

0199 - Preventing overdiagnosis through the de-implementation of low-value diagnostic tests: A systematic review

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Objective: Over testing is a key driver of overdiagnosis. One way to prevent overdiagnosis is to restrict the use of diagnostic tests that are unnecessary, of low-value, or even harmful. Even when there is strong evidence against the use of a test, action is often required to restrict or eliminate its use. The de-implementation of diagnostic tests is likely to face different challenges than implementation. The aim of this systematic review was to investigate key characteristics of effective de-implementation strategies for diagnostic tests and to identify gaps in knowledge and areas for future research.

Method: Medline, Embase, Cochrane, and Rx for Change databases were searched from January 1st, 1990 until November 1st 2016. Additional studies were found through reference checking and searching in healthcare websites. Studies of interest were those focusing on the reduction or elimination of a low-value clinical practice for clinical reasons, as opposed to financial. Information on the characteristics of the de-implementation strategies, the effectiveness of these strategies, the study design and reporting, as well as perceived or measured barriers and facilitators to these strategies were extracted. In this project we focus on studies on diagnostic tests.

Results: Thirty-seven studies on the de-implementation of a diagnostic test were identified for this preliminary analysis. The most common aim was to quantitatively evaluate the effectiveness of de-implementation (n=26,70%) while the remaining focused on the qualitative assessment of (perceived) factors influencing the effectiveness. Only 3 effectiveness studies were randomized trials. De-implementation strategies were commonly multi-faced, the most common elements being physician education or reminders. Half were on laboratory tests (n=20,54%) and a handful were on potentially physically harmful tests, such as imaging or endoscopy (n=8,22%). Most studied concluded moderate effectiveness of the de-implementation.

Conclusions: This review has identified a set of studies on the de-implementation of diagnostic tests. Most studies showed moderate success, acknowledging room for improvement in the development of de-implementation strategies. We highlight areas for future studies on de-implementation of diagnostic test to focus on: the process of designing a tailored and multi-faced interventions, evaluating factors influencing effectiveness either quantitatively or through process evaluation, patient related outcomes, and potential for sustainability and spread. When tests are evidenced to be low-value, effective and efficient de-implementation is key to improving patient outcomes.

0201 - Primary care physicians' over-utilization of medical tests and its association with cancer incidence and mortality

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Background and Objective: There is concern that physicians are using medical tests that are neither necessary for their patients' care nor supported by evidence. The problem with these unnecessary tests is not only the associated medical costs, but that such overuse of tests can lead to overdiagnosis of indolent disease, including cancers such as breast, prostate and thyroid. The Objective of this study is to determine if primary care physician's over-use or under-use of key medical tests is associated with cancer incidence and mortality rates among their patients.

Methods: This is a population-based cross-sectional study in Ontario, Canada using administrative health data from the Institute for Clinical Evaluative Sciences (ICES). The study population was Ontario residents ages 40 to 75 in 2008 to 2012, and the primary care physicians who were their usual providers during the study period. We compared physicians' utilization of 36 laboratory, imaging tests, cardiac tests and specialist consultations and calculated case-mix adjusted observed to expect (O/E) utilization ratios to categorize physicians as relative over- or under-testers. Multivariable regression will be used to analyze the association between physicians' test utilization and cancer incidence and mortality among their patients.

Results: There were 8,056 primary care physicians in Ontario between 2008 and 2012, providing care to over 5,000,000 patients. We observed variation in physicians' case mix adjusted utilization of each of the 32 tests. The O/E utilization ratios ranged from less than 0.1 to greater than 10, providing evidence of relative over- and under-utilization of these tests. When we grouped tests into categories (laboratory tests, cardiac tests, imaging tests, or consultations), we found good agreement in physicians' O/E ratios, with Cronbach's alpha ranging from 0.7 to 0.9 for the groupings. Analyses exploring the association between physicians' test utilization and cancer incidence and mortality among their patients are pending.

Conclusion: We observed evidence of over- and under-utilization of common medical tests among primary care physicians. The pending analyses examining the impact of over-utilization of medical tests on cancer incidence and mortality will inform physicians, policy makers and patients on patterns of the use of tests and of the potential consequences associated with the overuse of medical tests potentially leading to more effective use of health care resources.

0202 - Prescription quality standards (PQS): reducing overtreatment in primary health care.

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Abstract: Variability of drug prescription among physicians is a well-known cause of overtreatment and has a significant impact both on patient's health and on health care systems budget. Evidence-based clinical guides must be