li>■ Sample governance structures (see pages 31-32 and <b>Appendix E</b>).</li> </ul>
<b>Recommendation 1.3</b>			
<ul style="list-style-type: none"> <li>■ Organization implemented policies and procedures to support a comprehensive organizational readiness assessment in the early planning phase.</li> </ul>	<ul style="list-style-type: none"> <li>■ Organization completed a readiness assessment that included individual, organizational, and technical dimensions.</li> <li>■ Organization addressed all gaps identified.</li> </ul>	<ul style="list-style-type: none"> <li>■ Organization demonstrated individual, organizational, and technical readiness.</li> </ul>	<ul style="list-style-type: none"> <li>■ Standardized organizational readiness assessment tool (see page 34 and <b>Appendix F</b>).</li> </ul>
<b>Recommendation 1.4</b>			
<ul style="list-style-type: none"> <li>■ Organization implemented policies and procedures that support a rigorous vendor selection process with active involvement of the appropriate individuals (e.g., working group of the executive steering committee and diverse end user groups).</li> </ul>	<ul style="list-style-type: none"> <li>■ Organization identified a diverse team that completed the "Steps in the eHealth Solution Selection Process" (see <b>Table G1 in Appendix G</b>).</li> </ul>	<ul style="list-style-type: none"> <li>■ The eHealth Solution selected supports the requirements of the organization and the end user groups.</li> </ul>	<ul style="list-style-type: none"> <li>■ eHealth solution selection resources (<b>Appendix G- Tables G2, G3 and G4</b>).</li> <li>■ Structured evaluation guide (e.g., HIMSS usability evaluation guides).<sup>124,191</sup></li> </ul>

Structure	Process	Outcome	Tools
<b>Recommendation 1.5</b>			
<ul style="list-style-type: none"> <li>■ Organization implemented policies to support contract management, informed by the project steering committee.</li> </ul>	<ul style="list-style-type: none"> <li>■ Contract negotiation was informed by the project steering committee with input from the interprofessional and cross-functional eHealth solution selection team, as needed.</li> </ul>	<ul style="list-style-type: none"> <li>■ Organization's licensing agreement included all items on the contract checklist and structured evaluation guide.</li> <li>■ Satisfaction with the contract among stakeholders (e.g., senior management, interprofessional and cross-functional, contract negotiation team, and vendor).</li> </ul>	<ul style="list-style-type: none"> <li>■ Contract Negotiation Resources (<a href="#">Appendix H</a>).</li> <li>■ Stakeholder survey instrument.</li> </ul>
<b>Recommendations 1.6-1.11, 1.14</b>			
<ul style="list-style-type: none"> <li>■ Organization implemented policies and procedures that supported the use of formal project and change management methodologies.</li> </ul>	<ul style="list-style-type: none"> <li>■ Organization's eHealth solution implementation project was guided by the following: <ul style="list-style-type: none"> <li>□ formal project and change management methodologies that included plans for: <ul style="list-style-type: none"> <li>◆ stakeholder management; communication management; and</li> <li>◆ project evaluation.</li> </ul> </li> <li>□ resource allocation plan for all phases of the project to ensure the right people in the right place at the right time.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ Organization achieved all project milestones and goals included in the evaluation framework.</li> </ul>	<ul style="list-style-type: none"> <li>■ Project management tools (<a href="#">Appendix I</a>).</li> <li>■ Change management tools (<a href="#">Appendices J, K and L</a>).</li> <li>■ Project evaluation framework and tools (<a href="#">Appendix O</a>).</li> </ul>
<b>Recommendation 1.12</b>			
<ul style="list-style-type: none"> <li>■ Organization implemented usability processes to enhance individual and organizational efficiencies, effectiveness, and user satisfaction.</li> </ul>	<ul style="list-style-type: none"> <li>■ Organization facilitated access to individuals with expertise in usability processes.</li> <li>■ Organization implemented processes to capture usability incidents in their risk management system</li> </ul>	<ul style="list-style-type: none"> <li>■ All usability issues and risks reviewed to identify trends and implement process improvements.</li> </ul>	<ul style="list-style-type: none"> <li>■ Usability evaluation guidelines (<a href="#">Appendix M - Table M2</a>).</li> </ul>

Structure	Process	Outcome	Tools
<b>Recommendation 1.13</b>			
<ul style="list-style-type: none"> <li>■ Organization implemented policies and procedures to ensure adequate training is provided for new and existing end users to ensure efficient and effective use of the technology.</li> </ul>	<ul style="list-style-type: none"> <li>■ Project team developed comprehensive education and training plan that included formal evaluation of end user knowledge and skills.</li> </ul>	<ul style="list-style-type: none"> <li>■ Percentage of end users who were deemed proficient in role-specific competencies related to the eHealth solution and discipline-specific informatics core competencies following formal evaluation of their knowledge and skills.</li> <li>■ End user satisfaction with the education and training received.</li> </ul>	<ul style="list-style-type: none"> <li>■ Competency evaluation instrument that includes role- and discipline-specific informatics competencies.<sup>164–168</sup></li> <li>■ Education and Training Resources (<a href="#">Appendix N</a>)</li> <li>■ Role- and Discipline-specific Informatics Competencies (<a href="#">Appendix Q</a>)</li> </ul>
<b>Recommendation 1.15</b>			
<ul style="list-style-type: none"> <li>■ Organization implemented policies and procedures to support sustainability and ongoing optimization.</li> </ul>	<ul style="list-style-type: none"> <li>■ Organization developed post-implementation operational plan that included mechanisms that support the following: <ul style="list-style-type: none"> <li>□ funding and allocation of resources;</li> <li>□ changes to regulatory and professional standards; and</li> <li>□ practice changes and workflows (e.g., clinical, operational, or financial).</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ Evaluation metrics confirm adoption and integration: <ul style="list-style-type: none"> <li>□ percentage of end users who perceive that the quality of the system, information, and service is high;</li> <li>□ percentage of end users who report a high level of satisfaction with the eHealth solution six months after training; and</li> <li>□ percentage of end users who perceive that the eHealth solution facilitates safe, high-quality care.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ Resources for sustainability and ongoing optimization (<a href="#">Appendix P</a>).</li> <li>■ End user survey instrument.</li> </ul>

