

Timing of Influenza Vaccination Webinar

October 11, 2019

**Dial-in to join audio: 1-888-455-1003
Passcode: 3780355#**

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Moderator

Litjen (LJ) Tan, MS, PhD



Chief Strategy Officer at the Immunization Action Coalition and co-chair and co-founder of the National Adult and Influenza Immunization Summit

Dr. Tan received his master of science degree in biology at New York University and earned his doctorate of philosophy in microbiology/immunology from Northwestern University Feinberg School of Medicine in Chicago.

Dr. Tan's current appointments include serving as a special consultant for the European Union Influenza Summit and the Asia-Pacific Influenza Summit, and serving as a member of the Advisory Board for AVAC, the Unity (United for Adolescent Vaccination) Consortium, the 317 Coalition, to name a few. He was a voting member of the National Vaccine Advisory Committee from 2009 to 2013 and a liaison member of the Advisory Committee for Immunization Practices, Centers for Disease Control and Prevention (CDC), from 2002 to 2012.

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Moderator

CAPT Amy Parker Fiebelkorn, MSN, MPH



Senior epidemiologist in the Immunization Services Division and is the Pandemic Influenza Vaccine Response Program Deputy for the Vaccine Task Force at the Centers for Disease Control and Prevention.

She is the CDC technical lead of several multi-million cooperative agreements focused on improving adult immunizations. She is the lead of the Influenza Working Group for the National Adult and Influenza Immunization Summit and is a Captain in the U.S. Public Health Service. Prior to joining the Immunization Services Division in 2015, she was a subject matter expert in measles, mumps, rubella, and polio in CDC's Division of Viral Diseases for 10 years. She joined CDC as an Epidemic Intelligence Service Officer in 2005. She obtained her master degrees in nursing and public health from Emory University.

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Agenda

Introduction – Dr. L.J. Tan, IAC and Amy Parker Fiebelkorn, CDC

CDC Review of data on waning effectiveness of influenza vaccine – Dr. Jill Ferdinands, CDC

CDC communications update on messaging regarding influenza vaccination timing – Douglas Jordan, CDC

Implementation and communications issues perspectives from:

- Pharmacist and pharmacy vaccination venues - Mitch Rothholz, American Pharmacists Association and Lincy Abraham, National Association of Chain Drug Stores
- Occupational health vaccination clinic venues - Vicki Sowards, Passport Health
- Long term care and assisted living settings - Dr. Stefan Gravenstein, representing AMDA

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Review of data and communications plans

CDC Review of data on waning effectiveness of influenza vaccine:

- Dr. Jill Ferdinands, CDC

CDC communications update on messaging regarding influenza vaccination timing:

- Douglas Jordan, CDC



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Jill Ferdinands, PhD



Research epidemiologist at the US Centers for Disease Control and Prevention's Influenza Division. Her area of expertise is influenza vaccine effectiveness and she leads CDC's multi-site study of the effectiveness of influenza vaccine in preventing hospitalization among adults.

Other research interests and areas of subject matter expertise include epidemiologic methods research for improving observational studies of vaccine effectiveness and disease modeling.

Prior to joining the Influenza Division, Dr. Ferdinands was a Commander in the US Public Health Service at the US Centers for Disease Control and Prevention, where she focused on the investigation of asthma and other respiratory health conditions. She holds a doctoral degree in health policy from Harvard University.

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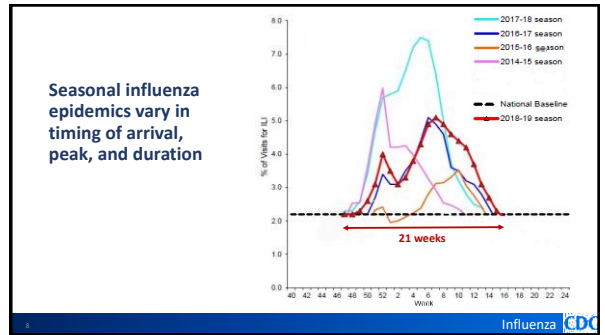


