The slow transfer of research evidence to practice is a problem that is widely recognized by researchers, practitioners, policymakers, and patients. According to a problem that is widely recognized by researchers, our objective was to determine the time it took for evidence to reach at least 50% uptake in the target population.

**Clinicians’ Advice to Quit Smoking**

- **1979**
  - Publication: This seminal clinicians’ advice to stop smoking with a book and a newsletter was based on the evidence that smoking cessation can improve health outcomes.
  - **Uptake:** Percentage of smokers age 35+ who try to quit smoking
  - **Joint Guidelines:** American Heart Association and American Lung Association.
  - **Uptake:** Percentage of smokers age 35+ who try to quit smoking

- **1992**
  - **Cochrane Review:** Effectiveness of behavioral interventions for smoking cessation.
  - **Current Uptake:** Percentage of smokers age 35+ who try to quit smoking

**HPV Vaccination**

- **2002**
  - **Publication:** HPV vaccination provides protection against human papillomavirus-related diseases.
  - **FDA Approval:** Vaccination for girls age 11-15 years.
  - **CDC Recommendation:** HPV vaccine should be administered in the early teenage years.
  - **Current Uptake:** Percentage of girls age 11-15 years who have received 3 doses of HPV vaccine

- **2006**
  - **Publication:** HPV vaccination is recommended for girls age 11-15 years.
  - **Current Uptake:** Percentage of girls age 11-15 years who have received 3 doses of HPV vaccine

**HPV Testing for Cervical Cancer**

- **1999**
  - **Publication:** HPV testing is more sensitive than cytology for detecting cervical intraepithelial lesions (CIN).
  - **Cancer Detection:** False-negative results

- **2000**
  - **Systematic Review:** HPV testing is more sensitive than cytology for detecting cervical intraepithelial lesions (CIN).
  - **Current Uptake:** Percentage of women age 30+ who have undergone HPV testing

- **2003**
  - **FDA Approval:** HPV test to be used in addition to cytology for screening.
  - **Current Uptake:** Percentage of women age 30+ who have undergone HPV testing

**Colorectal Cancer Screening**

- **1993**
  - **Publication:** First guidelines issued by the American Society for Gastrointestinal Endoscopy.

- **1996**
  - **Cancer Detection:** False-negative results

- **1997**
  - **Guidelines:** First guidelines issued by the American Society for Gastrointestinal Endoscopy.

**Mammography**

- **1971**
  - **Publication:** HPV vaccination provides protection against human papillomavirus-related diseases.

- **1980**
  - **Guidelines:** First guidelines issued by the American Society for Gastrointestinal Endoscopy.

- **1987**
  - **Guidelines:** First guidelines issued by the American Society for Gastrointestinal Endoscopy.

- **1988**
  - **Uptake:** Percentage of women age 40+ who have undergone mammography

**Impact and Future Research**

We measured the time from publication to implementation, defined as 50% uptake, for selective EBPs in cancer control. We found similar results to Balas and Boren’s from 2000 that it takes 17 years. All interventions except HPV testing have reached substantial uptake to date. We encourage investigators to explore ways to increase the rate of uptake of HPV testing and other EBPs in cancer control.

**Limitations**

We included only five EBPs because data was limited on uptake over time, and for many EBPs, the evidence changed so rapidly that it was impossible to trace uptake before the evidence and subsequent guidelines changed.

**Results**

Our findings highlight the complexity of piecing together the pathway from research to implementation to measure time it takes for implementing EBPs in cancer prevention and screening. The total number of years to implementation vary and average 17 years.

**Background**

The slow transfer of research evidence to practice is a problem that is widely recognized by researchers, practitioners, policy makers, and patients. According to a review published in 2000 by Balas and Boren, it takes an average of 17 years for research evidence to reach clinical practice (50% uptake). This finding, published 17 years ago, was based on nine medical procedures in the 1980s. Despite the frequent use of this statistic to highlight the problem of slow research translation, we do not know the relevance of this figure to current research or to more recent trends. We explore the magnitude of time it takes for translation of research to uptake of evidence-based practice in cancer.

**Methods**

We included evidence-based programs, practices, or interventions (referred to as EBPs) in cancer prevention and screening with professional guidelines and population-based data on uptake. We included five EBPs: clinicians’ advice to quit smoking, HPV vaccination, HPV testing, colorectal cancer screening, and mammography. To determine the time from research publication to implementation, we identified the seminal study, defined as a published article that provided sufficient evidence for the effectiveness of the EBP. All but one of our EBPs had an RCT as the seminal study. The exception, HPV testing, was an observational study. Next we identified professional guidelines issued wholly or in part by a government agency that were concurrent with the findings of the seminal study. We also searched for systematic reviews to determine if the evidence from the seminal study had been incorporated into the review. The data on uptake of the EBP was reviewed for all years where available, to follow any trends.

We calculated the number of years from publication of the seminal study to initial publication of the guideline to implementation, defined as 50% uptake in the population for which that EBP was recommended. We also calculated the average number of years to implementation for all five EBPs. We also traced other important events along the pathway to implementation that occurred after the seminal study and contributed to the development of the full evidence base leading to a guideline or a review.

**EBP Implementation Timelines**

The timelines for each EBP represent different events along the pathway to implementation and the data on uptake that was available either prior to reaching 50% uptake or after reaching 50% uptake.

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