

# Implementing Evidence: from Guidelines to Daily Practice

## Introduction and Purpose

This manual aims to assist nutrition and dietetics practitioners with implementing evidence-based practice recommendations and clinical practice innovations into daily practice. While healthcare practitioners—including registered dietitian nutritionists (RDNs) and others—can learn and apply an evidence-based nutrition practice recommendation on an individual basis, high-quality, robust, equitable, and sustainable implementation requires coordinated effort from stakeholders and potentially system-wide changes to organizational policies and procedures. Implementation science is focused on how evidence-based recommendations and interventions are effectively put into practice. Implementation science has the potential to bridge the gap between evidence and clinical practice to improve equitable patient care.

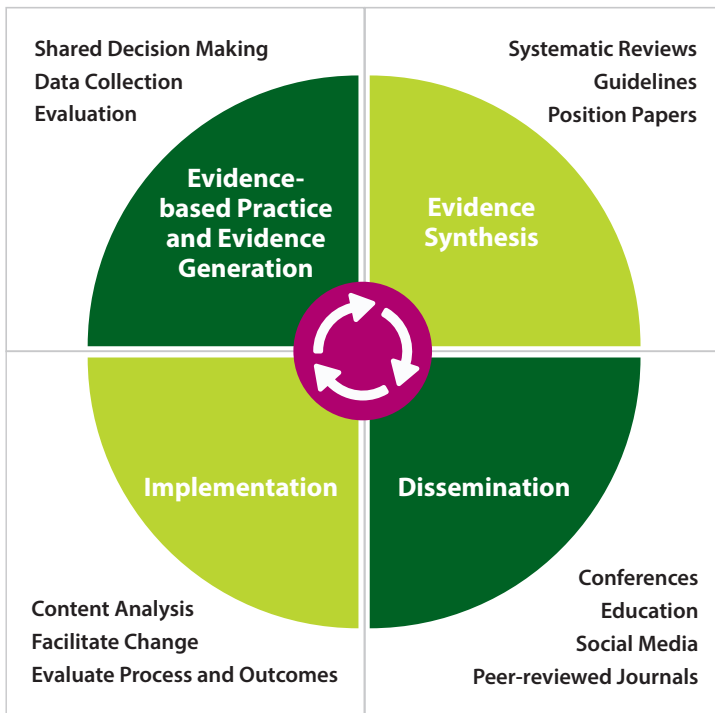
| Related Terms and Definitions |   |
|-------------------------------|---|
| <b>Implementation Science</b> | The scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services and care.                             |
| <b>Knowledge Translation</b>  | Dynamic and iterative processes that include the synthesis, dissemination, exchange, and ethically sound application of knowledge to improve health, provide more effective health services and products, and strengthen the health care system. <sup>1</sup> |
| <b>Quality Improvement</b>    | The systematic and continuous actions that lead to measurable improvement in services and/or the status of targeted individuals or groups. <sup>2</sup>   |

**Figure 1. Implementation Science Terminology**

## Scope

Implementation science focuses on the process of integrating evidence, such as recommendations from evidence-based clinical practice guidelines, in a variety of settings (**Figure 1**). In this manual, the term “recommendation(s)” will be used to encompass evidence-based guidelines, interventions, and innovations. Based on the hierarchy of evidence, practitioners should first seek recommendations from guidelines based on systematic reviews. In the absence of available recommendations/guidelines, practitioners should use the next level of available evidence (e.g., findings from a randomized controlled trial published in a peer reviewed journal).

The general concepts of implementation science are likely familiar to most practitioners because it is a part of the process leading to evidence-based practice (**Figure 2**). More specifically, implementation science focuses on the strategies used to operationalize best available evidence into daily practice. Implementation science also incorporates “de-implementation”-focused efforts to cease practices that are not evidence-based.



**Figure 2. Evidence-based Practice and Implementation Science**

Implementation science also shares similarities with knowledge translation and quality improvement (Figure 1). All these concepts are systematic, change-oriented, and focused on improving outcomes. Knowledge translation refers to the process of transitioning scientific evidence into practice, but it does not address how to make this transition. Implementation science provides a framework for how to translate knowledge. Quality improvement is one potential strategy for implementing an evidence-based practice change. Quality improvement fits under the umbrella of implementation science when its focus is on strategies, and/or barriers and facilitators impacting the process of implementing a new recommendation, practice, or innovation.

