THE GERONTOLOGICAL SOCIETY OF AMERICA®

ADVANCING THE NATIONAL ADULT IMMUNIZATION PLAN THROUGH A FOCUS ON INFLUENZA

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National Adult Vaccination Program

NATIONAL ADULT VACCINATION PROGRAM

CHARTING NEW FRONTIERS ACROSS THE AGING CONTINUUM

Spring 2016

ADVANCING THE NATIONAL ADULT IMMUNIZATION PLAN THROUGH A FOCUS ON INFLUENZA

When it comes to saving people's lives and reducing human disease and affliction, few interventions can match the record of vaccines. In fact, only one public health measure—availability of safe drinking water—has had a greater impact than has the development of safe and effective vaccines.

With that perspective in mind, The Gerontological Society of America (GSA) convened a multidisciplinary meeting, National Adult Immunization Plan (NAIP): Implementation Through a Focus on Influenza, on October 12–13, 2015, in Washington, DC. In addition to specific actions that participants identified for their own associations and institutions, the meeting generated a fount of actionable ideas for advancing influenza and other adult immunizations in diverse professional and community settings by focusing on selected goals and objectives of the plan. Participants included a mix of established leaders in adult immunization and individuals and organizations that have not traditionally engaged in the adult immunization space.

The National Vaccine Program Office, a part of the U.S. Department of Health and Human Services, drafted the NAIP and called for comments in February 2015. The NAIP details background on the immunization landscape and provides a strategic plan for federal and nonfederal stakeholders. The plan establishes four key goals—strengthen the adult immunization infrastructure, improve access to adult vaccines, increase community demand for adult immunizations, and foster innovation in adult vaccine development and vaccination-related technologies—each with objectives and strategies.[1] The NAIP, which was released in its final form on February 6, 2016, is available at http://www.hhs.gov/nvpo/national-adult-immunization-plan/naip.pdf.

The GSA meeting used influenza vaccination as a lens to study ways to increase adult vaccination rates in the United States. Influenza vaccination was chosen as a focus because of its impact on public health and because of the unique opportunity it provides to interact with patients regularly and advocate for adult immunizations. Influenza vaccination is an annual encounter during which new immunization interventions can be implemented—and their effectiveness measured—and other adult vaccines can be discussed and administered.

In addition to summarizing the meeting proceedings and actionable items from brainstorming sessions, this white paper presents examples of "Stakeholder Successes"—existing and emerging programs from meeting participants for others to consider as models for their own organizations.

"Influenza vaccination is an annual encounter during which new immunization interventions can be implemented . . . and other adult vaccines can be discussed and administered.

The NAIP has four key goals:

1. **Strengthen the adult immunization infrastructure**
2. **Improve access to adult vaccines**
3. **Increase community demand for adult immunizations**
4. **Foster innovation in adult vaccine development and vaccination-related technologies**

CURRENT STATUS OF VACCINES

One of the current problems with vaccines is relatively few people have ever seen the diseases immunizations prevent. This leads them to focus more on rare adverse effects of vaccines and to lose sight of the benefits these products provide.

"We forget what powerful agents vaccines are," R. Gordon Douglas Jr., MD, told the participants. Douglas, Chairperson of GSA's multi-stakeholder National Adult Vaccination Program (NAVP) and Professor Emeritus of Medicine, Weill Cornell Medical College, continued, "Other than safe drinking water, there's never been any modality in medicine or public health that has saved so many lives and altered human health in a way that vaccines have done."

"Smallpox is one of the serious diseases of mankind that's been eradicated by vaccines," Douglas said. "You can't imagine the impact of smallpox. All you have to do is pick up a book that was written before 1900 and read about the impact in a village or a town or a city of smallpox. An epidemic would come in and 30% or 40% of the population would die. We can't imagine that kind of thing happening."

"People today just don't understand the value of vaccines [against diseases they've never seen as children or adults]," Douglas said. "In the world of pediatrics, in every country in the world until 1900 or just a little bit after that [year], 25% of children died. Just think about that.... People today have no idea what measles is, what polio is, what diphtheria is, what whooping cough is."

GSA's Response to Challenges With Adult Vaccines

As an organization whose members study all aspects of aging, GSA is very interested in the topic of adult immunization and what can be done from several different perspectives. The research and product development parts of the process are important, but just as critical are policy decisions regarding payment for vaccines and practical matters, such as people's opinions about vaccines or transportation access to health providers.

"When we set out to establish the National Adult Vaccination Program 4 years ago, we wanted to make sure we were aligning it with readily available, readily recognized measurements," GSA Executive Director and CEO James Appleby, BSPharm, MBA, told attendees. The Healthy People 2020 goals provide a measure to use in goal achievement, Appleby said, and the NAIP, finalized after the meeting, provides a roadmap on specific national goals, objectives, and strategies for getting to 2020.

"We've done a great job in pediatrics" with vaccinations, Douglas said. "Pediatricians have adopted [immunization of children] as a primary job. Well-baby visits are all timed around vaccinations. In pediatrics, there are school mandates. Your kids cannot go to school until they've been vaccinated. Those two things make vaccines a tremendous success in pediatrics. We don't have that luxury in adult immunizations, so we have to be smarter, wiser, and come up with other methodologies."

NAVP, a multi-stakeholder industry-supported collaboration, seeks to extend the successes of pediatric vaccines into the adult population. It is working to achieve this goal by developing and implementing a

COMPOSITION OF GSA'S NATIONAL ADULT VACCINATION PROGRAM WORKING GROUP

CHAIRPERSON

R. Gordon Douglas Jr., MD
Weill Cornell Medical College

MEMBERS

Rebecca Gehring, MPH
American College of Physicians

Stefan Gravenstein, MD, MPH
Alpert Medical School of Brown University

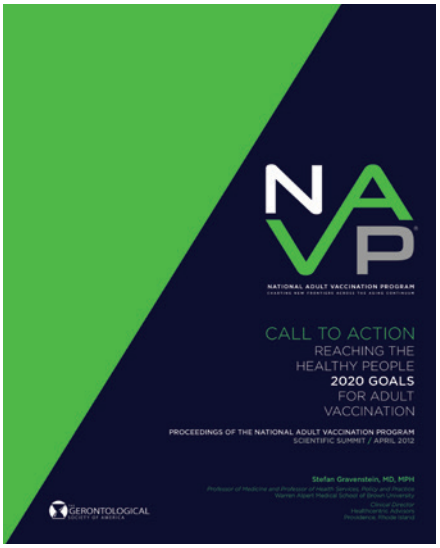
Lisa McKeown, MPH
National Association of County and City Health Officials

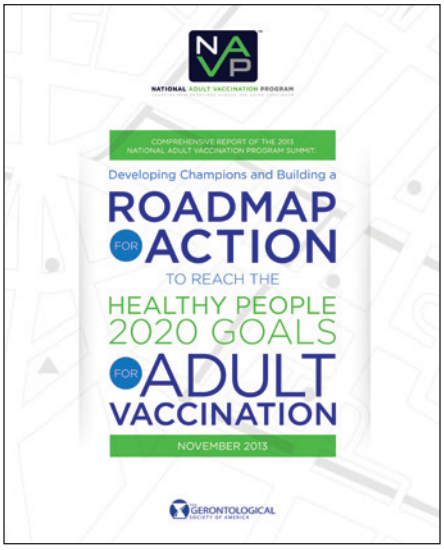
Jerry Penso, MD, MBA
American Medical Group Association

Barbara Resnick, PhD, RN, CRNP, FAAN, FAANP
University of Maryland School of Nursing

William Schaffner, MD
Vanderbilt University School of Medicine

FIGURE 1. NAVP CONVENES STAKEHOLDERS, RECOGNIZES OUTSTANDING IMMUNIZING PRACTITIONERS, AND DISSEMINATES IDEAS AND INFORMATION





cohesive strategic and policy approach that is aligned with the recommendations of the Advisory Committee on Immunization Practices (ACIP) of the Centers for Disease Control and Prevention (CDC).

A hands-on working group (see sidebar) provides strategic direction and advice to NAVP.