Structure	Process	Outcome	Tools
<b>Recommendations 2.1-2.3</b>			
<ul style="list-style-type: none"> <li>■ Academic institutions incorporated health discipline-specific core competencies into their entry-to-practice curricula for pre-licensure students and continuing education curricula for post-licensure health professionals.</li> <li>■ Organizations partnered with academic institutions to design and create access for education and training that support on-the-job delivery of:             <ul style="list-style-type: none"> <li>□ basic computer skills;</li> <li>□ informatics knowledge; and</li> <li>□ informatics skills.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ Academic institutions used a standardized framework to integrate health discipline-specific core competencies into their curricula for pre-licensure students and post-licensure health professionals.</li> <li>■ Organization facilitated on-the-job education to support professional growth and development in informatics competencies.</li> <li>■ Organization used performance management systems that included tangible demonstration of role-specific informatics competencies.</li> </ul>	<ul style="list-style-type: none"> <li>■ Percentage of pre-licensure students and post-licensure health professionals who demonstrated competence in their discipline-specific core competencies after graduation.</li> <li>■ Nurses and other health professionals accessed continuing education programs to build informatics competency.</li> <li>■ Increased capacity and competency in informatics knowledge and skills.</li> <li>■ Healthcare executives (e.g., CNO, CNE, or CMIO), nurses, and other health professionals demonstrated the necessary competencies to effectively lead or support the implementation and adoption of their eHealth solution.</li> </ul>	<ul style="list-style-type: none"> <li>■ Discipline-specific core competencies (e.g., AONE, CASN, TIGER, AFMC, and AFPC)<sup>164-168</sup></li> <li>■ Informatics competency assessment tool</li> <li>■ Education and Training Resources (<b>Appendix N</b>)</li> <li>■ Role- and Discipline-specific Informatics Competencies (<b>Appendix Q</b>)</li> <li>■ Baseline survey instrument for end user competencies.</li> <li>■ Informatics competency assessment tool.</li> <li>■ Survey instrument to poll academic institutions.</li> <li>■ <i>Nurse Educator eHealth Resource: Integrating eHealth into the Undergraduate Nursing Curriculum.</i><sup>170</sup></li> </ul>
<b>Recommendation 2.4</b>			
<ul style="list-style-type: none"> <li>■ Organization implemented policies and procedures to facilitate a person's access to electronic health information (personal or educational).</li> </ul>	<ul style="list-style-type: none"> <li>■ Organization facilitated access to electronic health information (personal or educational) for persons receiving care.</li> </ul>	<ul style="list-style-type: none"> <li>■ A person's perception of and satisfaction with their access to electronic health information (personal or educational).</li> <li>■ Increased utilization of technology-enabled information-sharing solutions.</li> </ul>	<ul style="list-style-type: none"> <li>■ Survey instrument for persons receiving care.</li> </ul>

Structure	Process	Outcome	Tools
<b>Recommendations 3.1-3.7</b>			
<ul style="list-style-type: none"> <li>■ Federal and jurisdictional agencies responsible for eHealth developed and implemented a policy framework to support all aspects of eHealth.</li> </ul>	<ul style="list-style-type: none"> <li>■ Federal and jurisdictional agencies developed the policy framework in conjunction with health care organizations, regulatory bodies and professional associations.</li> <li>■ Federal and jurisdictional agencies performed current state assessment of eHealth strategies and aligned efforts based on best practices.</li> <li>■ Federal and jurisdictional agencies responsible for eHealth provided leadership and identified resources, supports, and partnerships to achieve nationwide health information exchange.</li> <li>■ Federal and jurisdictional agencies responsible for eHealth established processes for financial and procurement incentives.</li> </ul>	<ul style="list-style-type: none"> <li>■ Successful implementation and adoption of a nationwide interoperable EHR.</li> <li>■ Health care organizations have equitable access to funding and eHealth solutions that enable health professionals to deliver safe, high-quality evidence-based care.</li> <li>■ There are adequate numbers of individuals with informatics competencies to meet health system demands.</li> </ul>	<ul style="list-style-type: none"> <li>■ Survey instrument to poll health care organizations and health professionals nationally to facilitate a comparative analysis of the: <ul style="list-style-type: none"> <li>□ eHealth infrastructure nationally and across jurisdictions, and</li> <li>□ informatics competencies of nurses and other health professionals.</li> </ul> </li> </ul>

Source: Adapted from RNAO.<sup>203</sup>