

# THE VALUE AND IMPERATIVE OF QUALITY MEASURES FOR ADULT VACCINES

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**EVERY YEAR IN THE UNITED STATES**, tens of thousands of adults die of vaccine-preventable diseases.<sup>1</sup> Influenza, hepatitis, and pneumococcal pneumonia claim lives that could have been saved by routine vaccination. Additionally, unnecessary pain and suffering are caused by the underutilization of other commonly recommended vaccinations, including Tdap (tetanus, diphtheria, pertussis), herpes zoster, and human papillomavirus vaccine (HPV). These vaccine-preventable diseases also create onerous costs for an already strained healthcare system.<sup>2</sup>

Yet this may only be the tip of the iceberg. Vaccine-preventable diseases disproportionately affect older, more vulnerable adults,<sup>3</sup> including those with chronic illness. As the U.S. population ages at an unprecedented rate—with the 50+ and 80+ demographics growing faster than any other—it has become imperative to improve adult vaccination rates.

The evidence that vaccines have both individual and social benefits is indisputable.<sup>4</sup> For decades, researchers have been making the case for the safety, efficacy, and cost-effectiveness of vaccination. Health officials, advocacy groups, professional medical associations, and multi-governmental organizations have publicly supported vaccination for both individual and public health outcomes, and the health economic literature on the subject reaches the same resounding conclusion: adult vaccination improves health and reduces costs.<sup>5</sup>

Further, based on new evidence and scientific knowledge, the Advisory Committee on Immunization Practices (ACIP),<sup>6</sup> a diverse group of healthcare experts, routinely develops and updates essential guidance, recommendations, and revisions for vaccinations that adults should receive.

## “Measurement focuses the mind of the delivery system.”

**Peggy O’Kane**

National Committee  
for Quality Assurance

Currently, adults can receive vaccinations in a number of locations, including doctors’ offices, health clinics, pharmacies, and in community-based clinics, including those in grocery stores. The availability of vaccines in multiple locations should be celebrated; it suggests that preventive healthcare among adults is taking root.<sup>7</sup>

Yet, adult vaccination rates remain far below national public health targets.<sup>8</sup> There are a number of reasons why. The value of preventive care among adults is often underappreciated; the information technology that could coordinate care is lacking; and access to vaccination and reimbursement to providers is believed to be limited.<sup>9</sup>

A solution to the challenges currently facing adult vaccination is appropriate vaccine quality measures.

Currently, there are two national measure developments underway that could help improve access to adult vaccines and spur increased utilization of vaccines. If successful, these measures would not only improve patient outcomes, but they would close the quality gap and reduce costs to the U.S. healthcare system.

The first is the implementation of the Medicare Access & CHIP Reauthorization Act of 2015 (MACRA), which updates Medicare’s payment process by using quality of practice as the largest precondition for payment.<sup>10</sup> This change is designed to provide incentives to clinicians to focus on the quality of care they deliver. Measures for adult vaccinations fit within this framework.<sup>11</sup>

The second is the new Core Quality Measures Collaborative (“the Collaborative”), which is led by America’s Health Insurance Plans (AHIP) and its member plans’ Chief Medical Officers, leaders from the Centers for Medicare and Medicaid Services (CMS), and the National Quality Forum (NQF), as well as national physician organizations, employers, and consumers. The Collaborative is working to promote consensus on core performance measures.

The Collaborative and the Medicare Incentive Payment System (MIPS) should take a leading role in reducing the U.S. adult immunization deficit by developing a robust adult immunization quality measurement set. As Peggy O’Kane, the President of National Committee for Quality Assurance (NCQA) said in May 2016, “Measurement focuses the mind of the delivery system.”

**If quality performance determines payment, then quality measurement must be reliable, transparent, evidence-based, and meaningful to both providers and patients.**

## **WHY NOW? ADULT VACCINATION MEASUREMENT FITS WITHIN CURRENT STRUCTURAL CHANGES IN HEALTHCARE**

**THE U.S. HEALTHCARE** system is in the midst of an historic shift. It is evolving from a fee-for-service model to a value-based system where healthcare providers are reimbursed, in part, for the quality of care they provide—and the health outcomes they improve.