Over the past 4 years, NAVP has convened expert panels and stakeholder groups to identify gaps and challenges as well as work on a roadmap for making improvements in adult vaccinations (Figure 1); their activities also include publishing on this topic on a regular basis, Douglas told attendees. "I think we have good vaccines today for a number of diseases that we didn't have before," he continued, "and we have an opportunity to make an impact on health in this country. We've improved adult vaccination rates for influenza to some degree and other diseases too. But we're talking to ourselves, and we are not going to be able to move the needle any farther by doing that. We will need to reach out to other groups and patients too. What I'm interested in doing is moving the needle. That's what this is all about."

Meeting Purpose and Participants

As Douglas suggested, NAVP is keenly interested in moving the needle with regard to adult immunizations. The October 2015 meeting of key stakeholders (see Appendix 1) was convened to begin the process of generating implementation strategies for NAIP by focusing on vaccine prevention of influenza to address selected objectives of the plan. From the objectives in the full plan (see Appendix 2 for an abbreviated presentation of the NAIP), the versions of the specific objectives selected for speakers and participants to address were as follows:

- **Objective 1.6:** Generate and disseminate evidence about the health and economic impact of adult immunization, including potential diseases averted and cost-effectiveness with the use of current vaccines.
- **Objective 2.3:** Expand the adult immunization provider network.
- **Objective 3.2:** Educate and encourage health care providers to recommend and/or deliver adult vaccinations.

Stakeholder Successes

A "NICHE" IN PATIENT AND FAMILY EDUCATION

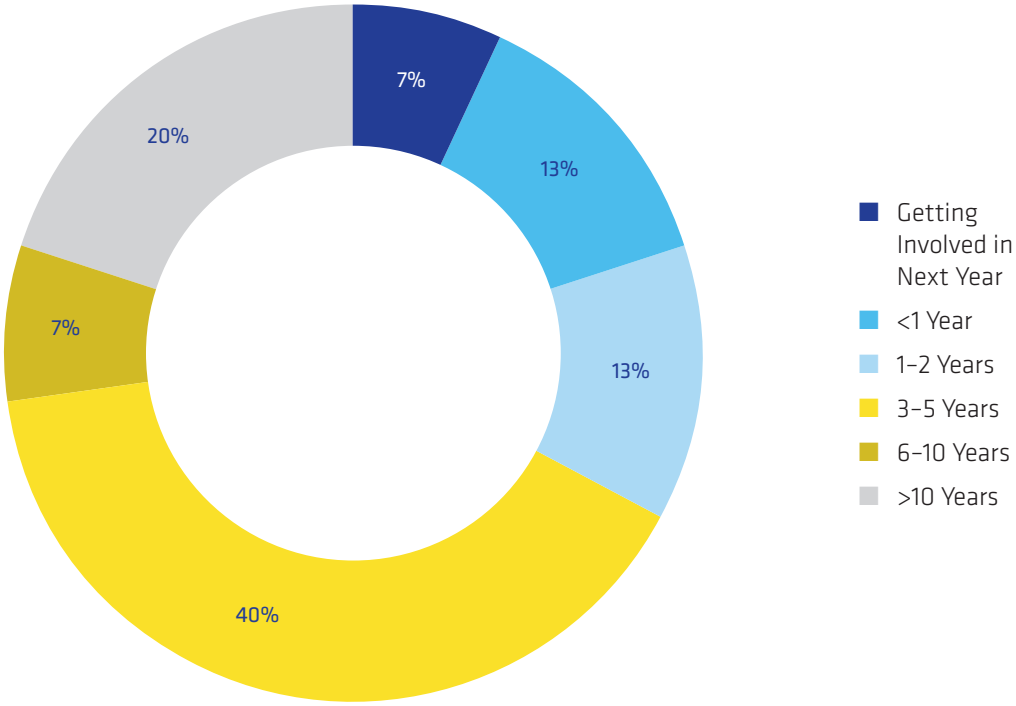
Increasing vaccination rates of older adults is the goal of an interdisciplinary, multisetting project at NICHE, Nurses Improving Care for Healthsystem Elders. In short, the group "has the full continuum of care under one roof," Holly Brown, MSN, GNP-BC, told attendees. Brown is Director of Continuing Care for NICHE.

Using webinars to promote innovation at the group's 660 hospitals and post-acute long-term care facilities, NICHE is enabling health professionals to conduct in-service education and provide toolkits for staff at member institutions. These immunization advocates in turn encourage elders to get vaccinated and keep immunization logs that they can take to provider visits.

Of course, there is an app for this. NICHE's For Patient + Family mobile app focuses on what patients and families need to know as they interact with the health care system, Brown said. The app includes information needed during the critically important transitions of care. "Our members help their patients and families download the app so that they really can have information at their fingertips," Brown said in conclusion.

A mix of established leaders in adult immunization and individuals and organizations that have not traditionally engaged in the adult immunization space participated. As shown in Figure 2, participating organizations included groups active in immunization interests for more than 10 years and others planning to launch efforts in the coming year. Primary areas of expertise included education and training, policy and practice, patient and consumer information, preventive health, immunizations, research, patient care, and government.

FIGURE 2. AMOUNT OF TIME PARTICIPATING GROUPS HAVE BEEN ACTIVE IN ADULT IMMUNIZATION ADVOCACY (n = 15)



Meeting Methodology and Activities

The meeting presented evidence and examples of successful practices and engaged participants in planned, facilitated activities to harness their experience, perspectives, and efforts in adult immunization; the purpose of these activities was to develop actionable building blocks and solutions for advancing this national plan toward implementation at the grass roots level, where broad, collective change occurs one person at a time.

Participants engaged in a series of structured, facilitated breakout activities related to the three identified NAIP objectives that were addressed in the plenary presentations. Participants were divided into groups that focused their attention on each objective from the perspectives of participants who represented Providers/Health Care Team, Patient/Caregiver/Public, and those in the Policy/System/Framework arenas.

In addressing the stated Objective 1.6, each group engaged in a messaging activity to develop building blocks for key messages. The activity assessed stakeholders and stakeholder perspectives and worked to develop targeted messages. Key outcomes included a list of stakeholders and building blocks for message development targeted to stakeholder groups.

For Objective 2.3, each group engaged in two defined activities—brainwriting and an affinity diagram—focused on access strategies in the NAIP. Brainwriting is a silent brainstorming activity designed to elicit input from all participants equally and generate many potential implementation strategies within a short period of time. The group questions were as follows:

- Public: How can stakeholders implement NAIP strategies for improving access to adult immunizations for the public?
- Health Care Providers/Professionals: How can stakeholders implement NAIP strategies for improving access to adult immunization?
- Policy/System/Framework: How can stakeholders implement NAIP strategies for improving access to adult immunization through system/policy improvements?

After the brainwriting exercise, each group created an affinity diagram using a defined process to enable sorting and categorization of the identified strategies. The outcome of the affinity diagram is identification of 6 to 10 key overarching implementation strategies per group for this objective.

In addressing Objective 3.2, participants developed ideas that can be used by immunizers (health care professionals who administer vaccines), facilitators (those who develop systems or programs that

provide immunizations), and advocates (anyone—health professional or not—who wants to encourage others to get immunized). Using a facilitated, guided discussion, participants were challenged to consider their constituents, members, stakeholders, and targets within their influence to determine what can be done to reinforce positive vaccine recommendations; how to equip and empower individuals to want and seek opportunities to vaccinate or be vaccinated; and how to direct stakeholders to expanded places of access and information needed to understand the value and benefit of influenza immunization beyond primary disease prevention.

The National Roadmap for Adult Immunizations

Bringing meeting participants up to date on the current status of adult immunizations, Bruce G. Gellin, MD, MPH, described the four goals that provide structure to the NAIP:

- Strengthening the immunization infrastructure.
- Improving vaccine access.
- Improving vaccine demand.
- Fostering innovation both in terms of the vaccines and the technologies related to vaccinations.

Gellin is Deputy Assistant Secretary for Health and Director of the National Vaccine Program Office in the U.S. Department of Health and Human Services Office of the Assistant Secretary for Health. During the October 2015 meeting, Gellin told the group that finalizing NAIP was a priority for his office, and the plan was subsequently finalized in February 2016.

"Everybody has a role to play" in the NAIP, Gellin said. "That's why it's a national plan and not a federal plan." After describing the way various federal agencies are working different aspects of the NAIP, Gellin called on the attendees to do their part in making the plan a reality. "We can't hold you accountable," he said. "But we can at least hold you up [for others to see], follow what you're doing, and try to help you do what you intend to do."

