Reducing Barriers and Increasing Vaccine Uptake Among Adults

Litjen (L.J) Tan, MS, PhD
Chief Strategy Officer, Immunization Action Coalition
Co-Chair, National Adult and Influenza Immunization Summit

August 17th, 2020

immunization action coalition
IAC
immunize.org

Disclosures

- I have no conflicts of interests.
- I do NOT intend to discuss an unapproved or investigative use of a commercial product/device in my presentation.

immunization action coalition
IAC
immunize.org

Disclaimer

The opinions expressed in this presentation are solely those of the presenter and do not necessarily represent the official positions of the Immunization Action Coalition, or the National Adult and Influenza Immunization Summit

immunization action coalition
IAC
immunize.org

Burden of Adult Vaccine-preventable Disease Among U.S. Adults

- Invasive pneumococcal disease (IPD)[1]
  - 31,400 total cases and 3,480 total deaths in 2018
  - 91% of all IPD deaths in adults 50 and older
  - 649/100K patients hospitalized annually with community acquired pneumonia (CAP); 6.5% mortality[2]
- Influenza[3]
  - 24,000 – 62,000 total related deaths in 2019-2020
  - ~90% among adults 65 years and older
- Pertussis[4]
  - 15,662 total reported cases 2019
  - 3,736 among adults 20 years of age & older

1. CDC. 2019. Active Bacterial Core Surveillance Report, Emerging Infections Program Network, Streptococcus pneumoniae, 2019.
2. Ramirez et al. 2017. [Published online ahead of print July 28, 2017]. *Clin Infect Dis.* doi:10.1093/cid/cix647.
3. CDC. 2020. https://www.cdc.gov/flu/about/burden/preliminary-in-season-estimates.htm.
4. CDC. 2019 Provisional Pertussis Surveillance Report. https://www.cdc.gov/pertussis/downloads/pertuss-surv-report-2019-508.pdf.

Burden of Adult Vaccine-preventable Disease Among U.S. Adults

- Hepatitis B[1]
  - 3,322 acute cases reported 2018
  - 21,600 estimated new infections in 2016
- Zoster[2]
  - About 1 million cases of zoster annually in U.S.
- Measles[3]
  - California/multi-state 2015 outbreak, 55% of infections were in adults 20 years of age and older

1. CDC. Viral Hepatitis Surveillance Report 2018 — Hepatitis B. https://www.cdc.gov/hepatitis/statistics/2018surveillance/HepB.htm.
2. CDC. Prevention of Herpes Zoster. MMWR 2008. 57(RR-5): 1-30.
3. Morbidity and Mortality Weekly Report. April 17, 2015 / 64(14);373-376

Cost Burden of 4 Adult Vaccine-Preventable Diseases in Persons Age 65 Years and Older, United States, 2013

Vaccine-Preventable Disease	Estimated # of CASES	Estimated COSTS (Medical & Indirect) *(in millions)*
Influenza	4,019,759	8,312.8
Pneumococcal	440,187	3,787.1
Zoster	555,989	3,017.4
Pertussis	207,241	212.5
		$15,329.8