Waning of influenza vaccine protection: Exploring the trade-offs of changes in vaccination timing among older adults

Jill Ferdinands, PhD
October 11, 2019

Influenza CDC

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Influenza epidemics cause substantial disease in the US In 2018-19:


31.2 million - 35.9 million flu illnesses	14.4 million - 16.8 million flu medical visits
419,000 - 508,000 flu hospitalizations	28,000 - 46,800 flu deaths

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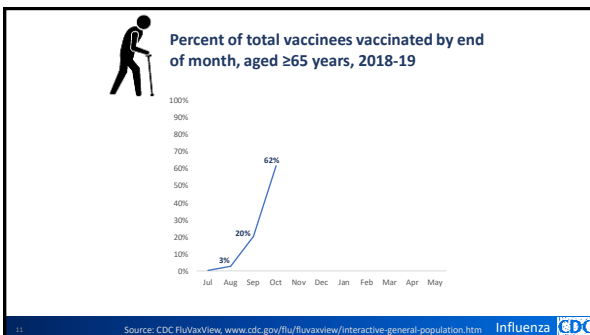
ACIP recommends annual vaccination for everyone ≥6 months of age

 $\frac{6}{10}$ children are vaccinated

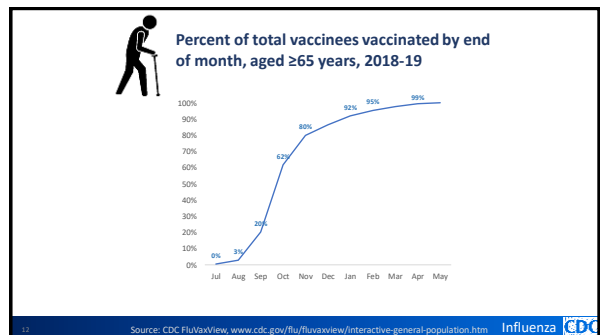
 $\frac{2}{3}$ older adults are vaccinated

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Centers for Disease Control and Prevention
MMWR
 Morbidity and Mortality Weekly Report
 Recommendations and Reports / Vol. 68 / No. 3
 August 23, 2019



Vaccination should be offered by the **end of October**.

Children who require 2 doses should receive their first dose as soon as possible after vaccine becomes available to allow the second dose to be received by the end of October.

For those requiring 1 dose, **early vaccination** (i.e., in July and August) is likely to be associated with **suboptimal immunity** before the end of the influenza season, particularly among older adults.

Note: ACIP recommendations do not suggest withholding vaccination in **September**.

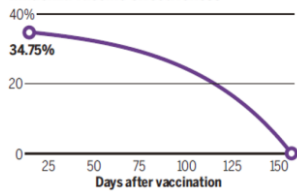
www.cdc.gov/mmwr/volumes/68/rr/pdf/rr6803-h1.pdf

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WANING IMMUNITY

Flu protection plummets
 Influenza vaccine effectiveness



40%
 20%
 0%

25 50 75 100 125 150


Days after vaccination

These U.S. data from 2011–2015 analyzed the effectiveness of vaccines against H3N2. (Ferdinands Clin Infect Dis 2017)


34.75%

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@NIHDirector
 Mar 22, 2019



Francis S. Collins

What's the best time to get a flu shot?

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Clinical Infectious Diseases
MAJOR ARTICLE

Waning of Influenza Vaccine Protection: Exploring the Trade-offs of Changes in Vaccination Timing Among Older Adults

2019 June 29

Journal of Infectious Diseases

Influenza CDC

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We modeled the impact of changes in vaccine timing

- Started with what actually happened in a "typical" season: 2012-13
 - Influenza A(H3N2) epidemic peaked in late January
 - 66% of Americans aged 65+ got vaccinated
 - Vaccine effectiveness was 26% in the 65+ yo
 - Vaccination prevented an 65,000 hospitalizations in 65+ yo
- Simulated what would have happened – in terms of hospitalizations prevented – if we changed vaccination timing and allowed vaccine effectiveness to decline with time since vaccination