Gellin was especially supportive of GSA's role as a facilitator and change agent in the vaccine process. "A couple years ago when I came to your meeting about this topic, I was just learning about GSA and its activities," Gellin said. "In fact, it was your plan that fed very much into the national vaccine plan. We had been talking to ourselves, [but your meeting produced] the idea that [we needed to] reach into whole different sets of communities who all have a piece to play."

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>
> —Bruce G. Gellin, MD, MPH
> Deputy Assistant Secretary for Health and Director of the National Vaccine Program Office, Office of the Assistant Secretary for Health, at the U.S. Department of Health and Human Services

Stakeholder Successes

MINORITY HEALTH CARE: BIG ANSWERS FROM BIG DATA

Can geographic analysis combined with health and provider information provide direction when it comes to reducing immunization disparities among the nation's minorities? Absolutely, Lydia C. Pan, PhD, of the National Minority Quality Forum (NMQF) told attendees.

Pan, the former Program Director for Vaccination Disparities at NMQF, shared fascinating insights into how limited human and fiscal resources can be maximized to redress adult vaccination disparities in minority populations. NMQF's efforts are based on a primary realization: Populations that are classified as minorities in the United States are concentrated in just 6,000 of the nation's 38,000 residential ZIP codes. Specific minority population groups are even more concentrated: 70% of African Americans/Blacks live in 2,500 ZIP codes, 50% of Hispanics in 1,500 ZIP codes, and 50% of Asian/Pacific Islanders in 1,500 ZIP codes. Just 500 hospitals are located in the 6,000 ZIP codes, and some 40,000 primary care providers are available to improve access to essential health services.

NMQF uses geographic mapping software, cluster analysis, and predictive analytics to document health care and health status disparities among minority populations in these areas, and to identify opportunities to redress these disparities. Through a partnership with the American College of Physicians (ACP), NMQF plans to map the prevalence of vaccine-preventable diseases in target geographic areas, highlight unmet immunization needs, and produce reports based on customized templates. The desired result of the NMQF/ACP partnership will be "an integrated program to try to target some communities where there are high disparities," Pan said.

HUMAN AND ECONOMIC COSTS OF INFLUENZA

For older people and others with multiple chronic diseases, influenza is not just a "bad event" that patients get over and "go back to normal," said Ayman Chit, PhD, Assistant Professor at the University of Toronto and Senior Director of Health Economics and Modeling and Market Access for Sanofi Pasteur.

Influenza can be the start of a catastrophic cascade with the potential to be as detrimental to older patients as strokes and hip fractures.

Catastrophic disability is defined as loss of independence in three or more activities of daily living. Among patients who experience catastrophic disability, 72% have been hospitalized.[2] Pneumonia/influenza is a leading cause of catastrophic disability, along with strokes, congestive heart failure, ischemic heart disease, cancer, and hip fracture.

"Influenza acts as a trigger," Chit said, one that "can be a silent trigger as far as our ability to associate [the disease with the] outcomes." A key difficulty in associating influenza with its complications is that other conditions are often listed as the discharge diagnosis in hospital records; influenza's clinical connection to heart failure, myocardial infarction, stroke, pneumonia, and chronic obstructive pulmonary disease is not immediately evident. Figure 3 illustrates this point through reviewing influenza-associated hospitalization rates for admissions defined by narrow and then broad categories in adults 65 years of age and older. Figure 4 illustrates the same point using influenza-associated mortality rates.

Chit added that influenza immunization rates among those aged 65 years or older, while higher than those for other age groups, have been stalled in the 65% range for a decade—and this is despite influenza's annual economic burden of $56.1 billion among these older individuals (Figure 5). "From my perspective as an economist, I think that your easiest win at the moment is to try to go after these immunization rates, given what we know about the staggering costs of influenza and the cost savings that can be realized through influenza vaccination," Chit said.

Notably, the economics of influenza vaccine, even in a season when the circulating strains don't match well with vaccine antigens, make it a good buy for payers and patients. For adults younger than 50 years of age (for whom benefits would contribute the least, Chit noted), influenza immunization yields 1 year of perfect health for only $17,000—far below the $100,000 threshold considered cost-effective.[6]

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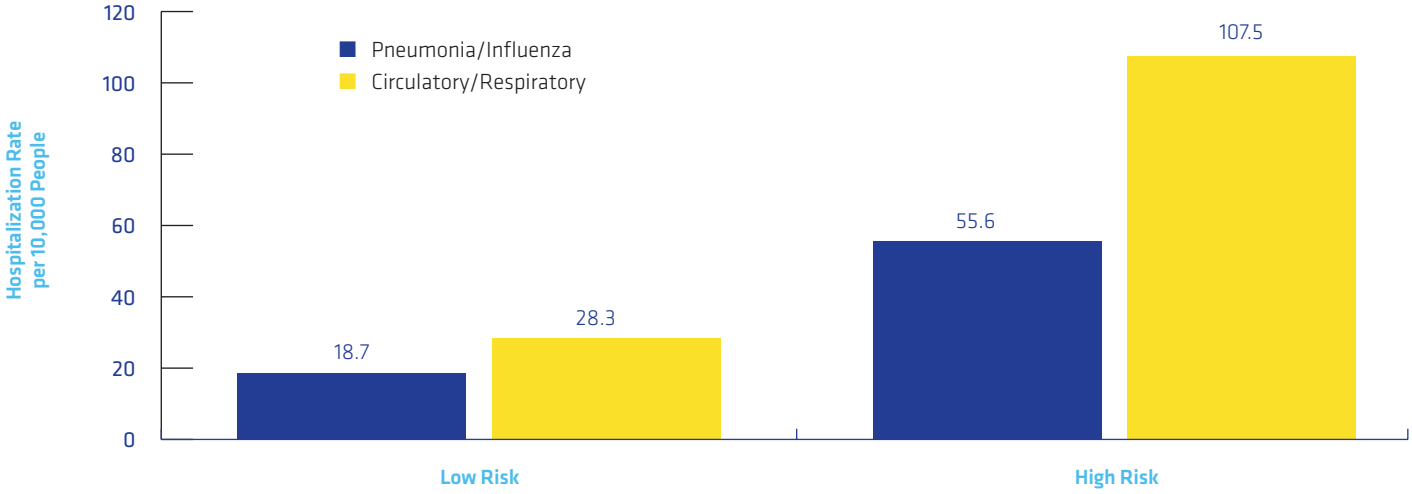
For those aged 65 years or older, influenza vaccine is not just cost effective: it is cost saving (Figure 6). Reductions in inpatient costs exceeding vaccine costs were demonstrated over four consecutive influenza seasons in an analysis of Medicare beneficiaries.[7]

Understanding the reasons—the mechanisms—for the connection between influenza and diseases as diverse as pneumonia and myocardial infarction would help clinicians.

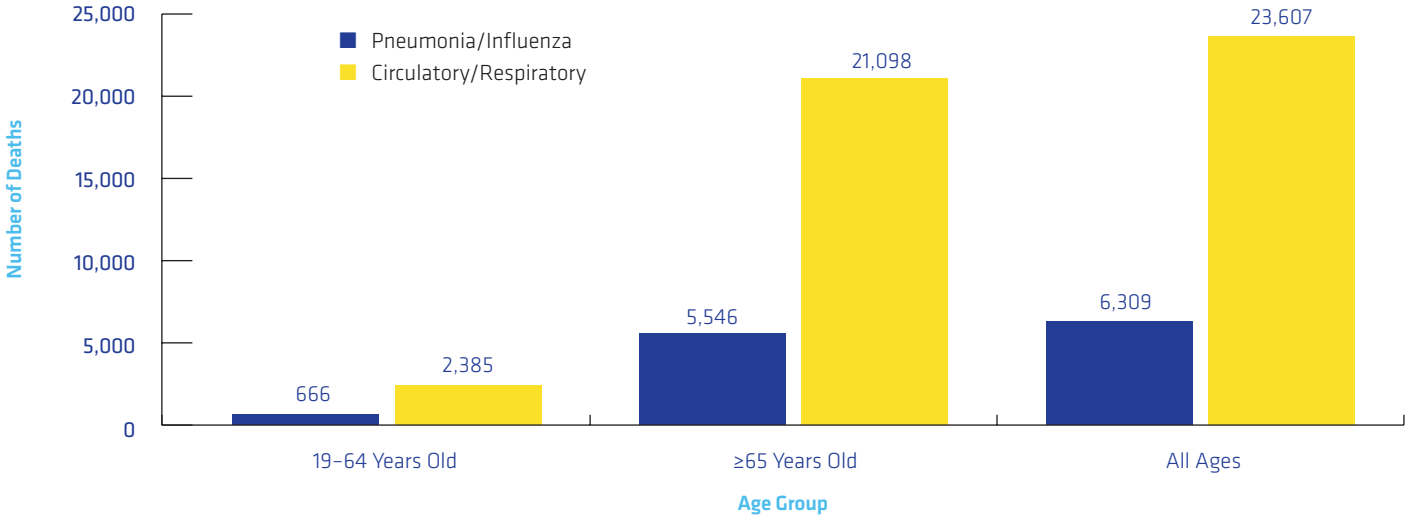
Chit described a study from England and Wales that illustrates the problem.[8] The risk of a first heart attack in patients 40 years of age or older was elevated 4.19-fold during the first 3 days of a respiratory infection occurring during peak influenza activity. Likewise, such risk was 2.69 times higher during days 4–7 and tapered to 1.41 during days 15–28.