Additional $**11.2 billion** in costs if ages 50 – 64 years included

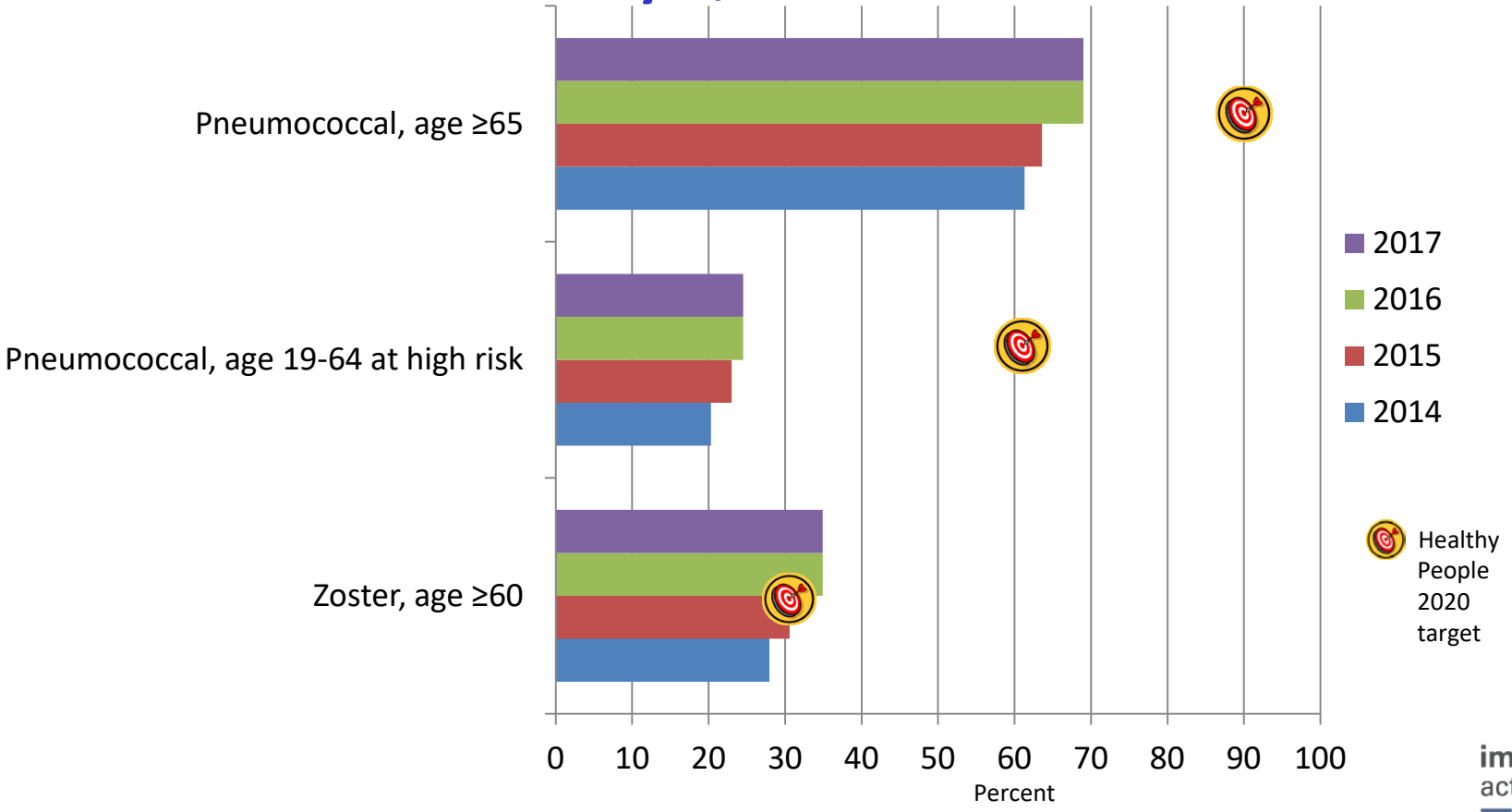
immunization action coalition
IAC
immunize.org

McLaughlin, JM, Tan L., et al. *J Primary Prevent* (2015) 36:259 - 273

But, We are Failing to Vaccinate our Adult Population!

immunization action coalition
IAC
immunize.org

Adult Immunization Coverage Rates, National Health Interview Surveys, 2014–2017[1]



1. CDC. 2020. Vaccination Coverage among Adults in the United States, National Health Interview Survey, 2017. https://www.cdc.gov/vaccines/imz-managers/coverage/adultvaxview/pubs-resources/NHIS-2017.html.

immunization action coalition
IAC
immunize.org

Influenza Vaccination Coverage Among U.S. Adults, Past Four Seasons[1]

Group	2015-2016 (%)	2015–17 (%)	2017–18 (%)	2018–19 (%)
Persons ≥ 18 yrs	**41.7***	**43.3***	**37.1***	**45.3***
Persons 18-49 yrs, all	32.7	33.6	26.9*	34.9*
Persons 18-49 yrs, high risk	39.5	39.3	31.3*	40.4*
Persons 50-64 yrs	43.6*	45.4*	39.7*	47.3*
Persons ≥ 65 yrs	63.4*	65.3*	59.6*	68.1*