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Alternative vaccine timing scenarios


#1 Delayed vaccination

- All flu vaccination delayed until October 1
- Some people who would have been vaccinated in August or September got vaccinated in October and the remaining didn't get vaccinated at all

#2 Early vaccination

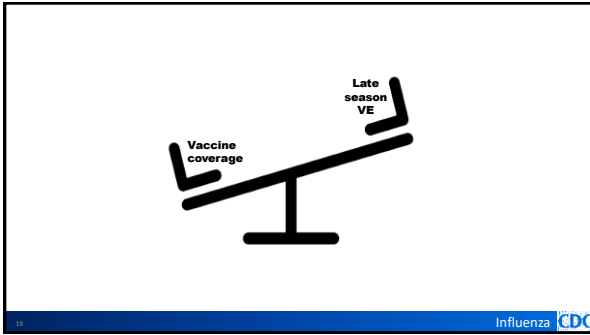
- Vaccination shifted earlier (more vaccination in August and September, less in October and November, with overall coverage achieved the same at 66%)

Assumed 7% decline in VE per month after vaccination
 (11% in sensitivity analysis)

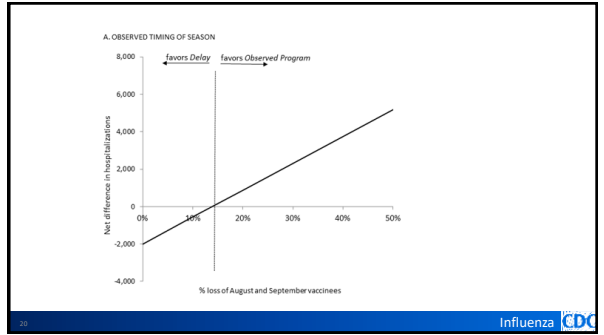


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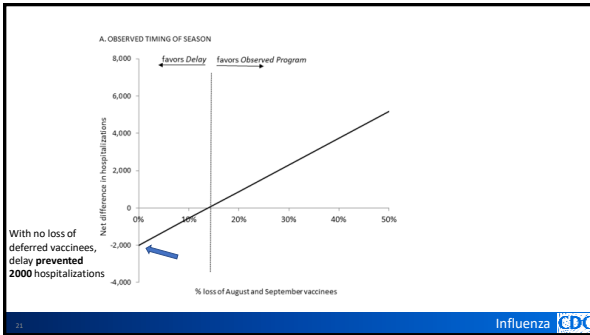
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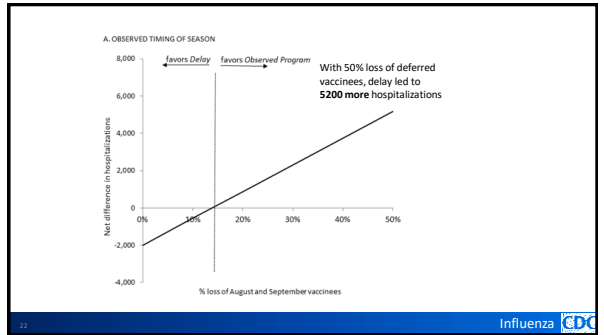
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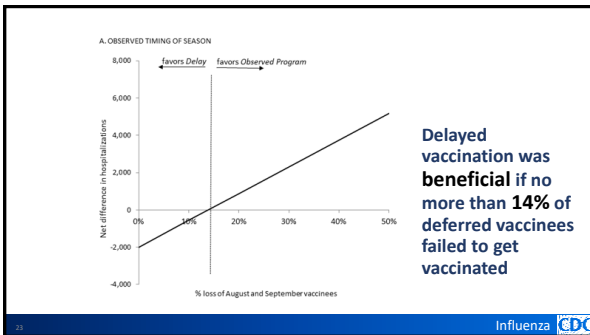
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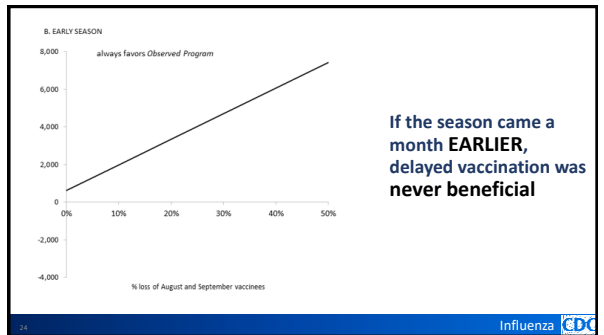
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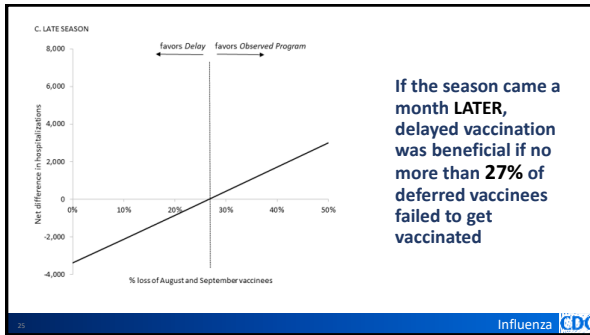
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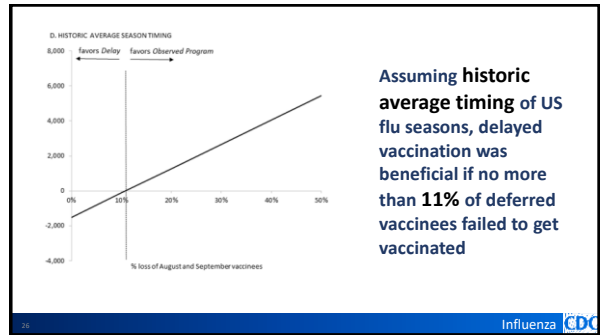
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Results varied substantially with rate of waning