FIGURE 3. HOSPITALIZATION RATES CALCULATED USING NARROW AND BROAD CATEGORIES OF UNDERLYING CAUSES FOR ADULTS AGED 65 YEARS OR OLDER



Source: Reference 3.

FIGURE 4. MEAN ANNUAL INFLUENZA-ASSOCIATED DEATHS BY AGE GROUP USING NARROW AND BROAD CATEGORIES OF UNDERLYING CAUSES, 1967–2007



Source: Reference 4.

- Only using "Pneumonia and Influenza" diagnosis underestimates true burden of influenza.
- Influenza is not always laboratory confirmed or documented in cases of influenza-associated secondary infections or complications.

Stakeholder Successes

NCOA'S "FLU + YOU" PAINTS REALITY FOR OLDER ADULTS

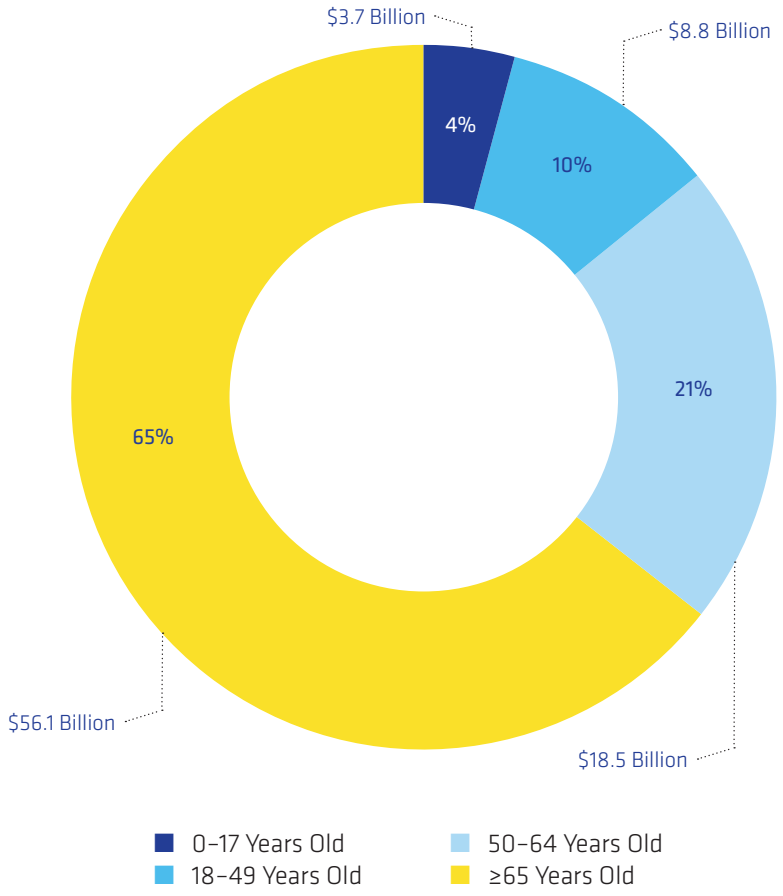
On the website of the National Council on Aging (NCOA) at https://www.ncoa.org/healthy-aging/flu-you/ consumers and health professionals can access facts, figures, and frequently asked questions about influenza and the importance of its prevention, said Kathleen Cameron, BS, MPH, the organization's Senior Director of National Falls Prevention. The Flu + You campaign, now in its fourth year with partner Sanofi Pasteur, conveys messages through infographics and videos featuring national spokesperson Judith Light, star of *Who's the Boss* and Amazon Prime's *Transparent*.

Cameron highlighted disturbing results of a survey of older adults conducted in summer 2015. "Only about 8% of those surveyed [were] concerned about the flu," Cameron said. "Myths about the flu still exist, and we have a lot of work to do in that area."

NCOA has distributed public service announcements, which appear in different markets around the country. The group also had a satellite media tour in September 2015 with interviews by many television, radio, and Internet news organizations—all "to get the word out about the importance of protecting ourselves against the flu," Cameron said.

The educational campaign was also localized using targeted events in various cities. In the Boston area, "an hour-long program educated those at the senior center about the flu and the importance of the flu vaccine and the options for the flu vaccine," Cameron said. "Then the senior center hosted a flu clinic right after where the local pharmacist came in and provided flu shots to everyone who wanted one. Almost 100 people were vaccinated that day."

FIGURE 5. ANNUAL ECONOMIC BURDEN OF INFLUENZA IN THE UNITED STATES (2003 DOLLARS)



Source: Reference 5.

In the question-and-answer session after Chit's presentation, Douglas pointed to the effects of influenza on polymorphonuclear leukocytes as one explanation for the broad impact of the virus on its human host. Fever and dehydration also can contribute to complications, Douglas said, adding that research that provides "real data on the pathophysiology" of influenza's effects is badly needed. "The idea that influenza causes morbidity and mortality due to these other causes has obfuscated what we've looked at in terms of the burden of disease," Douglas said.

Building Blocks for Key Messages Targeting Stakeholder Groups

For NAIP Objective 1.6, the meeting participants focused on dissemination of evidence about the health and economic impact of influenza immunization, including disease and cost burdens averted. As described in the methodology, participants were divided into groups to discuss and engage in creating building blocks for messaging to effectively reach individuals within target stakeholder groups.

The lead facilitator for the meeting reminded participants that, when developing messaging and how to share information, these key elements must be recognized:

- The desired action and outcome must be identified so that they can drive the message.
- Decisions and actions by individuals are driven by self-interest. To compel people to act, messages must speak to their areas of interest—not solely those of advocacy groups. The messages must target the common desire and mutuality that constitute the place of overlap between message senders and recipients (Figure 7). People have needs but will seek their wants. Target messages to wants and priorities.
- Less is more. Fewer words and fewer points yield more success.

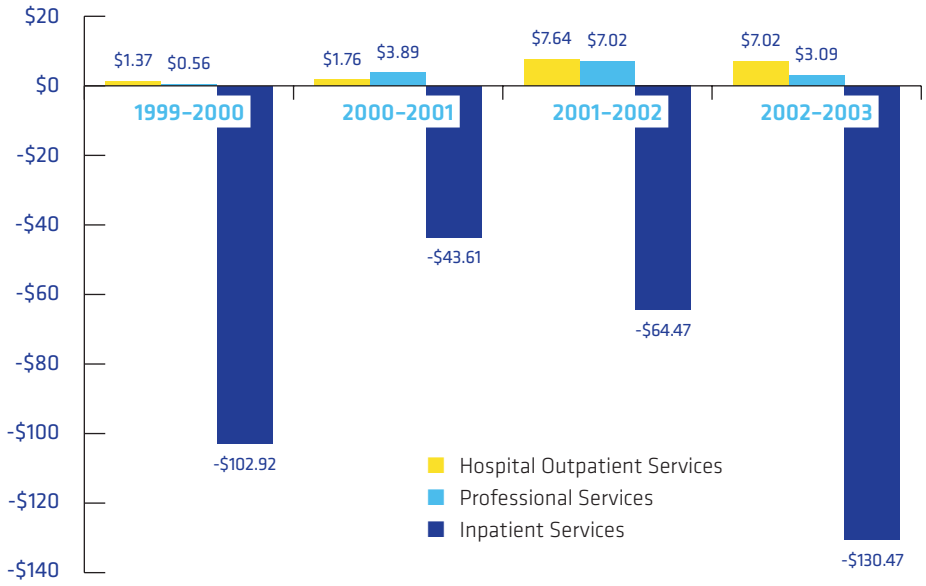
Meeting participants identified the following building blocks for all stakeholders who want to improve influenza prevention efforts through increases in vaccination among all adults. Organizations are encouraged to craft messages and communications that integrate phrases and evidence that will resonate with target audiences and produce the actions necessary to reduce the health and economic burden of influenza in the United States.