Such an evolution opens a number of questions that must be answered. The most pressing is how to assess quality across the healthcare system without overburdening providers. If quality performance determines payment, then quality measurement must be reliable, transparent, evidence-based, and meaningful to both providers and patients. Quality measures are emerging as a fundamental component of new payment models, particularly given the newly redesigned Medicare physician payment system established in MACRA. The MACRA payment system, according to CMS, is designed to “replace the patchwork system of Medicare reporting programs with a flexible system” that more directly links quality to payments.<sup>12</sup>

A second pressing question prompted by the shift in the U.S. healthcare system is how providers and systems can find a balance between quality and shared savings. Will healthcare systems over-emphasize lower costs at the expense of preventive interventions, such as adult vaccinations? The lessons from managed care suggest we need to ensure a focus on quality and quality measures to drive utilization of preventive approaches.

The Collaborative is identifying a set of core quality measures for use across the healthcare system. The collaboration is meant to standardize quality measures as well as address both the confusion and the redundancy that has resulted from the proliferation of measures across the healthcare system.

In February 2016, the Collaborative announced seven sets of core clinical quality measures to encourage multi-payer alignment on metrics for physician quality programs. These measures address quality standards in cardiology, gastroenterology, HIV, hepatitis C, medical oncology, obstetrics and gynecology, and orthopedics.

## As many as 49,000 people die annually from influenza-associated causes.

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Annually in the U.S., among adults 65 years of age and older, there are roughly ...

**500,000**

cases of pneumococcal pneumonia

**200,000**

hospitalizations related to pneumococcal pneumonia

**19,200**

deaths attributed to pneumococcal pneumonia

**\$5.5 billion**

in costs related to pneumococcal pneumonia

The quality standards apply in accountable care organizations (ACOs), patient-centered medical homes (PCMH), and primary care.<sup>13</sup> In none of these seven core measures does adult immunizations appear. This is an oversight that must be corrected.

## THE COST-SAVINGS OF ADULT IMMUNIZATION

**OVER THE PAST** century, childhood vaccination has become public health common sense. In children, we immunize to prevent disease, and through this immunization, a “herd immunity” arises and protects other children who are not vaccinated. Similar benefits can be seen through the immunization of pregnant women, as a vaccine protects not only the mother, but also the fetus and the infant.<sup>14</sup> This immunization success holds important lessons for adult vaccination. We must immunize to prevent, rather than waiting until adults require acute care to treat disease. Adult vaccination is at the foundation of healthy aging.

As the U.S. population ages—with 78 million Baby Boomers becoming seniors—it is urgent to implement this strategy of prevention. Quite rightly, policymakers and public decision makers are anxious about the healthcare costs that an aging population will create. But such anxiety fails to account for an essential point: the aging of the U.S. population will only bring substantially higher medical costs if it is marked by poor health and disability.<sup>15</sup> A healthy aging population can become a driver of economic growth.<sup>16</sup>

Higher vaccination rates among adults have lowered the number of clinic visits, the rate of hospitalizations, and the incidence of long-term disability, and they have saved substantial costs.<sup>17,18</sup>

Every year, more than 40,000 U.S. adults are hospitalized or die due to diseases that are potentially vaccine-preventable.<sup>19</sup> Of these, influenza is the deadliest. As many as 49,000 people die each year from influenza-associated causes,<sup>20</sup> and influenza causes over 200,000 hospitalizations per year on average in the U.S.,<sup>21</sup> which costs \$10.4 billion annually.<sup>22</sup> Another 850,000-2.2 million U.S. adults are estimated to be currently living with hepatitis B; there were 31,600 reported cases of acute and chronic hepatitis B in 2014 alone, 3,649 of which were fatal.<sup>23</sup>

**A majority of patients are unsure of their vaccination status, and it can be difficult to track adult vaccine schedules, especially for older adults with complex health issues.**

Pneumococcal pneumonia also presents major individual and public health threats. In the U.S., among adults 65 years of age and older, there are roughly 500,000 cases of pneumococcal pneumonia annually, which lead to 200,000 hospitalizations, 19,200 deaths, and \$5.5 billion in costs.<sup>24</sup>

The cost effectiveness of adult vaccines can be significant, especially among older adults. Influenza vaccination saves \$182 in medical costs per vaccination, per person aged 65 years and older.<sup>25,26</sup> The pneumococcal vaccine saves \$8.87 in societal medical costs per person aged 65 years and up.<sup>27</sup> With 46.2 million U.S. adults over the age of 65, these two vaccines could create substantial savings.