Delay was beneficial if no more than ... ? ... of deferred vaccinees were lost

	7% waning per month ^a
Early season	[Never beneficial]
Typical season	14%
Late season	27%
Historic average	11%

^a derived from Ferdinands et al Clin Infect Dis 2017;64(5):544-50

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Results varied substantially with rate of waning

Delay was beneficial if no more than ... ? ... of deferred vaccinees were lost

	7% waning per month ^a	11% waning per month ^b
Early season	[Never beneficial]	38%
Typical season	14%	15%
Late season	27%	[Always beneficial]
Historic average	11%	33%

^a derived from Ferdinands et al Clin Infect Dis 2017;64(5):544-50
^b derived from Young et al J Infect Dis 2018;217:731-41

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Results varied substantially with assumed VE

On average, with higher VE of 50% (average across the season), delayed vaccination was beneficial if no more than **4%** of vaccinees failed to get vaccinated

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Scenario #2
Earlier vaccination

Shifting more vaccination into August and September could be beneficial for early seasons, but on average, it prevented fewer hospitalizations than current vaccination timing

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Challenges and limitations

- Rate of waning of VE remains uncertain
 - Number of studies demonstrating waning of VE is growing but much remains unknown about the rate and pattern
 - An observed decline in VE may be related to how VE is measured and not necessarily to declining biologic immunity
 - The role of antigenic drift in observed waning is hard to measure
 - Measures of post-vaccination antibody levels aren't particularly helpful
- Number of older adults who would forgo vaccination if recommended to delay is unknown
- Results could differ for other age groups

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Conclusions from Ferdinands et al 2019

- Rate of waning is uncertain and overall VE differs season-to-season and by flu type, making it hard to predict best overall balance of vaccination timing
- Need to better understand patterns of waning and vaccine deferral behavior before considering changes to current US seasonal influenza vaccine recommendations
- However, it may be prudent to prevent a substantial shift toward early vaccine uptake

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Discussion: Emerging questions

From a practical perspective, how do we deal with this waning?