From Plans and Ideas...to ACTION!

Messages in Table 1 may be refined and directed toward the specific target groups shown and integrated into many different communication platforms, vehicles, and venues:

- Social media.
- News releases.
- Posters, postcards, brochures, and bookmarks.
- E-mail communications with staff.
- Policy briefings and background materials.
- In-service presentations.
- Community health presentations and public service announcements.

FIGURE 6. IMPACT OF INFLUENZA VACCINATION ON MEDICARE SPENDING FOR ACUTE AND CHRONIC RESPIRATORY CONDITIONS OVER FOUR INFLUENZA SEASONS (IN U.S. DOLLARS)



Source: Reference 7.

FIGURE 7. AREAS OF OVERLAP BETWEEN SENDERS AND RECIPIENTS OF MESSAGES

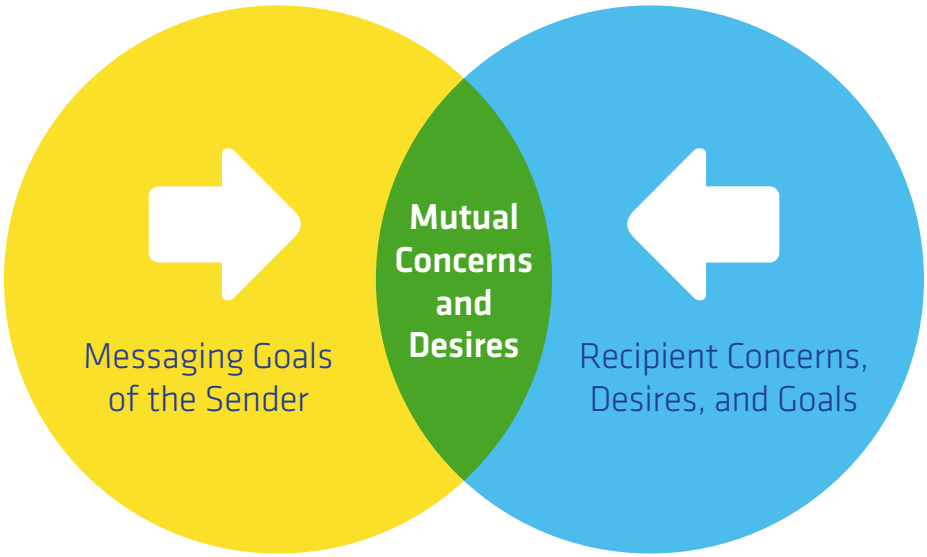


TABLE 1. CORE MESSAGES AND BUILDING BLOCKS FOR MESSAGES TO TARGET STAKEHOLDER GROUPS

	POLICY/SYSTEM/ FRAMEWORK COMMUNITY	PATIENTS/CAREGIVERS/ PUBLIC COMMUNITY	PROVIDERS/HEALTH CARE TEAM COMMUNITY
Core message emphasis	One of the most effective tools and policies to improve health and reduce the economic burden on the health care system is annual influenza vaccination.	Influenza vaccination, a covered benefit for every American, pays huge dividends for health, well-being, and quality of life across all ages but especially in our growing population of adults aged 65 years and older.	Vaccines GOOD! Disease BAD!
Building blocks for key messages			
Fact: Influenza is a common cause of hospitalization and catastrophic disability. (Source: References 3 and 4)	Influenza and its complications are the third leading cause of catastrophic disability in the United States.	Influenza vaccines save lives and improve the quality of life.	Influenza is not "just the flu."
Fact: Influenza produces a heavy economic toll on society, estimated at $87.1 billion annually. (Source: Reference 5)	The economic drain on society is unsustainable—these costs are borne by everyone! Disabilities and costs from influenza increase when individuals (especially over age 65 years) get the flu.	You owe it to yourself and loved ones to get vaccinated.	Influenza-associated morbidity and mortality cost the health care system an inordinate amount of money.
Fact: Influenza vaccines are effective for prevention and are cost effective or cost saving in all adults. (Source: Reference 7)	Vaccine prevention of flu is cost saving in adults aged 65 years and older (and cost effective in all adults).	Influenza vaccination is a small investment that can produce a large return.	Just do it! This is your job! All providers need to talk about vaccines with every patient at every encounter—assess, recommend, administer, and document. Add vaccines to standing orders; personalize these to use the right vaccine for the right patient.
Fact: Having an immunized community benefits everyone. (Source: References 9–12)	Without an annual flu shot, healthy, independent adults are not immune from flu!	Protect yourself; protect your community; keep your workplace working.	Vaccines are safe and efficacious and needed every year.

Stakeholders	POLICY/SYSTEM/ FRAMEWORK COMMUNITY	PATIENTS/CAREGIVERS/ PUBLIC COMMUNITY	PROVIDERS/HEALTH CARE TEAM COMMUNITY
	› Federal congressional legislative policy makers › Federal regulatory policy makers › State policy makers › Policy/regulatory staff in pharmaceutical companies and health systems › Quality organizations › Quality improvement organizations › Health services administrators (e.g., C-suite executives) › Payers—public and private › Insurance providers › Health plans › Centers for Medicare & Medicaid Services › Medicare program sponsors › State Medicaid programs › Faith-based organizations › Federally Qualified Health Centers and other community-based organizations	› General public › Patients › Healthy individual adults (of all ages) › Individuals with chronic diseases and disabilities › Paid and nonpaid caregivers › Family caregivers › Church/faith-based organizations › Home health aides › Schools and colleges—students, staff, and community health center › Media—all (print, social, electronic, television, radio) › Social services › Aging networks › Culturally focused organizations › Day care programs and providers for adults › Employers › Emergency medical services	› Area Agencies on Aging › Assisted living facilities › Community-based clinics › Corporate health organizations › Emergency departments › Employers › Health plans › Hospitals and health systems › Long-term care services and support › Medical/professional societies › Nurses › Nurse midwives › Nurse practitioners › Occupational therapists › Paramedics/emergency medical technicians › Church nurses › Patient navigators › Pharmacists › Physical therapists › Physicians › Physician assistants › Recreation therapists › Respiratory therapists › Retail clinics › Social workers › State and local health departments › Student health professionals › Developers of technology apps/opinion leaders on social media › Urgent care centers › Visiting nurses associations

INCREASING AND IMPROVING PATIENT ACCESS TO IMMUNIZATION CARE

A major lesson in increasing influenza vaccination rates has come over the past 15 to 20 years as the pharmacy emerged as a common site for flu vaccine and other immunizations. The story of pharmacists and their journey to the "immunization neighborhood" was shared at the meeting by Mitchel C. Rothholz, RPh, MBA, Chief Strategy Officer at the American Pharmacists Association (APhA).

> **"We want a system where immunizations are reported and the provider only has to report it one time.**
>
> –Mitchel C. Rothholz, RPh, MBA
> Chief Strategy Officer at the
> American Pharmacists Association

Rothholz emphasized the three roles APhA's House of Delegates identified that pharmacists could assume in promoting influenza and other adult vaccinations: advocates, facilitators, and immunizers. "Real change" has occurred "over a 20-year period," Rothholz said. "The profession has encouraged pharmacists to be advocates for adult immunizations, immunization in general, and then facilitators perhaps by having a visiting nurse or public health department come into the pharmacy and offer flu shots for example, and/or administer vaccines where authorized. Now, every state, the District of Columbia, and Puerto Rico enable pharmacists to administer some vaccines."