**Figure 2. Implementation Science Terminology**

The potential scale of implementation depends on several factors, such as the organizational culture, intended magnitude of dissemination, and overall complexity of the recommendation(s) being implemented. This comprehensive guide provides the steps that may be required for successful implementation; but note that not every step will be required for every situation and the manual can be adapted to each organization’s circumstances.

As practitioners work through the manual, it is ideal to have a recommendation in mind, take notes separately as you work through each step, and develop a plan of action based on the self-reflective components of this manual.

# Implementation Plan

The four steps of a recommendation’s implementation plan are presented in Figure 3.



**Figure 3. Four-Step Implementation Plan**

## Step 1: Assess the Guideline

Many evidence-based guidelines are comprehensive and include several recommendations. Implementation of one recommendation into clinical practice requires considerable time, dedication, and resources. Therefore, implementing an entire guideline at one time is not always feasible. Examples of some clinical practice guidelines are listed in the **Resources** section of this manual.

### Consider the Scope of the Guideline

Once a guideline is published, practitioners should first review its scope and magnitude to identify which recommendations within the guideline apply to their patient population or organization. Whether you consider a guideline published by the Academy’s Evidence Analysis Library or another source, the guideline’s scope will be included in its introductory materials.

## Consider the Individual Recommendations<sup>3,4</sup>

Each guideline will include multiple recommendations, but not all recommendations will warrant implementation in your practice (for example, if the recommendation is already integrated in your practice). Further, you may not have the resources to implement all applicable recommendations. Therefore, as a preliminary feasibility review, the practitioner should prioritize 1–2 recommendation(s) based on the following criteria:

### Clarity

- The recommendation itself is precise, specific, and clear
- The recommendation includes a clear action statement

### Quality of evidence

- Each recommendation within a guideline is graded based on the quality of existing evidence
- Recommendations with higher ratings (i.e., higher quality of evidence) may be prioritized over those with lower ratings

### Complexity

- Perceived difficulty of implementing the recommendation based on scope, change in practice, cost, necessary steps, resource allocation, and data acquisition

### Acceptability

- Acceptable to healthcare team and organization/system
- Acceptable and relevant to the patient population

### Sustainable and Equitable Impact

- Addresses a prevalent and/or significant problem or condition in the setting
- Addresses a gap or difference in practice in current patient/client care guidelines

A **gap analysis**, which compares an organization’s ideal state with its current state, may facilitate prioritizing recommendations from a guideline and can be supported by the following tools and steps:

- Addresses outcomes valued by the patient population(s)
- Assess the risk-to-benefit ratio
- Improves health equity

Additional Tools are available for gap analysis:

- AHRQ Gap Analysis Facilitator’s Guide can be used to address potential outcomes that would benefit the patient population<sup>5</sup>
- Sample Gap Analysis Needs Assessment Tool by Golden et al.<sup>6</sup> can identify disparities in care to focus implementation efforts

## Step 2: Form the Implementation Team

### Identify Your Team<sup>4,7,8</sup>

To make positive and lasting changes, implementing a recommendation will require engagement from all relevant stakeholders. Practitioners should identify all potential stakeholders and form an implementation team based on the recommendations’ scope and magnitude (**Figure 4**). Members of your implementation team may include, but are not limited to, representatives from the following stakeholder groups:

|                        |                            |                             |                             |
|------------------------|----------------------------|-----------------------------|-----------------------------|
| Chief/Lead RDN         | Physician                  | Nurse                       | Administrator               |
| Social Worker          | Pharmacist                 | Certified Nursing Assistant | Speech Language Pathologist |
| Patient Representative | Unit Secretary             | Caregiver Representative    | Patient Experience Officer  |
| Discharge Planner      | Clinical Nutrition Manager | Executive Sponsor           | Information Technologist    |

**Figure 4. Potential Implementation Team Members**

Note that this is a thorough list of roles that could be filled. Depending on the extent of the recommendation that you are implementing and needed support, you may not need to include a representative from each category. This list of team members includes clinical as well as non-clinical staff who provide direct patient care and leaders who are responsible for guiding the overall execution of the recommendation. For patient-centered care models, patients and (if appropriate) caregivers, should be included to ensure their input is reflected in the implementation process.