* Statistically significant declines/increases from the previous season ($p<0.05$).

immunization action coalition
IAC
immunize.org

1. **www.cdc.gov/flu/fluvaxview/index.htm**

Impact of COVID-19 on adult immunization rates

- Declines in adult immunization coverage rates widespread and across all vaccines and risk/age groups.
  - Eg. 67% decline in HZ vaccination coverage
  - E.g. 88% reduction in use of PCV-13 at VA facilities
- Regional variability in COVID-19 infections will impact vaccination-seeking behavior disparately
  - Increase in COVID-19 leads to decline in coverage rates.
  - Localized planning will be key to address different situations and differences in timing
- Routine immunization rates are returning to pre-COVID levels…in pediatrics; adult rates lag

Compiled from data presented at the July 30th, 2020 National Adult and Influenza Immunization Summit virtual meeting: Impact of COVID-19 on Adult Immunization Coverage Rates and Update from CDC on Influenza Communications for 2020–21: https://www.izsummitpartners.org/2020-naiis/covid-impact-on-adult-imm-and-flu-plans.

immunization action coalition
IAC
immunize.org

Impact of COVID-19 on adult immunization rates

- Pediatric and adult catch-up vaccination remains absent; large numbers remain under-immunized
- Significant decline also seen in wellness visits for adults of all ages; no recovery to pre-COVID-19 levels yet…
  - Elder and high-risk patients being targeted for visits first.
- Visits to ambulatory care also plummeted and are still 33% below pre-COVD-19 levels
- Telehealth increasingly being implemented

Compiled from data presented at the July 30th, 2020 National Adult and Influenza Immunization Summit virtual meeting: Impact of COVID-19 on Adult Immunization Coverage Rates and Update from CDC on Influenza Communications for 2020–21: https://www.izsummitpartners.org/2020-naiis/covid-impact-on-adult-imm-and-flu-plans.

immunization action coalition
IAC
immunize.org

Why is it so hard to vaccinate adults?

immunization action coalition
IAC
immunize.org

Factors Associated with Low Vaccination Among Adults

Patient factors

- May not have regular health care provider o… specialists
- Inconvenient access, competing … demands
- Many underinsured adults …

Provider factors

- Many other h… … with preventive services
- Lack of … dation
- La… inders to offer vaccinations

S…

- …equirements for vaccination (e.g. by employers, LTCF)
- …ate regulations differ on who can vaccinate and types of vaccine allowed (e.g. pharmacists, visiting nurse associations)

Complex adult vaccine schedule

Note that vaccine confidence is not a frequently identified problem with adults! BUT …

immunization action coalition
IAC
immunize.org

Confidence barriers may limit demand for COVID-19 vaccine[1]

*Poll: Only half of Americans would be **willing to get vaccinated** with a COVID-19 vaccine[2]*

*Poll: Hesitancy and trust issues **higher for Black vs. white or Latino** respondents[2,3]*

(+)

POTENTIAL BENEFITS OF COVID-19 VACCINE

- Reduced hardships
  - Illness, morbidity, death
  - Isolation of physical distancing
  - Disrupted economic activities
- Protecting self, family, community