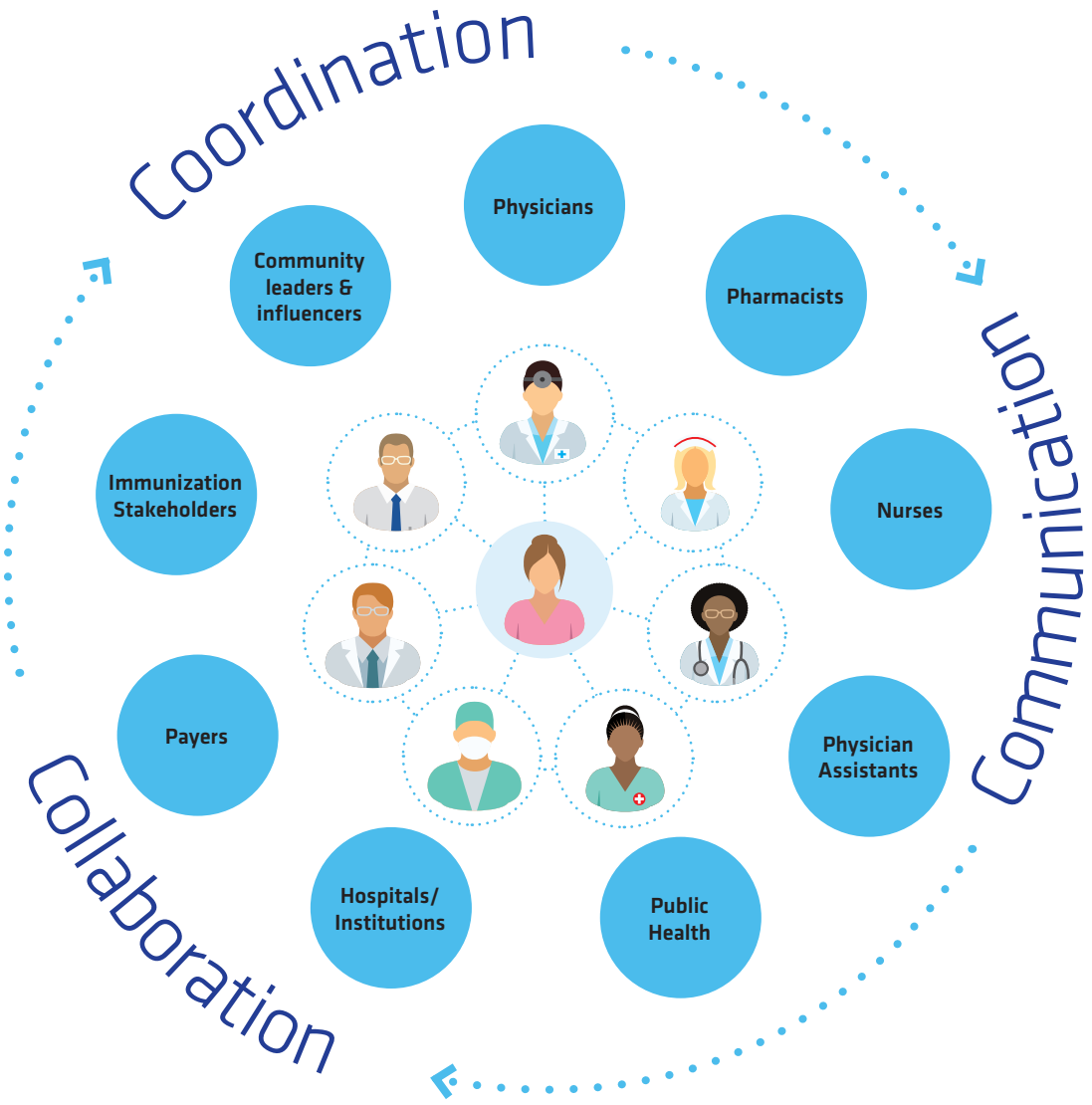
As recognized members of the immunization neighborhood, Rothholz said, pharmacists have focused on the three C's shown in Figure 8. Collaboration starts with agreement among the stakeholders. For pharmacists, this often means written agreements with physicians or public health regarding which vaccines will be offered in the pharmacy using standing orders or protocols. Patient-centric care is the focus; collaborative efforts are designed with the patient's health and well-being always in mind.

Coordination of patient-centric care is guided by established standards and recommendations and a desire to improve immunization rates across the lifespan, Rothholz said. Pharmacists' interactions with patients are sometimes overlooked because they do not get recorded in patient electronic health records. This has been a major issue within pharmacy, because pharmacists have long made recommendations to patients every day on a variety of health issues, but they haven't consistently provided patients with documentation or informed other providers when they refer patients to them. "We're hopefully going to have some models that will help support [better coordination]," Rothholz said. "This is one of the concepts of neighborhood support. Whoever gets that referral needs to close the loop and report back what happened."

In today's digital society, communication typically involves electronic information transfer. Patient documentation systems, like those used in pharmacy, are challenged with integrating this information into state registries and other information technology systems and into physicians' electronic health or medical records. "We want a system where immunizations are reported and the provider only has to report it one time," Rothholz said, whereby vaccine information automatically goes to state immunization information systems and those providers needing the information can access it through their electronic health record systems.

Extending pharmacy's journey to other immunization stakeholders, anyone—licensed health professional or not—can be an advocate for adult immunizations. As GSA Executive Director Appleby said during the

FIGURE 8. ENGAGEMENT WITHIN THE "IMMUNIZATION NEIGHBORHOOD"



meeting, "We need everyone who interacts with an older adult to say six simple words, 'Have you had your flu shot?'"

Likewise, Rothholz and Appleby promulgated that anyone interacting with older adults could be in a position to facilitate influenza and other adult vaccinations in their workplaces, institutions, and communities. All health professionals should ask patients about their immunization status and encourage them to take needed steps. This type of encouragement and "surround-sound" support of vaccine messages can help overcome two problems identified by Rothholz: vaccine abandonment (when patients want to be vaccinated but don't go through with it because of high copayments or inconvenience) and vaccine hesitancy (when patients are concerned about the vaccine's risk–benefit ratio).

Just as pharmacists have had to seek changes in state laws and regulations to expand access in the immunization neighborhood, other health professions may need to make deliberate efforts to identify and assume their immunization roles as an advocate, facilitator, and immunizer as appropriate. The consensus of meeting participants was that all health professionals and ancillary personnel should be supporting the immunization effort by encouraging patients to get

> **Just as pharmacists have had to seek changes in state laws and regulations to expand access in the immunization neighborhood, other health professions may need to make deliberate efforts to identify and assume their immunization roles as an advocate, facilitator, and immunizer as appropriate.**

vaccinated and helping resolve barriers that prevent them from doing so.

Actions for Increasing Access to Adult Vaccines

Using the methodology described earlier, participants were divided into groups to engage in brainwriting and affinity diagram activities to generate actions for achieving the goal of increasing patient access to adult vaccines. Following the meeting, the lead facilitator evaluated the common themes that emerged from the more than 250 ideas. Three key overarching, integrated strategic areas of emphasis for implementation are as follows:

- Activities that enhance collaboration among the broader community of immunizers and immunization partners as well as ensure consistency of information and vaccine messages that promote and expand awareness of nontraditional venues and vaccinators to optimize access to adult vaccines.
- Efforts that foster development and use of meaningful quality measures and broad sharing of data and immunization status with patients, and among providers, systems, and venues of care.
- Solutions that remove logistical, financial, and policy-related barriers and realign incentives and relationships to leverage opportunities to expand access to vaccination.

From Plans and Ideas...to ACTION!

Meeting participants identified key strategic actions, tactics, and activities that stakeholder individuals, organizations, and agencies could act upon, develop, and/or implement to help accomplish Objective 2.3 (expansion of the network and community of immunization providers and venues that comprise the immunization neighborhood in order to improve access to adult immunizations). These actions are listed in Table 2.

Stakeholder Successes

INCREASING IMMUNIZATIONS THROUGH DATA-DRIVEN BEST PRACTICES

Seven medical groups affiliated with health systems are leading the way in improving patients' influenza and pneumococcal immunization rates with a combination of innovation and accountability, said Jerry Penso, MD, MBA, of the American Medical Group Association (AMGA), while highlighting the work of participants in the American Medical Group Foundation's (AMGF's) Best Practice Collaborative focused on adult immunization.