Ideally, members of the implementation team will be familiar with the recommendations in question and with quality/performance improvement or implementation science; further, they should be willing and able to work across levels of the healthcare organization and communicate to inform procedure or policy change.<sup>9</sup>

## Appoint Leadership

Assigning leadership roles will help to instill accountability and continuity throughout the implementation. Be sure to identify a project manager and a project champion from the roles listed above on the implementation team (**Figure 5**). One person may fill multiple roles; for example, an RDN may be the overall project manager as well as the clinical RDN implementing the recommendation.

| Role                    | Description   |
|-------------------------|---|
| <b>Project Champion</b> | Has the authority to use resources within or outside an organization for completion of a given project<br><br>Often chosen by management to ensure supervision of a specific project from its initiation phase to its execution phase <sup>10</sup> |
| <b>Project Manager</b>  | Responsible for day-to-day management of the project and must be competent in managing the six aspects of a project: scope, schedule, finance, risk, quality, and resources <sup>11</sup>   |

**Figure 5. Key Implementation Team Member Descriptions**

A project champion is vital to speak to and gain support from organizational leadership; a physician or executive leader commonly fills this role. This person should have some authority in the organization and be willing to use it creatively to support the project, often needing to go beyond his/her traditional job responsibilities.<sup>12</sup>

## Obtain Team Buy-In

After identifying the members of your implementation team, you will need to contact representatives from each selected group. An example letter to a patient representative (which can be tailored to other stakeholders) can be found in **Appendix A**. Some individuals may not initially see a benefit for participating on the implementation team, so you may need to provide rationale for their buy-in. Potential strategies to obtain healthcare team buy-in include:

- **Educate:** provide recommendation(s), supporting evidence, and potential outcomes for the target patient population
- **Inform:** provide a realistic estimate of time commitment and impact on workload for relevant staff members
- **Incentivize:** describe the risks and benefits for the healthcare organization and the patient population

The Harvard Medical School Lean Forward website<sup>13</sup> shares an example of a strategy to obtain such buy-in for organizational change in healthcare through five principles:

|                         |   |
|-------------------------|---|
| <b>Priority</b>         | Align the initiatives with broader organizational strategic priorities  |
| <b>Pragmatic</b>        | Explain the anticipated barriers and potential solutions and why the initiative is the best possible solution |
| <b>Proof of Concept</b> | Demonstrate the feasibility and promise of the initiative   |
| <b>Politics</b>         | Perform a stakeholder analysis, seek collaborators, and anticipate detractors                                 |
| <b>Persistence</b>      | Time your proposal appropriately, understand its limitations, and seek to continue the conversation           |

**Figure 6. Five Principles to Obtain Team Buy-In**

Note that the Persistence principle offers tactics for overcoming disagreement to obtaining buy-in, such as seeking further opportunities to present the idea and staying informed about upcoming institutional initiatives with which this can align.

You may also desire to share more information on the optimal role that each team member will play in ensuring optimal nutrition outcomes. The Alliance to Advance Patient Nutrition<sup>14</sup> provides an excellent example of principles to guide nutrition care for physicians.

## Team Action Planning<sup>7,8</sup>

The first step for the project manager is to initiate communication and plan meetings. Important decisions to make regarding team communication include (but are not limited to):

- Will meetings be in person or virtual?
- How often does the team need to meet?
- Who will create and send the agenda before the meeting (and how far in advance)?
- Who will take the meeting minutes? Where will they be stored?
- Where will information and feedback that is generated throughout the implementation process be saved? How will everyone access it?
- How will findings be shared with organizational leaders and disseminated to wider audiences?

Once convened, this team will be responsible for establishing and achieving goals, mapping the implementation plan, evaluating its outcomes, and communicating results. A suggested first step is to survey these individuals about this process, which ensures the inclusion of different perspectives,

and everyone begins on the same level. To collect data on the implementation team's perspective on the recommendation and implementation process, consider using the validated and adaptable NoMAD survey.<sup>15</sup> This survey features 23 items for assessing implementation processes from the perspective of the individuals who will be conducting the implementation work.