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Discussion: Emerging questions

From a practical perspective, how do we deal with this waning?

Discuss with each patient the trade-offs of delaying?

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Discussion: Emerging questions

From a practical perspective, how do we deal with this waning?

Discuss with each patient the trade-offs of delaying?

Give a second dose of vaccine?

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Discussion: Emerging questions

From a practical perspective, how do we deal with this waning?

Discuss with each patient the trade-offs of delaying?


Give a second dose of vaccine?

Give a different vaccine – adjuvanted or high dose – hoping they wane less?

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Do we risk a loss of confidence in the vaccination program overall given wishy-washiness of the language and change from long-standing “never miss an opportunity to vaccinate” message?

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Acknowledgments

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Supplemental slides

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The practical issues in potentially shifting of the timing of influenza vaccination in U.S. older adults need to be considered very carefully. While it is important not to miss the opportunity to vaccinate, if a provider sees an older patient soon after the vaccine is available (e.g. late July or early August), they could consider discussing with the patient returning later in the season. This would need to be weighed in each case with the likelihood of the patient returning

From Newall 2018

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Division of Field Epidemiology
FIELD POINTS


 

Early Bird Gets the Flu: What Should Be Done About Waning Intraseasonal Immunity Against Seasonal Influenza?

Use of 2-dose vaccines. A second possible change is to introduce a biannual vaccine schedule for susceptible populations. If VE is diminished after 3–5 months, a booster dose may confer supplemental protection for the remainder of the season, particularly for those vaccinated in August or September.

The time is now to acknowledge the evidence that points to loss of immunity in individuals who receive the vaccine early in the season—and make the appropriate changes to better protect individuals and populations.

ROOM FOR NUANCE, NOT FOR INACTION

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WANING IMMUNITY


Like millions of people in the United States last year, Stanley Plotkin and his wife got vaccinated against influenza at the start of the Northern Hemisphere's flu season, in early October. Plotkin, a physician and emeritus professor at the University of Pennsylvania, knew well the value of the shot: He is one of the world's most renowned vaccinologists.

In January, just 3 months later, the couple got a second flu shot.

That was an unusual choice, one not recommended by the U.S. Advisory Committee on Immunization Practices (ACIP), which guides the country's vaccine usage. But a growing body of evidence that the protective immune responses triggered by flu vaccines wane in a matter of weeks persuaded Plotkin to return to the clinic.



SCIENCE 19 APRIL 2013 • VOL 344 ISSUE 6437

Influenza 

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Recent literature on waning VE and vaccine policy implications

Papers reporting empirical estimates of waning VE:

- Ray GT et al. Intra-season waning of influenza vaccine effectiveness. *Clin Infect Dis*. 2018 Sep 10; and commentaries on this article:
 - Lipsitch M. Challenges of vaccine effectiveness and waning studies. *Clin Infect Dis*. 2018 Sep 10.
 - Ferdinands JM, et al. Influenza vaccine effectiveness. *Clin Infect Dis*. 2018 Dec 18.
- Regan AK et al. Intra-season decline in influenza vaccine effectiveness during the 2016 southern hemisphere influenza season: A test-negative design study and phylogenetic assessment. *Vaccine*. 2019 May 1;37(19):2634-2641.
- Feng S et al. Effectiveness of influenza vaccination on influenza-associated hospitalisations over time among children in Hong Kong: a test-negative case-control study. *Lancet Respir Med*. 2018 Dec 6;6(12):905-914.
- Puig-Barberà J, et al. Waning protection of influenza vaccination during four influenza seasons, 2011/2012 to 2014/2015. *Vaccine*. 2017 Oct 13;35(43):5799-5807.
- Young B et al. (Review). Duration of influenza vaccine effectiveness: A systematic review, meta-analysis, and meta-regression of test-negative design case-control studies. *J Infect Dis*. 2018 Feb 1;216(3):391-394.