"The groups that are participating are Watson Clinic in Florida, The University of Massachusetts Medical Group, Swedish American in Illinois, Riverside in Virginia, Iowa Clinic in Iowa, Community Physician Network in Indiana, and Springfield Clinic in Illinois," said Penso, who is Chief Medical and Quality Officer at AMGA and President of AMGF. Of the many tactics being deployed to improve vaccination rates, Penso highlighted three: creating a multidisciplinary, accountable team; including vaccinations in Medicare annual wellness visits; and increasing the participation of specialists.

In the Collaborative, each medical group receives transparent feedback on three measures of immunization performance on a quarterly basis, Penso said. At each group, gaps in care are documented in electronic health records so that alerts pop up at the point of care, which prompts action from the provider to close that gap.

Penso said several medical groups have incorporated pharmacists into their Medicare annual visit strategies to make sure patients are given the opportunity to get vaccinated. While the groups are having challenges with establishing bidirectional communication with state immunization registries in most jurisdictions, cooperative efforts with the medical groups' internal marketing departments in vaccine promotion are yielding improvements in immunization rates.

Medical specialists in areas such as oncology, pulmonology, and endocrinology have not historically emphasized vaccinations to their patients, Penso concluded. With 7% to 15% improvements in vaccination rates already evident after only one quarter of results for the Collaborative participants, Penso said he is "very confident that they'll hit their goals" of moving from baseline toward Healthy People 2020 goals in only 1 year.

TABLE 2. TACTICAL ACTIONS HEALTH PROFESSIONALS AND HEALTH SYSTEMS CAN TAKE TO IMPROVE ACCESS TO INFLUENZA IMMUNIZATION AND EXPAND THE IMMUNIZATION PROVIDER NETWORK

IMPROVING QUALITY	REMOVING FINANCIAL BARRIERS TO EXPANSION
Integrate immunizations into quality rating for providers (e.g., percentages of patients up to date with immunizations).	Create billing codes and payment for vaccine assessment and counseling provided to adult patients by both immunizing and referring providers.
Lead development, recognition, and adoption of quality measures for influenza immunization.	Educate providers about how to bill for vaccines to support complete and accurate reimbursement for vaccination.
Create mechanisms for sharing practice/practitioner adult immunization rates as part of public ratings.	Enhance immunization coverage incentive and mandates.
Implement quality metrics for providers around cost of doses administered.	Work with state and national payers to reduce the patients' out-of-pocket cost of vaccines.
Create quality measures and obtain National Committee for Quality Assurance recognition.	Find creative ways to reduce the carrying costs of vaccines to providers who administer them.
Create a universal adult immunization record that would be accessible by all providers in the United States and U.S. territories.	Educate providers on general and specific rules regarding vaccine payment.
Expand state laws on collaborative practice agreements.	Assess and remove financial and policy barriers that impede access to and expansion of the immunization neighborhood for potential vaccine providers and venues.
Adopt incentives and quality measures for reporting vaccination rates.	Identify low- or no-cost interventions that providers can implement to increase access to immunizations.
Educate providers of quality measures and the collection of data.	
Expand requirements for documentation and reporting of vaccines received by any provider at all venues.	
Mandate and support contractors to have interoperability as an absolute requirement.	
Improve interoperability of immunization information systems and electronic health records.	
Address barriers to reporting immunizations to registries and accessing immunization data to ascertain patient immunization status.	
Improve uptake of electronic health records and meaningful use measures related to vaccines.	
Improve access to immunization components of medical records to ensure all providers and patients are aware of vaccines given.	
Encourage payers to contribute to state immunization information systems updates.	

EMPOWERING HEALTH PROFESSIONALS TO ADVOCATE FOR ADULT VACCINES

Increasing the demand for immunizations means one important but difficult feat, said Barbara Resnick, PhD, CRNP: People's behaviors have to change. Resnick, Professor at the University of Maryland School of Nursing and now GSA President-elect, described a stepped approach for achieving this to meeting attendees based on her extensive experience in behavior change research and her efforts to improve vaccination rates in a continuing care retirement community (CCRC).

> **"Take it on and be a champion for both your patients and the community. If you're a provider, you should just encourage somebody at every encounter to get immunized.**
>
> –Barbara Resnick, PhD, CRNP
> Professor, Organizational Systems and Adult Health in the School of Nursing at the University of Maryland

The process involves five steps, as shown in Figure 9. In the CCRC, the influenza vaccination rate was 98%, but shingles and other adult vaccinations were lagging, Resnick said. She took on the challenge of achieving higher rates for these immunizations, starting with shingles vaccine. A couple of years were needed to go through the five steps. Resnick became the champion, educated and energized the team, broke down barriers through personal communications with staff and families, involved others in identifying and implementing solutions, and brought in extra staff to administer the vaccine.

The result has been 100% coverage in the nursing home and assisted living sections of the CCRC. The work is currently focused on those in independent living, where a 90% to 100% rate appears achievable.

"Take it on and be a champion for both your patients and the community," Resnick told attendees. "If you're a provider, you should just encourage somebody at every encounter to get immunized."

Actionable Ideas for Empowering Health Professionals in Vaccine Recommendations

In breakout sessions, meeting participants generated many actionable ideas for enabling health professionals to be stronger advocates for adult immunizations. Using the facilitated, guided discussion methodology described earlier, participants generated specific actions for reinforcing positive vaccine messages, improving system links between professionals and patients, and creating links between policy initiatives and one-on-one interactions.

The three breakout groups (Policy/System/Framework, Patients/Caregivers/Public, and Providers/Health Care Team communities) considered the following questions in formulating actionable ideas for supporting delivery of strong messages as envisioned in Objective 3.2:

- What can be done to reinforce positive vaccination recommendations? (See Table 3.)
- How can we equip and empower individuals to want and seek opportunities to vaccinate and be vaccinated?
- Where within your sphere of influence can your organization participate or exercise leadership in increasing demand for influenza immunization?

The groups generated many building blocks for action plan development appropriate for enabling health professionals to make a strong recommendation for adult immunization. Actions appropriate for everyone—including supportive consumers and consumer groups—are listed in Table 3. It's important to note that all health professionals, benefits managers, and those in health care financing can lead by example when it comes to immunizations. Everyone needs them!

FIGURE 9. STEPPED APPROACH TO BEHAVIOR CHANGE

Stakeholder Successes

CHAMPIONING VACCINES IN PHYSICIAN OFFICES

By encouraging "office champions" to talk directly with patients about the importance of immunizations, the American Academy of Family Physicians (AAFP) is getting the word out about adult vaccines. The Office Champion Project, a 4-year quality improvement initiative funded through a grant from the CDC, "is focused on increasing vaccination rates at the practice level," Pamela Carter-Smith, MPA, AAFP Clinical Policies Strategist, told meeting attendees.

The project's pilot phase consists of recruiting family physicians to implement a quality improvement office champion model. Using a web-based interactive plan–do–study–act model, office staff are going step by step through the process of identifying an office champion and a physician champion. "We believe a physician champion is necessary for the buy-in and also for the peer-to-peer communication," Carter-Smith said. "The office champion is the person who would actually be tracking the health care system changes within the practices."

The next phase of the project will be dissemination, which will rely on refinements made during the pilot phase and will implement interventions based on standards from the NAIP.

"Once participants implement their interventions, they're going to re-measure," Carter-Smith added. "We will also have a sustainability plan, because once the champions do all of this work, we want to make sure that they're able to sustain this over time and see how they plan on sustaining this over time. We would include kind of a comprehensive educational piece, which would include the development of webinars, resources, and so forth to include in our project. We're going to disseminate all of that information to our membership once we find out what worked, what didn't work—the successes for the project."