These figures, however, do not account for the “invisible” costs of disease, like the lost productivity of family caregivers. Among older adults, family caregivers are frequently needed to manage illness, and their work life often suffers.<sup>28</sup>

## **QUALITY MEASURES CAN FILL LONGSTANDING GAPS**

**THERE ARE SIGNIFICANT** gaps between the national adult immunization goals of public health officials and the reality of current medical practice. For example, Healthy People 2020—a ten-year national plan for improving the health of all U.S. adults—established an influenza immunization coverage target of 70% for people 18 and older.<sup>29</sup> In the 2010-2011 flu season, only about 38% of individuals in this age group received the vaccine, according to the National Health Interview Survey.<sup>30</sup> Further, the U.S. is far behind the goals set by Healthy People 2020 for pneumococcal immunization—by some estimates, 30 percentage points behind.<sup>31</sup>

Adult vaccination rates are even lower among low-income and underserved populations.<sup>32</sup> Here, childhood immunization offers another lesson. The Vaccines for Children Program (VFC), a federally funded effort that immunizes uninsured children at no cost, has nearly eliminated ethnic and racial disparities in immunization coverage.<sup>33</sup> The same level of success has not been achieved with adults. As one example, the pneumococcal vaccination rate for individuals over 65 is 67% for whites, 52% for blacks, and 48% for Asians.<sup>34</sup>



**We need quality measures that capture and create incentives for appropriate adult vaccinations.**

There are many reasons for these immunization shortfalls. A majority of patients are unsure of their vaccination status, and it can be difficult to track adult vaccine schedules, especially for older adults with complex health issues. Patients also seek care from a variety of providers in a range of different healthcare settings; as a result, they often encounter a fragmented healthcare system that does not take a comprehensive, proactive approach to adult immunization.<sup>35</sup>

At the core of increasing the rate of adult vaccinations is improving the practices of healthcare providers (HCPs). According to a number of studies, there are multiple layers of challenges for HCPs. For example, physicians are often unaware of established adult vaccination recommendations.<sup>36</sup> Also, they often do not have the ability to review their patients' vaccination status. According to one survey, just 29% of general internists and 32% of family physicians reported assessing their patients' vaccination status at every visit.<sup>37</sup>

In addition, health information technology is not—but should be—linked directly to adult immunization records. While every state has an across-the-lifespan immunization information system (IIS), adult immunizations are not well populated within IIS systems. Additionally, there is limited interoperability between each state's IIS, and many IIS systems do not communicate bidirectionally with electronic health records. Furthermore, there is limited coordination between independent health information systems, making it complicated for doctors, pharmacists, patients, and caregivers to share immunization information.<sup>38</sup> While electronic health records are only beginning to scratch the surface in terms of interoperability, as they grow, become more interoperable, and enable bidirectional communication with state IIS systems, vaccination records should be able to be readily updated and viewed by HCPs, pharmacists, payers, patients, and caregivers.

Much progress is needed, particularly when considering the potential future vaccines hold for improving health. One path is clear: quality measures that capture and create incentives for appropriate adult vaccinations.

There is evidence that a composite measure of the adult patient cohort's vaccination schedule—such as those demonstrated by

**One recent study identified over 509 state and regional quality measures in use, yet only 20% of these measures were included in more than one program, and no single quality measure was included in every program.**

the Northwest Tribal Epidemiology Center<sup>39</sup> and by the National Nursing Home Quality Care Collaborative<sup>40,41</sup>—can improve outcomes.<sup>42</sup> Such a measure would put vaccination coverage rates into a larger context and encourage a more systematic approach for all vaccines.

To succeed with adult vaccines, it is important to have an authoritative standard for national use. With many quality measures, it can be difficult to distinguish the signal from the noise. For example, one recent study identified over 509 state and regional quality measures in use, yet only 20% of these measures were included in more than one program, and no single quality measure was included in every program.<sup>43</sup> Such a patchwork system may lead to more confusion and lower adherence with adult vaccination.

As a result, MIPS and the Collaborative can play an important role in clearing up this confusion, improving adult vaccination rates, and contributing to the reduction of vaccine-preventable diseases.

## **A VISION FOR QUALITY MEASURES FOR ADULT VACCINES**

**WE NEED TO** begin moving toward nationally recognized, evidence-based adult immunization measures that both vaccine providers and payers can use as a benchmark for performance. The National Quality Forum (NQF) set the foundation for this work in 2014, when it identified several areas where performance measurement could “optimize vaccination rates and outcomes across adult populations.”<sup>44</sup> NQF’s work provides a starting point for further quality measures to be developed.

