Evidence Synthesis Ireland Fellowship Scheme
Review Identification Form

Review Centre and Group Mentor

Dr. Janet Curran, **Strengthening Transitions in Care; Dalhousie University, Canada,**

Review title

Stewardship Interventions in Healthcare: An umbrella review

Review type and methods

Umbrella Review of systematic reviews. The fellow will learn to synthesize evidence from existing systematic review relevant to the project. They will advance:

- Skills in refining the review question and eligibility criteria
- Developing and executing search strategies
- Screening and selecting systematic reviews
- Extracting and synthesizing review data
- Assessing methodological quality and risk of bias
- Identifying overlaps among primary studies and managing complex evidence
- Conducting narrative and/or quantitative synthesis

Review information

This umbrella review is being undertaken as a part of a broader program of research focused on strengthening healthcare stewardship through evidence-informed quality improvement and implementation science. It will inform the co-design and implementation of umbrella healthcare stewardship framework, bringing together multiple stewardship domains (e.g., diagnostic imaging, antimicrobial, infection control). The review has been prioritized by health system leaders, where there is growing interest in developing an umbrella approach that optimizes resources while maintaining high-quality, equitable patient care.

The primary end-users include:

- Health system leaders and executives responsible for quality improvement, patient safety, and healthcare value.

- Clinical leaders and frontline healthcare professionals involved in stewardship initiatives, including physicians, nurses, pharmacists, diagnostic imaging teams, and laboratory professionals.
- Quality improvement team, implementation scientists, healthcare administrators responsible for stewardship.
- Provincial health authorities and policymakers seeking evidence to inform stewardship strategies and resource allocation.

Consistent with integrated knowledge translation principles, knowledge users will be engaged throughout the research process to ensure relevancy. Patient and families with lived experience will provide input on the interpretation of review findings, identify patient-centred priorities and outcomes, and help ensure recommendations consider the impact on patient experience, access, and equity.

Review details

Status of review: Protocol is registered on PROSPERO, searches have not been started

Background

Overuse and misuse of diagnostic tests, therapeutics and healthcare resources has been nationally recognized as a factor hindering access to appropriate care. The downstream impacts of inappropriate resource use are highly interconnected and result in patient, system, and population-level harms, including radiation exposure, antimicrobial resistance, prolonged wait times, increased health interventions, clinician burnout, and environmental impact. Stewardship programs have developed across many disciplines as quality improvement initiatives to reduce low-value care, optimize the use of diagnostic tests and therapeutics, and improve healthcare quality. Stewardship principles offer an important pathway to improve safety by promoting evidence-based healthcare that fits patients' needs and circumstances while actively avoiding practices that do not benefit patients or contribute to harm.

Stewardship theories have been conceptualized across multiple disciplines and traditions. Within healthcare, stewardship is examined, and evidence is synthesized across various domains, including antimicrobial stewardship, infection prevention and control, surgical stewardship and diagnostic imaging. While these reviews provide important insights into important stewardship constructs and the effectiveness of stewardship strategies, they remain largely domain-specific, with limited attention to how stewardship is conceptualized across healthcare systems or how different stewardship domains interact with broader structures. Therefore, this umbrella review aims to examine how stewardship is conceptualized and operationalized across multiple healthcare domains and settings, and how these conceptualizations can be translated into health system-level quality improvement.

Research Objective and Questions

This study aims to perform an umbrella review of stewardship interventions within healthcare settings. Rather than assessing the effectiveness of individual interventions within specific

domains, the review will synthesize existing evidence to identify common stewardship principles, implementation strategies, contextual factors, and outcomes across domains. The findings will inform the subsequent development of a health system approach to stewardship.