TABLE 3. EMPOWERING HEALTH PROFESSIONALS AND REINFORCING POSITIVE VACCINATION RECOMMENDATIONS: STEPS TO TAKE NOW

	NGOs/Associations	Federal/State Governments	Vaccine Manufacturers	Insurers/Payers	Employers	Employees	Quality Organizations	Health Professionals	Health Systems
Advocate through leadership									
Lead by example—get vaccinated	•	•	•	•	•	•	•	•	•
Create corporate wellness policies that require or incentivize vaccinations					•	•			
Create vaccine quality metrics, incentives; publicize cost-effectiveness research		•	•	•	•		•	•	•
Communicate with and within the immunization neighborhood									
Strengthen reporting infrastructure for vaccines administered in all settings		•		•	•	•	•	•	•
Document referrals in EHRs, "track, flag, and follow"				•			•	•	•
Create preventive care app for patients that includes immunizations	•		•	•					
Make vaccines mandatory									
Have "genius list" in EHRs to remind health professionals to recommend needed vaccines		•		•			•	•	•
Vaccinate during Medicare annual wellness visits		•			•			•	•
Include vaccinations in protocols, standing orders					•		•	•	•
Create adult parallels to "back to school" vaccinations in workplaces, senior residential care facilities, colleges, universities	•	•	•	•	•	•		•	•
Use standing orders in OB-GYN pregnancy care				•			•	•	•
Motivate behavioral change									
Debunk vaccine misconceptions and myths	•	•	•	•	•	•	•	•	•
Conduct public education campaigns to prime patients for vaccine conversations, administrations	•	•	•	•	•	•	•	•	•
In health care waiting rooms and other settings, show videos, have information available, empower receptionists and other "office champions"								•	•
Vaccines are the norm—assume people want to be vaccinated; address objections when raised		•		•	•		•	•	•
Create, disseminate culturally sensitive messages; when needed, use multiple languages	•	•		•	•	•	•	•	•
Educate older adults about benefits of influenza vaccination	•	•	•	•	•			•	•
Provide visualizations on what "the flu" really means and how bad it can be	•	•	•					•	•
Have pediatric providers promote/advocate adult vaccination during well-baby visits	•							•	•
Partner with specialists who treat high-risk diseases	•	•		•	•	•	•	•	•
Focus on vaccine benefits to individuals, family members, and communities	•	•		•	•	•	•	•	•

	NGOs/Associations	Federal/State Governments	Vaccine Manufacturers	Insurers/Payers	Employers	Employees	Quality Organizations	Health Professionals	Health Systems
Eliminate payment and other barriers									
Educate patients that vaccines are covered by insurance with no out-of-pocket costs	•	•	•	•	•	•	•	•	•
Conduct survey to identify adult vaccination barriers	•	•	•	•	•				•
Create vaccine-recommendation incentives for providers		•		•			•		
Include more vaccine messaging in *Medicare & You* and other CMS communications	•	•							
Make vaccines accessible; provide free transportation to sites, flu clinics in nontraditional and public venues, immunization vans	•	•			•			•	•
Tell the story									
Develop a "Got Flu Shot?" campaign and/ or "Get Your Flu Vaccine" day	•	•	•					•	•
Use media/PSAs to highlight vaccine providers and sites	•	•	•	•					
Identify national spokesperson for flu vaccines	•	•	•					•	•
Work with faith-based groups to extend messages to constituencies	•	•	•					•	•
Use social media for advocacy, reminders, combatting myths, flu awareness	•	•	•					•	•
Promote benefits to friends, family, community	•	•	•	•				•	•
Educate young people about influenza vaccine as a way to reach parents, grandparents	•	•	•					•	
Create an awareness campaign about nontraditional immunization provider and venue types	•	•	•					•	
Empower trusted non–health care professionals such as beauticians to deliver positive vaccine messages	•	•	•	•					
Make vaccines visible and reward vaccinations									
Provide "Got Flu Shot?" bandages, buttons, and T-shirts to vaccinees	•	•	•					•	•
Publicly vaccinate policy makers, pop stars, sports figures	•	•	•					•	•
Ask vaccinees to encourage three others to get flu shot	•	•	•					•	
Participate in established health weeks/months related to influenza immunizations	•	•	•					•	•

Abbreviations: CMS, Centers for Medicare & Medicaid Services; EHRs, electronic health records; NGOs, nongovernmental organizations; OB-GYN, obstetrician–gynecologist; PSAs, public service announcements.

Structure for table based on: Stinchfield P. The first line of defense: 10 steps to boost influenza vaccinations among healthcare workers. Becker's Infection Control & Clinical Quality. December 16, 2015. Available at http://www.beckershospitalreview.com/quality/the-first-line-of-defense-10-steps-to-boost-influenza-vaccinations-among-health-care-workers.html. Accessed December 29, 2015.

"HAVE YOU HAD YOUR FLU SHOT?"

Through the ideas and energy generated at this meeting, participants seek to provide a boost toward implementation of the NAIP. "We've had a lot of lift over the past 15 or 20 years from the entry of pharmacists into the whole adult immunization arena," GSA Executive Director Appleby said in closing the meeting. "We've seen a lift in not only flu shots, but with zoster, pneumococcal, and other adult vaccines. That's great. It shows the power of a multidisciplinary effort with vaccine advocates, facilitators, and immunizers working hand in glove to improve the health of Americans through achieving the higher immunization rates called for in the NAIP and Healthy People 2020."

"To get that next really big lift, we need everyone who interacts with an older adult to say six simple words, 'Have you had your flu shot?'" Appleby added.

Through the NAVP, GSA will continue leading the way toward greater emphasis on the benefits of adult vaccines, recognizing multidisciplinary champions in this arena, and facilitating a productive conversation among the members of the immunization community. While a lot of work will be involved in implementing many of the ideas generated at this meeting, it all translates into a few seconds in patient interactions when physicians, nurses, pharmacists, social workers, physical and occupational therapists, clinical psychologists, receptionists, aides, pharmacy technicians, and other advocates ask, "Have you had your flu shot?"

> **"To get that next really big lift, we need everyone who interacts with an older adult to say six simple words, 'Have you had your flu shot?'**
>
> –James Appleby, BSPharm, MBA
> Executive Director and CEO of
> The Gerontological Society of America

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APPENDIX 1. PARTICIPANTS IN THE GSA NATIONAL ADULT VACCINATION PROGRAM MEETING CONVENED OCTOBER 2015

Meeting Speakers

James Appleby, BSPharm, MPH
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APPENDIX 2. NATIONAL ADULT IMMUNIZATION PLAN: GOALS AND OBJECTIVES

Goal 1: Strengthen the Adult Immunization Infrastructure

Objective 1.1: Monitor and report trends in adult vaccine-preventable disease levels and vaccination coverage data for all ACIP/CDC-recommended vaccines. In cases where there are associated Healthy People 2020 goals, measure progress toward established targets.

Objective 1.2: Enhance current vaccine safety monitoring systems and develop new methods to accurately and more rapidly assess vaccine safety and effectiveness in adult subpopulations (e.g., pregnant women).

Objective 1.3: Continue to analyze claims filed as part of the National Vaccine Injury Compensation Program (VICP) to assess whether there was an association between vaccines that a claimant received and adverse events experienced.

Objective 1.4: Increase the use of electronic health records (EHRs) and immunization information systems (IIS) to collect and track adult immunization data.

Objective 1.5: Evaluate and advance targeted quality improvement initiatives.

Objective 1.6: Generate and disseminate evidence about the health and economic impact of adult immunization, including potential diseases averted and cost-effectiveness with the use of current vaccines.

Goal 2: Improve Access to Adult Vaccines

Objective 2.1: Reduce financial barriers for individuals who receive recommended adult vaccines.

Objective 2.2: Assess and improve understanding of providers' financial barriers to delivering vaccinations, including stocking and administering vaccines.

Objective 2.3: Expand the adult immunization provider network.

Objective 2.4: Ensure a reliable supply of vaccines and the ability to track vaccine inventories, including during public health emergencies.

Goal 3: Increase Community Demand for Adult Immunizations

Objective 3.1: Educate and encourage *individuals* to be aware of and receive recommended adult immunizations.

Objective 3.2: Educate and encourage *health care providers* to recommend and/or deliver adult vaccinations.

Objective 3.3: Educate and encourage *other groups* (e.g., community and faith-based groups, tribal organizations) to promote the importance of adult immunization.

Goal 4: Foster Innovation in Adult Vaccine Development and Vaccination-Related Technologies

Objective 4.1: Develop new vaccines and improve the effectiveness of existing vaccines for adults.

Objective 4.2: Encourage new technologies to improve the distribution, storage, and delivery of adult vaccines.

Source: Reference 1.

Abbreviations: ACIP, Advisory Committee on Immunization Practices; CDC, Centers for Disease Control and Prevention.

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