## Step 3: Develop Implementation Plan<sup>7,8</sup>

### Identify Potential Barriers to Implementation

Once assembled and oriented, the implementation team should identify all potential barriers to the implementation of the recommendation. One method to include all team members' input is to use a **nominal group technique (Figure 7)**. This technique involves a structured small group discussion to reach a consensus and includes four steps: generating ideas, recording ideas, discussing ideas, and voting on ideas.<sup>16</sup> For additional information on the nominal group technique, please see the CDC's "Gaining Consensus Among Stakeholders Through the Nominal Group Technique" brief.<sup>16</sup>

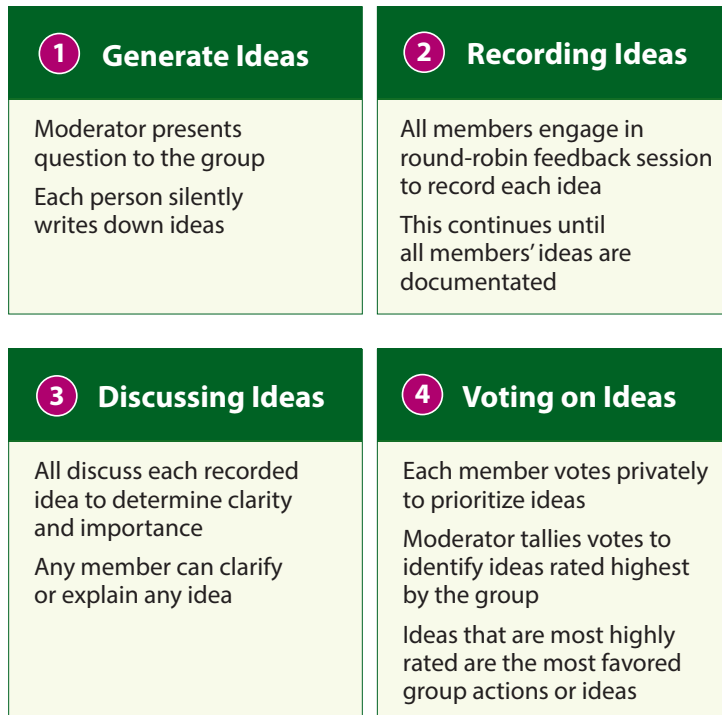


Figure 7. Nominal Group Technique<sup>16</sup>

Considerations for resource needs and potential barriers include<sup>3,8,17</sup>:

- Are there information systems or infrastructure changes that could facilitate the spread of the recommendation?
- Do patients and clients have equal access to the recommendation?
- Do staff have the necessary set of skills to implement the recommendation?
- Are there adequate staff members in place to effectively carry out the recommendation?
- Is staff training necessary to ensure the recommendation is effectively operationalized?
- Is IT support necessary? If so, which specific skills are needed and is the support available?
- Are financial resources needed? If so, who will create the implementation budget? Is the institution or organization willing to provide support?
- Are there billing opportunities or additional coding needs to enable insurance reimbursement?
- What time frame is necessary for successful implementation?
- How will necessary tasks and responsibilities be allocated and supported—both by the implementation team and by staff more broadly—to effectively operationalize the recommendation?

Note that each implementation team may face additional barriers beyond those offered above. To ensure all barriers are considered, the team should evaluate potential barriers within each organizational characteristic listed below (Figure 8):



Figure 8. Organizational Characteristics<sup>18</sup>

## Identify Strategies for Implementation

Once barriers are identified and prioritized, the implementation team should use the nominal group technique stated above to identify strategies to address the barriers. The CFIR-ERIC Implementation Matching Tool provides an interactive tool that suggests evidence-based strategies to address identified barriers.<sup>19</sup>

## Key Elements for Your Implementation Plan

An implementation plan should include several key elements to ensure it is timely and comprehensive (see **Figure 9**).

|  |  |
|--|--|
| <b>Strategic Timeline</b>                                | A comprehensive timeline of all strategies and deliverables identified                       |
| <b>Implementation Milestones and Measures of Success</b> | Key performance measures and any interdependencies to drive progress                         |
| <b>Task Assignments</b>                                  | Tasks with assigned stakeholders to ensure completion of assignments                         |
| <b>Monitoring and Evaluation</b>                         | Frequent feedback to ensure adequate adjustments to tasks or timelines are made              |
| <b>Communication and Dissemination Strategy</b>          | Communication should have a focused strategy for total inclusivity and organizational buy-in |

**Figure 9. Key elements of implementation plan**

## Step 4: Develop Evaluation Plan

A plan to evaluate the implementation strategies and success should be developed before implementing selected recommendations. The implementation team should consider the following questions when designing the evaluation:

How will the process of implementing the recommendation be measured?