Papers analytically evaluating optimal influenza vaccination timing:

- Newall AT et al. Within-season influenza vaccine waning suggests potential net benefits to delayed vaccination in older adults in the United States. *Vaccine*. 2018 Sep 18;36(39):5910-5915.
- Smith KJ et al. Compressed influenza vaccination in U.S. older adults: A decision analysis. *Am J Prev Med*. 2019 Apr;56(4):e135-e141.
- Ferdinands JM et al. Waning of influenza vaccine protection: Exploring the trade-offs of changes in vaccination timing among older adults. *Clin Infect Dis*. Jun 29 2019.
- Constantino et al. Modelling of optimal timing for influenza vaccination as a function of intraseasonal waning of immunity and vaccine coverage. *Vaccine*. Sep 2019 [Epub ahead of print].

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Recent literature on waning VE and vaccine policy implications

Commentaries on waning and/or policy changes for vaccination timing:

- Rambhia KJ, Rambhia MT. Early bird gets the flu. What should be done about waning intraseasonal immunity against seasonal influenza? *Clin Infect Dis*. 2018 Aug 30.
- Young and Sadarangani. Rapidly waning vaccine effectiveness for influenza: How often should we re-vaccinate? *J Trav Med* 2019, 1-3.
- Lipsitch M. Challenges of vaccine effectiveness and waning studies. *Clin Infect Dis* 2018 Sep 10.
- Ferdinands JM, et al. Influenza vaccine effectiveness. *Clin Infect Dis*. 2018 Dec 18.

Papers examining theoretic or scientific basis of observed waning VE:

- Logman BA, Pitzer VE. Waning understanding of waning immunity. *J Infect Dis* 2018; 217(6): 853-3.
- Lewnard JA et al. Measurement of vaccine direct effects under the test-negative design. *Am J Epidemiol*. 2018 Dec 1;187(12):2686-2697.
- Goldstein E et al. (Review). Temporally varying relative risks for infectious diseases: Implications for infectious disease control. *Epidemiology*. 2017 Jan;28(1):136-144.
- Cohen J. Waning immunity. *Science*. 2019 Apr 19;364(6437):224-227.


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Model methods

- Health state transition (Markov) model that simulated movement of a cohort of individuals through a season using 20 semi-monthly cycles for the 10 month period from July to April
- Individuals could get vaccinated or not, get flu or not, get hospitalized from flu or not, based on probabilities derived from empirical data
- Vaccine effectiveness declined with time since vaccination according to the pattern seen in US Flu VE Network (Ferdinands et al 2017):

$$VE_t = 30.85 - 1.37 * biweeks + 0.18 * biweeks^2 - 0.03 * biweeks^3$$


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Douglas Jordan, BBA, MA


Health communications specialist at CDC's Influenza Division. Mr. Jordan received his BBA from the Goizueta Business School at Emory University and his master's degree in journalism from the Grady College of Journalism at UGA.

During the 2009 H1N1 flu pandemic, he served in CDC's Emergency Operations Center (EOC), where he helped draft, review and clear agency communications products, messages and guidance documents. He has years of experience as a project manager merging new technologies and art with public health education. During the 2009 pandemic, Mr. Jordan spearheaded the agency's use of YouTube as a platform for creating educational videos featuring CDC subject matter experts. One video was shown on the Daily Show with Jon Stewart. Mr. Jordan's influenza-related images and illustrations have been used in books, medical exhibits, museums and journal articles around the world.

In 2018, he wrote and managed the creation of a graphic novel called the Junior Disease Detectives: Operation Outbreak, which educates youth about variant flu, careers in public and animal health, zoonotic and pandemic disease threats, and the real-life way CDC investigates disease outbreaks. The graphic novel was covered by CNN, Fortune, the Verge and the Atlanta Journal Constitution, among other outlets. Mr. Jordan continues to work on innovative projects that merge art and health education at CDC.