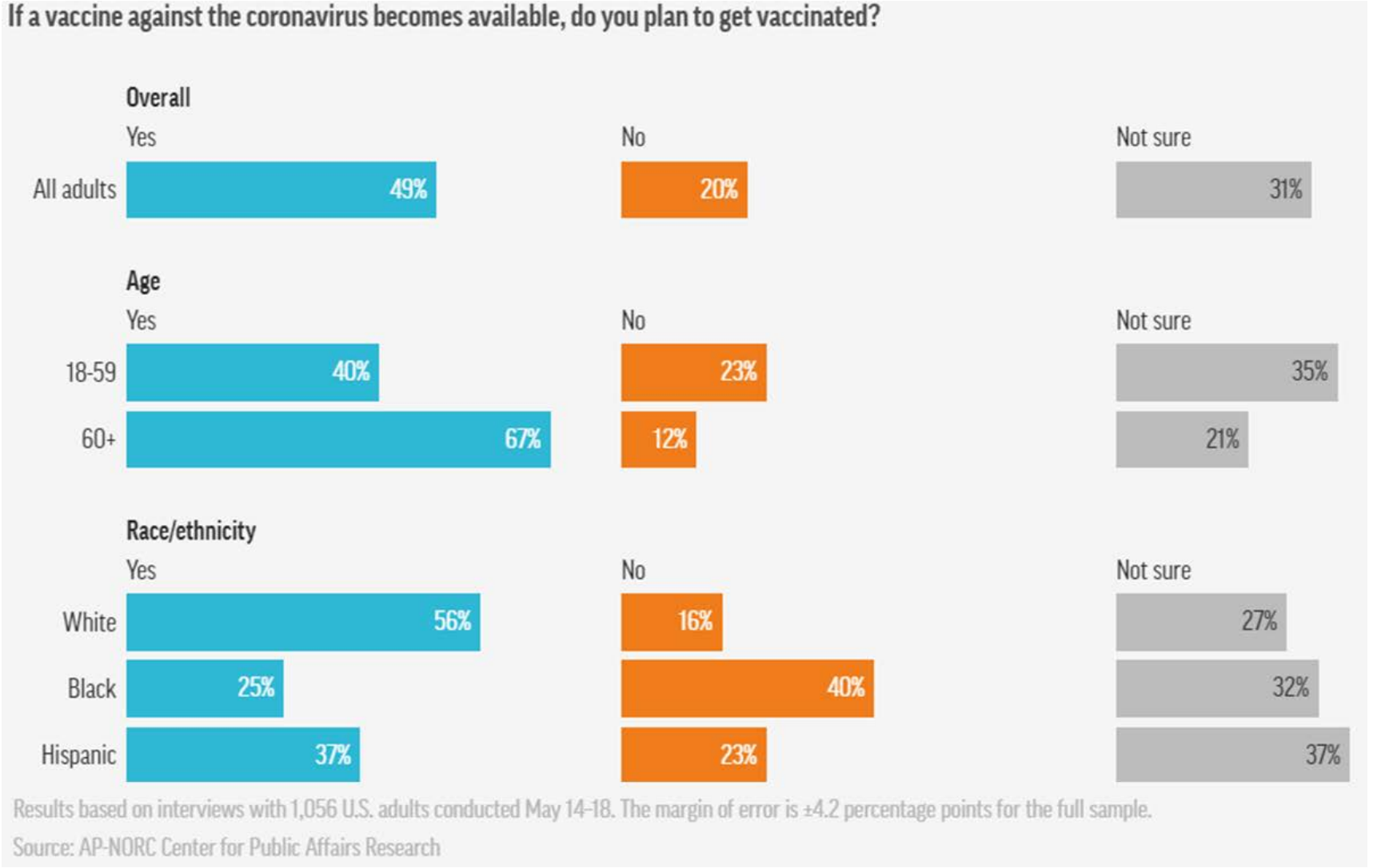
(-)

POTENTIAL CONCERNS ABOUT COVID-19 VACCINE

- Product: unsafe, inadequate efficacy
- Institutional mistrust: vaccine manufacturers, regulating agencies, public health authorities
- Access issues: affordability, easy to get to, safe to get to