How will the impact of the implementation on identified outcomes be measured?

How will stakeholders' perceptions of the newly implemented recommendation be determined?

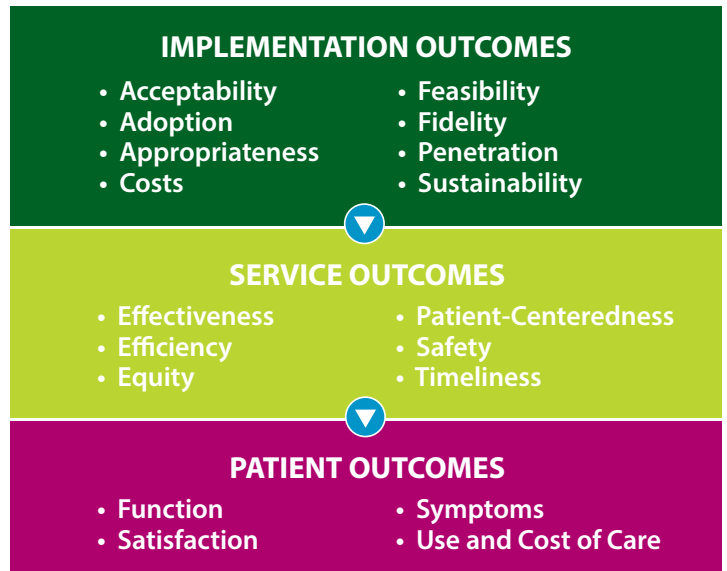
*(Consider how to measure and incorporate stakeholder input and how to address incorrect perceptions.)*

How will the changes necessary for ensuring sustainability of the implementation be identified and made?

**Figure 10. Key questions to direct evaluation of implementation**

## Implementation Outcomes

The implementation team should determine what outcomes should be measured through their evaluation process and how to do so. Measurable outcomes that may be valuable to various stakeholders include:



**Figure 11. Implementation Outcomes**

| Implementation Outcome           | Description   | Examples   | Measurement Tools   |
|----------------------------------|---|--|---|
| <b>Acceptability</b>             | Agreeability of the intervention among participants and other stakeholders                | Assessing if healthcare providers (HCPs) are comfortable with using a malnutrition screening tool in a community setting   | Survey <sup>a</sup><br>Qualitative- or semi-structured interviews <sup>b</sup>            |
| <b>Adoption</b>                  | Intention or action to integrate or develop this intervention                             | Evaluating how many times the screening tool was implemented in the long-term care or community setting  | Administrative data<br>Observation<br>Qualitative or semi-structured interviews<br>Survey |
| <b>Appropriateness</b>           | Perceived relevance of an intervention in a particular setting or for a specific audience | Determining if HCPs find the screening tool appropriate in the setting in which it is being implemented<br>Determining if patients agree with the protocol in place and find it useful | Focus groups <sup>b</sup><br>Survey<br>Qualitative or semi-structured interview           |
| <b>Feasibility</b>               | Ability for an intervention to be carried out in a particular setting or organization     | Determining if the screening tool implementation is feasible within long-term care (LTC) or community setting  | Survey<br>Administrative data   |
| <b>Fidelity</b>                  | Degree to which an intervention was implemented as it was intended to be implemented      | Assessing if intervention is implemented at different checkpoints  | Observation<br>Checklists <sup>c</sup><br>Self-report<br>Field notes                      |
| <b>Implementation Cost</b>       | Total cost of implementing the intervention   | Determining the overall cost of implementation within an LTC or community setting  | Audit of administrative data  |
| <b>Penetration/<br/>Coverage</b> | Reach of the intervention for the population is intended to benefit                       | Identifying how many older adults have been screened using the screening tool in LTC or community setting  | Case audit<br>Checklists  |
| <b>Sustainability</b>            | Extent to which an intervention is maintained in each setting                             | Assessing if HCPs or organization plan to maintain the use of the malnutrition screening tool in the LTC or community setting  | Case audit<br>Semi-structured interviews<br>Questionnaires <sup>d</sup><br>Checklists     |

**Figure 12. Implementation Outcomes, Examples and Potential Measurement Tools<sup>20,21</sup>**

<sup>a</sup> Semi-structured interviews can provide qualitative insight about implementation. For example, it may be helpful to gain insight into the acceptability from the perspectives of end users (patients), stakeholders, decision makers, and users or adopters.