Therefore, the main research question guiding this review is: *How are stewardship interventions implemented across healthcare domains, and what are the opportunities for integration to support system-level quality improvement?* Several secondary questions will guide this review:

1. Terminology and scope: What terms are used interchangeably with stewardship and the underlying principles embedded in the process?
2. Intervention characteristics and implementation: How are stewardship interventions implemented and operationalized in healthcare systems, including the types of interventions used (e.g., audit and feedback, guidelines, decision support, restriction), and at what levels are interventions implemented?
3. Influencing factors: What factors and intervention components are reported as contributing to the implementation and effectiveness of stewardship interventions across healthcare domains?
4. Outcomes and impacts: What outcomes are used to evaluate stewardship interventions across domains and what impacts are reported across clinical, process, utilization, safety, and patient- and caregiver-related outcomes?
5. Cross-domain commonalities: To what extent do stewardship interventions share common principles, intervention components, and implementation approaches across healthcare domains?

Population

We will include reviews that examine the experiences of patients of any age (pediatric and adult populations) and caregivers (e.g., parents, families, professional caregivers), as well as the experiences of healthcare providers involved in stewardship-related care processes.

Intervention

We will include systematic reviews examining stewardship interventions, defined as coordinated strategies to optimize the use of clinical resources and practices in order to protect and promote people's health and wellbeing. Stewardship can include areas such as antimicrobial stewardship, diagnostic imaging stewardship, laboratory or test utilization, infection prevention and control, medication stewardship, and resource stewardship (e.g., reducing low-value care, Choosing Wisely initiatives). These initiatives or interventions are embedded within health systems, including hospital-wide programs, cross-disciplinary initiatives, or nationwide strategies, and may include policies, guidelines, audit and feedback, decision-support tools, education, or system-level programs. Studies will not be required to explicitly use the term "stewardship" if the intervention clearly aligns with stewardship principles (i.e., optimization, improving appropriateness, or reducing unnecessary use or practices).

We will exclude any reviews that are not explicitly or conceptually aligned with stewardship, such as interventions focused solely on drug efficacy or the effectiveness of clinical processes, without a stewardship component (e.g., a focus on appropriateness or optimization).

Comparator

Where applicable, the comparator may be standard practices or usual care, any alternative interventions or pre- and post-comparisons. Reviews need to provide an evaluative or empirical synthesis of stewardship interventions and their implementation. We will not include reviews without a comparator or evaluative components, such as reviews without an assessment of change or impact. Therefore, purely descriptive or conceptual papers without an empirical evidence base will be excluded.

Context

The studies may be conducted in any healthcare setting, including but not limited to hospitals, primary care, community, and long-term care. We will include interventions implemented at clinical, organizational, regional, or health system-levels. We will exclude reviews examining stewardship processes and outcomes conducted in non-healthcare settings, such as in agriculture or environmental contexts.

Outcomes

The reviews must report at least one relevant aspect of stewardship interventions. They may include:

- clinical outcomes: mortality, morbidity, length of stay, readmissions
- process outcomes: adherence to guidelines, appropriateness of prescribing or testing
- utilization outcomes: prescribing rates, diagnostic testing
- health system outcomes: resource access, wait-times, incremental cost-effectiveness ratio
- safety outcomes: complications, resistance patterns, adverse drug events
- patient- and caregiver-reported outcomes: experience, satisfaction, engagement
- contextual and implementation factors: barriers, facilitators, organizational factors, governance structures and other factors

Reviews that examine stewardship interventions but report outcomes or findings outside these categories will be considered if they contribute to understanding how stewardship interventions are defined, implemented, and evaluated in healthcare. Purely conceptual, opinion-based, or non-empirical reviews that do not synthesize evidence related to stewardship interventions or implementation will be excluded.

Review current status

Protocol is available on PROSPERO

Any specific/desirable requirements for fellow (e.g. clinical expertise, methodological expertise)

We welcome applicants from a range of health disciplines who have a strong interest in healthcare stewardship, quality improvement, and evidence-informed practice. A demonstrated interest in one or more areas of healthcare stewardship (e.g., antimicrobial, diagnostic, laboratory, imaging, or Choosing Wisely initiatives), experience participating in quality improvement, clinical audit, implementation, or healthcare evaluation projects are desirable.

Estimated start and completion dates

1 November 2026 – 31 October 2027