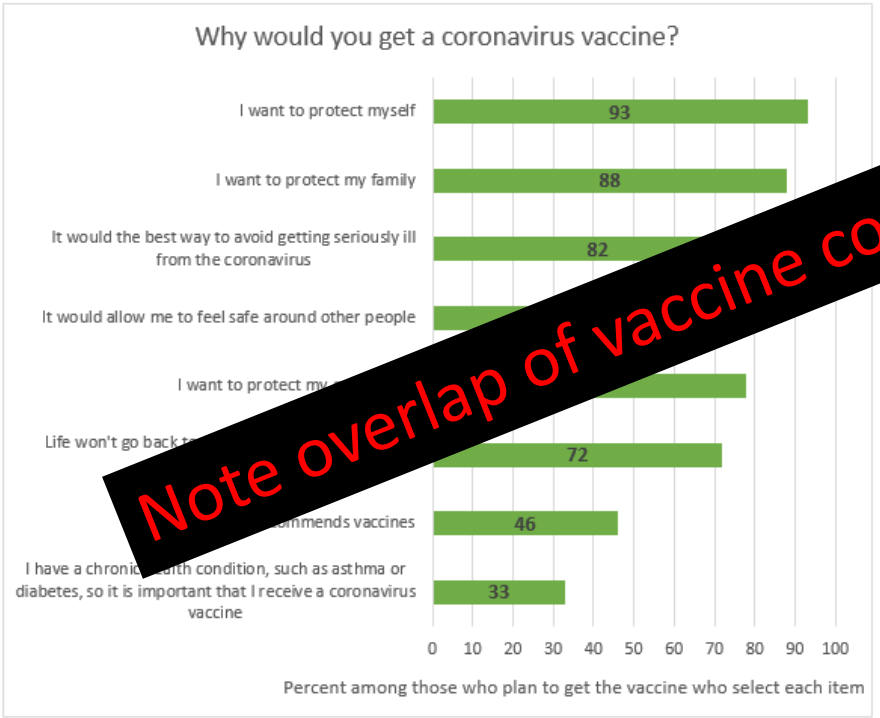
1. **Schoch-Spana M, Brunson E, Long R, Ravi S, Ruth A, Trotochaud M on behalf of the Working Group on Readying Populations for COVID-19 Vaccine. The Public's Role in COVID-19 Vaccination: Planning Recommendations Informed by Design Thinking and the Social, Behavioral, and Communication Sciences. Baltimore, MD: Johns Hopkins Center for Health Security; 2020.**
2. **The Associated Press-NORC Center of Public Affairs Research poll, May 2020. https://www.nytimes.com/2020/07/18/health/coronavirus-anti-vaccine.html. AP-NORC poll: Expectations for a COVID-19 Vaccine. https://apnorc.org/projects/expectations-for-a-covid-19-vaccine/ (Accessed 7/29/20).**
3. **University of Miami poll, June 2020. https://www.newsweek.com/will-black-americans-fear-vaccine-more-covid-19-opinion-1516087**

Only half of Americans plan to get COVID-19 vaccine; fewer among Black and Hispanic populations

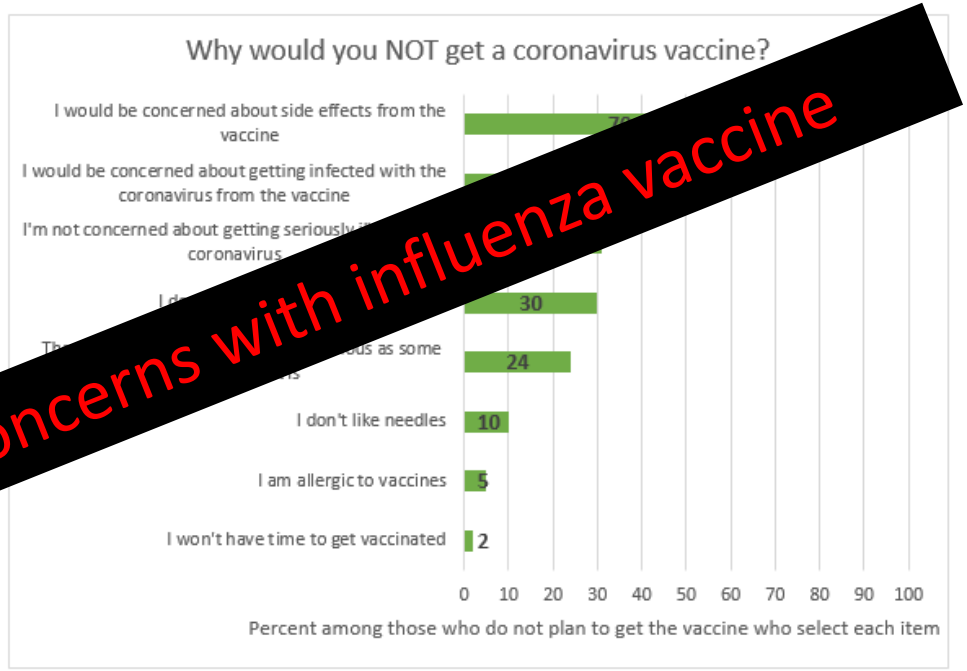


1. **AP-NORC poll: Half of Americans would get a COVID-19 vaccine, By LAURAN NEERGAARD and HANNAH FINGERHUT, May 27, 2020. Available at: https://apnews.com/dacdc8bc428dd4df6511bfa259cfec44**

