Health services research is translational: lessons learned from VHA-funded research on cancer screening in older adults

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The Veterans Health Administration (VHA) has many unique strengths, such as its national electronic medical record and large clinically rich databases, which make it an ideal system for conducting health services research to improve patient care nationally. Health services research examines how people access health care, how much care costs, and what happens to patients as a result of this care under everyday conditions [1]. For several reasons, it has generally not been considered “translational behavioral research.” First, most translational research focuses on the development and implementation of interventions. In contrast, most health services research takes a broader view by studying the real-world use and outcomes of interventions to affect changes in current practice. Second, translational behavioral research has traditionally focused on increasing the use of interventions in clinical practice, such as increasing the use of cancer screening. In contrast, a core task of health services research has been to identify problematic clinical practices in which interventions are not appropriately targeted to the patients for whom they are intended. These approaches can be at odds when the push to increase the use of an intervention causes a high uptake among patients in whom the harms likely outweigh the benefits. For example, efforts to increase cancer screening may increase screening among patients with advanced age and severe comorbid illness [2]. Third, research focused on discovering the harms of interventions in every day practice is generally more difficult for health system leaders to accept than research to broadly implement new interventions. However, VHA has been an unwavering leader in health services research that evaluates the appropriate use of interventions and informs patients and clinicians about the real-world benefits and harms of interventions.

VHA has funded numerous health services research studies to determine whether interventions are being targeted to the patients for whom they are intended and the harms that may occur when targeting is not

Implications

Practice: To avoid unintended harms, cancer screening efforts should be tailored to the characteristics of individuals, and efforts should be directed to informing those who should avoid screening as well as those who might benefit from screening.

Policy: Cancer screening guideline developers should consider the potential for harmful unintended consequences when cancer screening is not targeted to the characteristics of individual patients.

Research: Funding mechanisms are needed to continue to support independent health services research to optimize appropriate use of cancer screening in clinical practice.

appropriate. Examples include VHA-funded studies conducted both inside and outside the VA healthcare system showing that targeting cancer screening to older adults is often dictated more by age than health or life expectancy which results in: (1) failure to screen healthy older patients who are likely to live many years and may benefit from screening; and (2) overscreening ill patients with multiple medical problems who have little or nothing to gain from screening for an asymptomatic disease and are at increased risk for experiencing the immediate harms of screening [2–5]. Interventions that simply aim to increase overall cancer screening (rather than target screening to healthy older patients) will worsen overscreening and increase harms of a screening program. For example, in the 1990s California state auditors required On Lok, a San Francisco-based program that cares for nursing home eligible elders, to institute a program of screening mammography for all its enrollees, regardless of frailty. I was funded to conduct health services research which found that nearly one in five frail women experienced burdens without benefit from the mandatory screening program due to workup refusals, false-positive results, and the identification of clinically insignificant disease leading to unnecessary harmful

procedures and surgeries during the last years of life [6]. This study convinced state auditors to abandon their mandatory mammography policy for health plans that care for frail elders. This was my first lesson in understanding the important role health services research plays in providing scientific evidence about the harmful consequences of interventions in populations generally omitted from clinical trials which is then translated into changes in clinical practice and policy. This also suggests applications for which health services research can be translational in informing areas of controversy, such as prostate-specific antigen screening. For example, health services research can identify characteristics of patients for whom the burdens of screening are highest to inform who should avoid such screening.

In addition, VHA health services research plays an important role in improving the quality of medical care by identifying unwarranted practice variations in real world care and improving quality measures. One example in the area of cancer screening is when VHA funded my research as a junior investigator to determine whether compliance with the national VA colorectal cancer screening quality measure reflected quality medical care. This research found significant problems with this quality measure that equated high-quality care with high colorectal cancer screening rates regardless of clinical appropriateness or patient preferences [7]. For example, many patients were classified as receiving poor quality care for not being screened despite having valid reasons for not being screened, such as limited life expectancy or preferences to avoid colonoscopy. While VHA leadership was initially reluctant to hear that the quality measure was not as good as they had hoped, they proceeded to change the quality measure so that it no longer encourages potentially harmful cancer screening in frail elderly veterans with limited life expectancy. This taught me the lesson that translating evidence from clinical trials into black and white quality measures has many challenges that can be informed by research in order to avoid creating measures that simply encourage high rates of interventions. In addition, because quality measures are powerful tools that change clinician behavior and affect patient care, health services research that leads to improvements in these tools should be viewed as an important aspect of translational behavioral research.

I have also learned that health services research that identifies problems when interventions are not appropriately targeted may be difficult for health system leaders to hear. VHA is currently restructuring health services research to be more dependent on operational program partners who generally are more interested in increasing uptake of interventions than in learning about problems caused by poor targeting of their interventions. For example, increasing uptake of Care Coordination Home Telehealth has recently become an important goal in VHA. But anecdotal experience from SFVA

geriatrics clinic suggests that this intervention is not always targeted to patients for whom the benefits outweigh the burdens. Many of my frail older patients with well-controlled hypertension are being enrolled in the program, creating stress in their already overburdened caregivers who are now told to check blood pressure measurements daily, despite minimal clinical benefit. One of my patients said to me about Telehealth—"It reminds me every day that I'm sick." Without health services research, it will be impossible to know whether these observations are mere anecdotes or evidence of a generalizable problem. Therefore, it is important that such research not be avoided because an intervention is politically popular. VHA must ensure that there are always mechanisms available to support independent health services research that optimizes appropriate use of interventions in clinical practice and develops methodology that will serve as a platform for advancing future research in the area. This research should be in concert with other translational approaches, such as the RE-AIM framework, which also aims to optimize the targeting of interventions and discover unintended adverse consequences [8].

As a VA clinician-researcher, I have learned that VHA is a tremendous healthcare system and committed to health services research to improve real-world practice. VHA has the integrated information systems to study on a national scope the use and outcomes of interventions in everyday practice, which most other systems have no capability to study. VHA researchers need to do their part to make sure that research identifying areas for improvement are viewed as evidence of VHA's intense focus on quality improvement and not simply viewed as evidence of problematic care. Health programs and health systems that only publish research focused on high uptake of interventions and flattering outcomes should provoke worry, because they are missing the opportunity to improve real-world care. VHA health services research continues to provide a scientific basis for continuous improvements in health care and should be viewed as an important aspect of translational research.

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