<sup>b</sup> Focus groups offer a quick way to garner insight and may help obtain information relating to attitudes, beliefs, and experiences. Focus groups may be appropriate before, during, or after implementation.

<sup>c</sup> Checklists may help determine if different implementation tasks were completed to be able to track fidelity of implementation.

<sup>d</sup> Questionnaires can include both qualitative and quantitative components. Quantitative scales, such as Likert scales, can be used to assess a given program's acceptability.

Developed by: *The Academy of Nutrition and Dietetics Implementation Subcommittee under the Council of Research*

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# Appendix A

## Sample Outreach Letter for Garnering Organizational “Buy-in”

This is a sample outreach letter that the Project Champion may wish to adapt and use when meeting with hospital leadership, other clinicians, or patient representatives to achieve buy-in and support for resources to implement the new guideline. It should be adapted to the specific audience, setting, and focus of the guideline; it may also be strengthened with additional evidence or details about the specific content area. You can use this letter to conduct initial outreach to these individuals to raise awareness about your plan and your desire to implement the new guideline. After this initial outreach, you can arrange more targeted discussions regarding the expected results of implementing changes to your nutrition care process and the potential resources that might be required for successful implementation. This sample letter is derived from the **Malnutrition Quality Improvement Initiative's Sample Outreach Letters** (<http://malnutrition.com/static/pdf/complete-mqii-toolkit.pdf>).

Date

Patient Representative

Role in the Organization

Contact Information

RE: A New Opportunity to Improve Quality Care for All Patients

Dear [INSERT NAME],

The impact of malnutrition on patient complications and health outcomes in hospital settings is significant. It has been shown to result in more extended hospital stays, increased infection rates (particularly post-surgical infections), impaired functionality and quality of life, increased morbidity and mortality, and increased risk for hospital readmissions. These various adverse outcomes associated with malnutrition have also been known to increase hospital costs by 300%.

There are often too few dietitians on staff to address the needs of all malnourished patients or those at risk for malnutrition before they are discharged. Additionally, this issue receives limited visibility with our patients and care teams, and its importance often goes unacknowledged or unrecognized. But significant developments in Medicare and Medicaid programs are changing hospital practices and providing opportunities for a renewed focus on the problem of malnutrition among hospitalized patients. Therefore, we would like to call on you to provide your leadership to increase the awareness of malnutrition and its impact on our patients and to help improve the overall quality of patient care for malnourished patients or those at risk during their stays.

To do this, we at [INSERT HOSPITAL NAME] are implementing the Malnutrition Quality Improvement Initiative (MQii). This initiative aims to engage our entire care team—including physicians, nurses, dietitians, and patients and their families—to close the current gaps in clinical care that contribute to high malnutrition rates among hospitalized older adults (those aged 65 years and older). By doing so, we will build a culture where the whole team views nutrition as a priority for improving care, quality, and cost.

When integrated into the patient care process, nutrition status becomes a vital sign of health among older adults. Like pulse or respiration rate, its routine measurement provides critical information to help form the baseline for clinical care.

To support the MQii, we will have access to a quality improvement Toolkit that will help us:

1. Establish a multidisciplinary care team;
2. Build clinician awareness of the importance of malnutrition;
3. Identify gaps in malnutrition care in our hospital and select an intervention to address them (e.g., enhancing communication of nutrition assessment results to physicians or supporting better consideration for malnutrition care components when discharge planning); and
4. Use quality indicators and measures to monitor progress and assess results.

Once areas for improvement are identified, physicians will collaborate to develop and implement process changes that address these areas. Teams will rely on you to provide leadership and champion this effort within our hospital to underscore nutrition care as an essential part of patient care. The team will also use MQii quality measures or indicators to establish baseline levels reflecting current malnutrition care and track results of the MQii so that you can see how our hospital improves over time.

