In Canada, $5 billion is spent annually on laboratory testing by government and about 10% of that is unnecessary (Naugler & Wyonch, 2017). A 2017 study found that as many as 30% of all medical tests are unnecessary (Naugler et al., 2017). Wasting of resources is not unique to Canada. In 2017, a study found that as many as 30% of all laboratory tests are unnecessary (Naugler & Wyonch, 2019). A 2017 study found that as many as 30% of all medical tests are unnecessary (Naugler et al., 2017). What is Choosing Wisely Canada? Choosing Wisely Canada (CWC) is a national campaign to reduce unnecessary medical tests and treatments. It is a global movement that began in the United States in 2012 and now spans 20 countries. CWC partners with professional societies to develop recommendations that identify commonly used tests and treatments which are not supported by evidence and could expose patients to harm. There are more than 300 CWC recommendations, of which approximately one-third are laboratory related. 

**Background**

- In Canada, $5 billion is spent annually on laboratory testing by government and about 10% of that is unnecessary (Naugler & Wyonch, 2017). A 2017 study found that as many as 30% of all medical tests are unnecessary (Naugler et al., 2017).
- Reasons for inappropriate testing and medical treatments are complex and influenced by patients, physicians and administrative practices. Choosing Wisely Canada (CWC) provided examples:
  - Practice habits
  - Patient demands
  - Lack of time for shared decision-making
  - Outdated decision-support systems
  - Defensive medicine and fear of malpractice lawsuits
  - Payment systems reward doing more

- Interventions have been shown to positively impact the laboratory system and patients on a large scale. For instance, an intervention in Alberta, Canada, to decrease population screening for vitamin D deficiency resulted in a 91.4% reduction of testing over one year and a $1.5 million in savings (Naugler et al., 2017).

**Process Flow**

1. Conduct a survey to understand MLPs’ attitudes, awareness, and engagement related to CWC recommendations.
2. Create CWC recommendations relevant to the medical laboratory profession’s scope of practice.
3. Identify and create educational tools to help MLPs to use and influence others to use CWC recommendations.
4. Knowledge Transfer
   - Communication plan is under construction.
   - Creation of a webpage to house project information.
5. Information Validation
   - Recommendations collected in survey analyzed and provided to the expert panel.
6. Expert panel to participate in a Delphi process to finalize draft recommendations.
7. Draft recommendations provided to CWC for review and distribution to health associations; modification to recommendations as needed.
8. Survey Highlights
   - Top three from predefined list:
     - Patient demands
     - Lack of time for shared decision-making
     - Outdated decision-support systems
9. Information search to review CWC recommendations, identify value and impact of recommendations, although the value of such recommendations is acknowledged. The MLP results mimic the Canadian Society for Medical Laboratory Science (CSMLS), 2017. Creation of Choosing Wisely Recommendations for Medical Laboratory Professionals Christine Nielsen1, Amanda VanSpronsen2, Valentin Villatoro1, Lisa Purdy2 & Laura Zychla1

**Recommendations**

- In Canada, many of the non-test specific recommendations support MLPs to:
  - Be knowledgeable
  - Set standards for appropriate testing procedures
  - Identify and flag potentially inappropriate testing to health professionals
  - Acknowledge their right to ask questions about orders to determine appropriateness within the best interest of the patient
- This case study highlights the MLP voice wanting to be involved in clinical conversations more often and more significantly but may find system and workplace culture challenges that inhibit this.
- Test-specific recommendations will be released after validation process has been completed.

**Methodology**

- Stakeholder Groups
  - MLPs, CSMLS and non-CSMLS members working in Canada’s medical laboratory system (~14% MLPs were surveyed)
  - Expert Panel: A volunteer group dedicated to developing and prioritizing a list of practices that contribute to wasted lab efforts and resources. 4-6 meetings over 1.5 years, with subgroup meetings as required.
- Research has shown that physicians and other health professions have been slow to learn about CWC recommendations, although the value of such recommendations is acknowledged. The MLP results mimic the Canadian Society for Medical Laboratory Science (CSMLS), 2017.
- To date, valuable lessons have been learned that can provide associations in other countries to consider and for MLPs to reflect upon:
  - Group Construction
    - The panel requires a wide breadth of individuals ranging in more than one discipline. Limiting this group to 6-8 people will not provide the required knowledge.
  - CWC partners with professional societies to develop recommendations that identify commonly used tests and treatments which are not supported by evidence and could expose patients to harm.
  - There are more than 300 CWC recommendations, of which approximately one-third are laboratory related.

**Survey Highlights**

1. Conduct a survey to understand MLPs’ attitudes, awareness, and engagement related to CWC recommendations.
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**Survey Highlights**

- What do you believe the three most over-ordered tests are? Top three from predefined list:
  - CBC (complete blood count), ESR (erythrocyte sedimentation rate) and vitamin D
- Have you heard of Choosing Wisely Canada?
  - Approximately 40% said “yes,” while 60% said “no” or were “unsure.”
- Research has shown that physicians and other health professionals has been slow to learn about CWC recommendations, although the value of such recommendations is acknowledged. The MLP results mimic this.
- Do you believe that initiatives to limit inappropriate laboratory utilization are important?
  - 93% said “yes”
- Do you believe that inappropriate laboratory utilization may contribute to patient harm?
  - 95% said “yes”
- Who do you believe should be responsible for ensuring that laboratory tests are appropriately utilized?
  - Respondents believed that the main responsibility is held mostly by those in senior roles, such as PhD trained laboratory clinicians.
  - 61% said they felt accountable for helping to improve the appropriateness of laboratory test ordering.
- 48% said they believe becoming involved in initiatives aimed at curbing inappropriate laboratory test ordering is part of their professional responsibilities.

**Conclusion**

Ordering laboratory tests on a patient’s is not generally a permissible activity for MLPs in Canada. However, by virtue of their work performing testing and interacting with test orders, MLPs are uniquely placed to communicate CWC recommendations, research the impact of changes and support modernization of test ordering by other health professionals. Preliminary analysis of the survey results discussions with the expert panel has been valuable in the validation process to date. Final recommendations will be released in 2020. This project will create the first medical laboratory profession-specific group of CWC recommendations that can be adapted nationally as well as reviewed by other countries. The described construction and validation process is a map others can follow to create recommendations.