In addition, the Pharmacy Quality Alliance (PQA) is currently developing immunization quality metrics to identify and address gaps in adult immunization and improve reporting to immunization registries.<sup>45</sup> Immunization Information System Reporting (IISR) seeks to measure how frequently immunization providers are documenting immunization in the IIS, because reporting to IIS ensures that providers can assess patient immunization status through state and municipal immunization registries.

To improve adult immunization rates, it is essential to assess a patient’s need for ACIP-recommended vaccines. Without this assessment, vaccines will not be given.<sup>46</sup> Thus, an immediately



**A composite measure for adult immunization, which the NQF has declared a priority, would encourage immunization and comprehensive oversight of adult patients' vaccination schedules.**

actionable vaccine quality measure could record a clinician's assessment of a patient's need for adult vaccinations. The measure could be as simple as answering the questions, "Did the physician assess the patient for recommended adult vaccines?" or "Is the adult patient up-to-date with all ACIP-recommended vaccinations?"

Following such an assessment by a patient's main provider, individuals would receive recommendations on which vaccines they need, and they would have the opportunity to receive the vaccination, either with that provider or elsewhere. Then, an appropriate measurement tool would need to ensure that the provider receives credit for the patient receiving that vaccine.

Such measures could be the cornerstone of a renewed adult immunization commitment. They would begin a patient-centered effort that ensures an HCP is credited for assessing the patient's immunization status and needs, educating the patient and making recommendations, and administering the vaccines or referring the patient to an alternative provider, and documenting the process.<sup>47</sup>

This is consistent with the recently revised National Vaccine Advisory Committee's Standards for Adult Immunization Practice.

A second option to be considered is a composite measure. A composite measure for adult immunization, which the NQF has declared a priority,<sup>48</sup> would encourage immunization and comprehensive oversight of adult patients' vaccination schedules. It is important to note, as part of this recommendation, that a composite measure should be built alongside existing measures, and that existing measures be retained and utilized.

**A nationally recognized quality measure for adult immunizations should be supported by MIPS, the Collaborative, and other private programs that utilize quality measurement tools.**

## **NEXT STEPS: FROM IDEA TO ACTION**

**ADULT VACCINATION CAN** prevent illness and death, reduce caregiving demands, save unnecessary healthcare spending, and set the foundation for healthy aging. But this potential can only be realized if we track adherence to the measure. For this reason, a nationally recognized quality measure for adult immunizations should be supported by MIPS, the Collaborative, and other private programs that utilize quality measurement tools.

To ensure the success of quality measurement for adult immunizations, the following should be considered:

- 1 Elevate the influenza and pneumococcal quality measures for a cross-cutting status for all existing quality programs**
- 2 Train non-physician clinical staff to assess and record vaccination history, and administer vaccines**
- 3 Adopt standing-order protocols for adult vaccination for use in situations where certain HCPs do not otherwise have independent practice authority to initiate adult vaccinations**
- 4 Engage minority community leadership, following the example of the public health community's efforts to increase childhood vaccination rates**
- 5 Work with academic institutions that train immunization providers and continuing education programs to embed a "prevention mindset" for those who treat adult populations**
- 6 Consider HCP concerns about payment**

This paper is intended to stimulate dialogue about adult immunization so that this preventive measure can take its rightful place in U.S. population health strategies. The goal has been to set the foundation for such a dialogue, because what gets measured, often gets done.

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A photograph of a person's arm being vaccinated. A hand in a white glove holds a syringe, injecting a vaccine into the arm. Another hand in a white glove is applying a white bandage to the injection site. The person's face is partially visible in the background, looking down at their arm. The entire image has a blue tint.

# AVAC

## ADULT VACCINE ACCESS COALITION

Many of the themes contained in this white paper were developed with input from AVAC's membership. AVAC consists of over 45 organizational leaders in health and public health who are committed to overcoming the barriers to adult immunization and to raising awareness of the importance of adult immunization. AVAC's mission is informed by the growing body of scientific evidence that shows that immunizations improve health, protect lives against debilitating and potentially deadly conditions, and save costs to both the healthcare system and to society as a whole. AVAC's full membership can be viewed at: [www.adultvaccinesnow.org](http://www.adultvaccinesnow.org).