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Centers for Disease Control and Prevention
National Center for Immunization and Respiratory Diseases



Timing of Flu Vaccination 2019-2020 Season

Doug Jordan
Health Communications Specialist
Influenza Division
Centers for Disease Control and Prevention

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Vaccine Timing Language Over Time

- 2012-2013**
- "providers should offer vaccination as soon as vaccine is available."
- 2013-2014**
- "providers should begin offering vaccination soon after vaccine becomes available and, if possible, by October."
- 2015-2016**
- "Health care providers should offer vaccination by October, if possible."
- 2016-2017**
- "Although vaccination by the end of October is recommended, vaccine administered in December or later, even if influenza activity has already begun, is likely to be beneficial in the majority of influenza seasons."
 - Discussion of waning added to timing section.
- 2017-2018**
- Mention of early vaccination = suboptimal immunity added to timing section.
 - "Some available data indicate that early vaccination (e.g., in July and August) might be associated with suboptimal immunity before the end of the influenza season, particularly among older adults." (Although vaccination by the end of October is recommended, vaccine administered in December or later, even if influenza activity has already begun, is likely to be beneficial in the majority of influenza seasons.)"

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ACIP Recommendation, 2019-20

"Balancing considerations regarding the unpredictability of timing of onset of the influenza season and concerns that vaccine-induced immunity might wane over the course of a season, it is recommended that vaccination should be offered by the end of October.

Children aged 6 months through 8 years who require 2 doses (see Children Aged 6 Months Through 8 Years) should receive their first dose as soon as possible after the vaccine becomes available to allow the second dose (which must be administered ≥4 weeks later) to be received by the end of October.

- For those requiring only 1 dose for the season, early vaccination (i.e., in July and August) is likely to be associated with suboptimal immunity before the end of the influenza season, particularly among older adults.
- Although vaccination by the end of October is recommended, vaccine administered in December or later, even if influenza activity has already begun, might be beneficial in the majority of influenza seasons."

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Vaccine Timing Messaging Throughout Flu Season

- **July-August:**
"It might be too soon to get vaccinated, particularly if you are an adult 65 years of age or older. For a child needing two doses of vaccine, July-August administration of the first dose is ok. CDC recommends flu vaccination by the end of October."
- **Beginning in September:**
"CDC recommends flu vaccination by the end of October. While it's fine to get vaccinated in September, keep four things in mind:
1. Current flu levels are (low/rising/high);
2. It takes about two weeks after vaccination for protective antibodies to develop;
3. Immunity from vaccination wanes over time; and,
4. Flu activity most often peaks in February and can last as late as May."
- **October**
"Get vaccinated by the end of October."
- **Beginning in November:**
"CDC recommends vaccination continue as long as influenza viruses are circulating. Though the timing of flu season varies, significant flu activity can last as late as May."

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Vaccine Timing Messaging Throughout Flu Season

- **Early December through February; (somewhat dependent on activity)**
"It's not too late to get vaccinated. CDC recommends vaccination continue as long as influenza viruses are circulating. Though the timing of flu season varies, flu season most often peaks in December and February, but significant flu activity can last as late as May."
- **March-May:**
Flu viruses are circulating at X levels nationally though activity varies by location. CDC recommends vaccination continue as long as influenza viruses are circulating. Check FluView Interactive for more information about flu activity in your state.
- **Starting in June:**
"Most flu vaccine expires by the end of June. If you haven't gotten vaccinated and plan a trip to the Southern Hemisphere, where their flu season is just beginning, or plan to travel in a relatively crowded setting where people from many parts of the country might be in close proximity, e.g., a cruise, get a flu vaccine at least two weeks before traveling. Vaccine for the upcoming season will be available next fall."