Vaccinate to protect self, family, community; those not vaccinating are concerned about side effects



Question: ASKED OF THOSE WHO SAY THEY WOULD GET VACCINATED: Which of the following are reasons you would get a coronavirus vaccine? Select all that apply.
Source: AP-NORC Poll conducted May 14-18, 2020 with 1,056 adults



Question: ASKED OF THOSE WHO SAY THEY WOULD NOT GET VACCINATED: Which of the following are reasons you would not get a coronavirus vaccine? Select all that apply.
Source: AP-NORC Poll conducted May 14-18, 2020 with 1,056 adults

Note overlap of vaccine concerns with influenza vaccine

AP-NORC poll: Expectations for a COVID-19 Vaccine. https://apnorc.org/projects/expectations-for-a-covid-19-vaccine/ (Accessed 7/29/20)

Proven Strategies for Improving Adult Immunizations Rates

immunization action coalition
IAC
immunize.org

From the Community Guide[1]

- Enhance Access to Vaccines
  - Innovative access points
  - Eliminate out-of-pocket costs
- Increase Community Demand for Vaccines
  - Patient reminder recalls
  - Family incentives
- Leverage your Healthcare Provider
  - Concise consistent confident recommendation
  - Presumptive
- Engage the healthcare system
  - Systems-based change: provider reminders, assessment and feedback, standing orders, health IT

1. http://www.thecommunityguide.org/vaccines/index.html

immunization action coalition
IAC
immunize.org

Summary: Effective Strategies to Increase Adult Vaccination Coverage

Intervention	Population
Reducing client out-of-pocket costs for vaccinations	Adults
Client reminder/recall systems	Adults
Community-based interventions when implemented in combination	Adults
Provider reminder systems when used alone	Adults
Provider assessment and feedback	Adults
Standing orders	Adults
Health care-based interventions when implemented in combination	Adults
Worksite interventions with on-site, reduced-cost, actively promoted influenza vaccinations	Adults, healthcare personnel

1. http://www.thecommunityguide.org/vaccines/index.html

Meta-Analysis of Interventions to Increase Use of Adult Immunization

Intervention	Odds Ratio*
Organizational change (e.g., standing orders, separate clinics devoted to prevention)	**16.0**
Provider reminder	**3.8**
Provider education	**3.2**
Patient financial incentive	**3.4**
Patient reminder	**2.5**
Patient education	**1.3**

***Compared to usual care or control group, adjusted for all remaining interventions**

Stone E. Ann Intern Med 136:641-51, 2002

immunization action coalition
IAC
immunize.org

During COVID-19 and beyond…

- All in this ship together!
  - Unified, coordinated messages, engaged multiple stakeholders, and focus to accomplish routine vaccination AND seasonal influenza vaccination
- Provider engaged plus strong recommendation to get vaccinated
  - Provider remains the trusted voice and will be critical to overcome issues of awareness, distancing, hesitancy, and simple logistics
- Innovative approaches to increase access to vaccines
  - Alternative delivery approaches are already required to deliver routine vaccination.
  - Best practices must be shared and expanded to make vaccines (esp. flu) broadly available, address COVID-19 concerns, and combat healthcare inequalities.
  - Provider payment must be commensurate with efforts in COVID-19 mitigation and costs of innovation.
- EXPAND the flu vaccination season
  - #takefluoffthetable #avoidthetwindemic
  - Vaccination efforts need to remain in full swing until every dose is administered…extending the season into December and January
  - Utilize clinical judgment for vaccinating in August.