Our proposed initiative will provide an opportunity to transform and redefine nutrition care in our hospital. As we work to close the gaps in our hospital's nutrition workflow and more consistently address nutrition in our patient care plans, we will be able to recognize and treat malnutrition earlier and potentially prevent everyday adverse events as a result. By making you aware of this initiative, we hope that you will agree to participate in the effort, help us improve our approach, and help us build a culture where nutrition is a priority for improving our patients' care and hospital experience.

We look forward to discussing the opportunity with you and answering any additional questions about the initiative. In the meantime, more details on the MQii can be found at [www.mqii.today](http://www.mqii.today).

Thank you for your consideration of this critical initiative.

Sincerely,

[INSERT NAME]

# Appendix B

## Implementation Science Resources

### Academy Research Resources

#### **Academy of Nutrition and Dietetics Nutrition Research Network**

<https://www.eatrightpro.org/research/projects-tools-and-initiatives/nutrition-research-network>

#### **Academy of Nutrition and Dietetics Health Informatics Infrastructure**

<https://www.eatrightpro.org/research/projects-tools-and-initiatives/andhii>

#### **Academy of Nutrition and Dietetics Evidence Analysis Library**

<https://www.andeal.org>

#### **Evidence Analysis Library Recommendation Ratings**

<https://www.andeal.org/grade-rating>

### Examples of Nutrition-Related Guidelines

#### **American Society for Enteral and Parenteral Nutrition Guidelines**

<https://www.nutritioncare.org/clinicalguidelines>

#### **European Society for Clinical Nutrition and Metabolism Guidelines**

<https://www.espen.org/guidelines-home/espen-guidelines>

#### **Guideline Central**

<https://www.guidelinecentral.com/guidelines>

### General Implementation Science Resources

#### **The UW Implementation Science Resource Hub**

<https://impsciuw.org>

#### **University of Wisconsin-Madison Dissemination & Implementation Launchpad**

<https://ictr.wisc.edu/dissemination-implementation-launchpad>

#### **JBI Manual for Evidence Implementation**

<https://jbi-global-wiki.refined.site/space/JHEI>

### Implementation Frameworks and Theories

#### **Consolidated Framework for Implementation Research**

<https://cfirguide.org>

#### **RE-AIM Planning and Evaluation Framework**

<https://www.frontiersin.org/articles/10.3389/fpubh.2019.00064/full>

#### **Normalization Process Theory**

<http://www.normalizationprocess.org>

#### **Health Equity Implementation Framework**

<https://implementationscience.biomedcentral.com/articles/10.1186/s13012-019-0861-y>

### Implementation Strategies

#### **CFIR-ERIC Implementation Strategy Matching Tool**

<https://cfirguide.org/choosing-strategies>

#### **Nominal Group Technique**

<https://www.cdc.gov/healthyyouth/evaluation/pdf/brief7.pdf>

### Implementation Tools

#### **Gap Analysis Needs Tool by Golden et al. 2017**

<https://ars.els-cdn.com/content/image/1-s2.0-S1553725016300186-mmc1.xlsx>

#### **Institute for Healthcare Improvement**

<http://www.ihl.org/resources/Pages/Tools/PlanDoStudyActWorksheet.aspx>

#### **AHRQ Health Literacy Universal Precautions Toolkit, 2nd Edition<sup>15</sup>**

<https://www.ahrq.gov/health-literacy/improve/precautions/tool2b.html>

#### **Centers for Disease Control: Identifying the Components of a Logic Model**

<https://www.cdc.gov/std/program/pupestd/components%20of%20a%20logic%20model.pdf>

#### **AHRQ Team STEPPS Implementation materials**

<https://www.ahrq.gov/teamstepps/instructor/reference/implglance.html>

### Obtaining Buy-In

#### **Harvard Medical School Lean Forward**

<https://postgraduateeducation.hms.harvard.edu/trends-medicine/gaining-leadership-buy-organizational-change-health-care>

#### **Alliance to Advance Patient Care**

[http://static.abbottnutrition.com/cms-prod/malnutrition.com/img/Alliance\\_Roles\\_Hospitalist\\_2014\\_v1.pdf](http://static.abbottnutrition.com/cms-prod/malnutrition.com/img/Alliance_Roles_Hospitalist_2014_v1.pdf)

#### **NoMAD Survey**

<http://www.normalizationprocess.org/resources>

### Logic Model

#### **Implementation Logic Model**

<https://implementationscience.biomedcentral.com/articles/10.1186/s13012-020-01041-8>