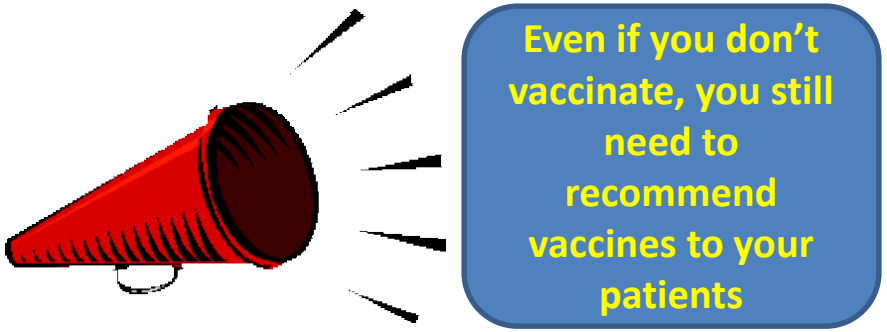
The National Vaccine Advisory Committee Standards for Adult Immunization Practice (the "Standards")

immunization action coalition
IAC
immunize.org

Advance this Paradigm Shift in Adult Immunization

ALL providers of health care to adults are to:

1. ASSESS patient's status for all recommended vaccines at each clinical encounter;
2. Educate and counsel the patient on the recommended vaccines and strongly RECOMMEND needed vaccines; and,
3. VACCINATE at the same visit, OR for providers that do not stock the recommended vaccine, REFER the patient to a vaccinating provider.
4. DOCUMENT the receipt of vaccine by the patient



immunization action coalition
IAC
immunize.org

The Delivery Infrastructure…

- Healthcare delivery is transforming with the transition to integrated delivery networks (IDNs) and clinically integrated networks (CINs)
  - Movement from volume to value
  - Increased assumption of risk by the systems
  - How do we ensure that value proposition to integrated delivery networks? Economics?
    - Patient Experience
    - Chronic Disease
    - Healthcare costs
    - Provider Burnout
    - ACO/Managed Care bundles
      - Quality measurement
      - HIT integration

immunization action coalition
IAC
immunize.org

Working with healthcare systems

White Paper:
http://go.beckershospitalreview.com/lowering-the-burden-of-adult-disease-one-shot-at-a-time
Webinar:
https://www.youtube.com/watch?v=BuhQmCVJ9Vs

BECKER'S
HOSPITAL REVIEW

Sponsored by:
National Adult and Influenza Immunization Summit

Making Prevention the Priority – How to Boost Adult Immunization Rates

Despite providers' and health agencies' efforts to advocate for the importance of vaccinating adults – especially those most vulnerable to infection – rates of adult immunization remain low, creating a substantial burden on the American health system.

Adult immunization is an uphill battle due to a number of reasons, including cultural misperception and socioeconomic barriers. However, healthcare organizations that make adult vaccination a strategic care priority can realize significant improvements in population health.

In 2015, the overwhelming cause of the economic burden of disease was attributable to poor vaccine adherence by U.S. adults, according to a 2016 study published in the journal *Health Affairs*. For the study, researchers analyzed health data compiled in various national databases

"We kind of get pediatric immunizations, it's almost ingrained in the culture, but that's not necessarily the case with the adults," says John Bulger, DO, CMO for population health at Danville, Pa.-based Geisinger Health System and CMO of the system's 500,000-member health plan. "I think one of the challenges is that even though there is a large burden of diseases we have vaccines for, most patients will still not get that disease [whether they're vaccinated or not], so they'll forgo a vaccine."

The substantial benefits and protections offered by adult immunization are often undercut by vaccines' varying rates of effectiveness. Pediatric immunizations like the polio vaccine and the mumps, measles and rubella vaccine offer protection from illness at rates approaching 100 percent. Adult vaccinations, like the flu vaccine, have much lower efficacy rates. The 2014 flu vaccine only reduced an individual's

well care," says Jerry Penso, MD, CMO and quality officer for American Medical Group Association and the president of AMGA Foundation. "In the adult world that hasn't been as much a routine for most adult patients as far as well care. Most adults only enter the health system when something is wrong. And we [providers] simply react to whatever the problem is."

Though engaging the older U.S. population in preventive care can be challenging, the current trajectory of America's healthcare system as driven by value-based models of care offer providers a unique moment in history to boost adult immunization rates to all-time highs.

Value-based care and adult immunizations

Under outcome-based care models, preventive care and timely medical interventions have an outsized effect on patient

immunization action coalition
IAC
immunize.org

Thank You!

immunization
action coalition
IAC
immunize.org