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Implementation and communications issues

Pharmacist and pharmacy vaccination venues:

- Mitch Rothholz, American Pharmacists Association
- Lincy Abraham, National Association of Chain Drug Stores

Occupational health vaccination clinic venues:

- Vicki Sowards, Passport Health

Long term care and assisted living settings:

- Dr. Stefan Gravenstein, representing AMDA



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Mitchel Craig Rothholz, R.Ph., MBA

Pharmacist currently serving as Chief Strategy Officer for the American Pharmacists Association (APhA) responsible for the development and coordination of the organization's strategic plan, governance and policy development activities, and public health initiatives. He has served in numerous roles as an APhA staff member since 1994. He also serves as Secretary for the Joint Commission of Pharmacy Practitioners, a collaborative forum of 13 national pharmacist organizations. He is a 1984 graduate of the University of Florida, College of Pharmacy, and earned a Masters in Business Administration, Healthcare Management, from Regis University in 2005. He has served as the Executive Director of the Alabama Pharmacy Association (1989-1994) and worked in numerous roles for the Florida Pharmacy Association (1984-1989). He has practical experience in community (both chain and independent) pharmacy, nursing home, hospital, and managed care practice settings. He is an internationally recognized expert on Pharmacy-Based Immunization Delivery, and serves as a national faculty member for APhA's Certificate Training Program. He was a voting member of the HHS National Vaccine Advisory Committee (NVAC) from September 2012-February 2017. He currently serves on the Leadership Steering Committee of the National Adult and Influenza Immunization Summit (NAIS), Board of the Unity Coalition (Adolescent Health), the Advisory Board of the Immunization Action Coalition, and Adult Vaccine Access Coalition (AVAC).



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APHA American Pharmacists Association

NAIIS influenza vaccination timing Pharmacist / Pharmacy Perspective

October 11, 2019

Speaker: Mitchel C. Rothholz, RPh, MBA
Chief Strategy Officer
American Pharmacists Association

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APHA American Pharmacists Association

2010-20 Influenza Season
MMWR – Aug 2019
https://www.cdc.gov/mmwr/volumes/68/rr/rr6803a1.htm?z_cid=rr6803a1_w

Timing of Vaccination

recommended that vaccination should be offered by the end of October

Children aged 6 months through 8 years who require 2 doses should receive first dose as soon as possible to allow the second dose to be received by the end of October.

Community vaccination programs should balance maximizing likelihood of persistence of vaccine-induced protection through the season with avoiding missed opportunities to vaccinate or vaccinating after onset of influenza circulation occurs.

Efforts should be structured to optimize vaccination coverage before influenza activity in the community begins.

Providers should offer influenza vaccine routinely, and organized vaccination campaigns should continue throughout the influenza season, including after influenza activity has begun in the community.

Vaccine administered in December or later, even if influenza activity has already begun, might be beneficial in the majority of influenza seasons.

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APHA American Pharmacists Association

- Need clarity, consistency and understanding in regard to timing for vaccine administration
- Communication between members of immunization neighborhood
 - Need to avoid finger pointing...
 - Has the practice communicated to their patients their preference for timing?
 - How would primary care providers like to be informed of vaccinations?
 - Is everyone reporting to and accessing IIS?
- Will manufacturers change their processes and distribution of vaccine?

CHALLENGE → **SOLUTION**

Timeline: JAN to DEC

February: Begin planning season plan based on CDC rec and other input

Discussions are actually beginning in November

When will CDC messaging and guidance be provided to practitioners?

Vaccine ordering (Jan – May)

Media planning, buys, and launch

Offering vaccination (Aug – Apr/May)

MMWR – Aug 2019


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APHA American Pharmacists Association

Things to Consider...

Pharmacists are no different than any other providers

- Challenged with understanding the data and how to communicate it effectively to the public
 - Consistent messaging across the immunization neighborhood is a necessity
 - Vaccine efficacy: put a face on the story for why people should get immunized (Reduces symptoms and illness length) – Key messages
 - Education, repeat of messages, life experiences all influence health care providers
- Providers are concerned about being left with excess vaccine
- Challenges with extending the season
 - Impact of holidays
 - Education and messaging of providers and the public
 - Conducting influenza vaccinations post January...



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Lincy Abraham, PharmD
Pharmacy Care Manager at the National Association of Chain Drug Stores (NACDS) in Arlington, VA.

She received her Doctor of Pharmacy degree from the University of Maryland Eastern Shore School of Pharmacy in 2018 and completed a post-graduate Executive Fellowship in Association Management at NACDS.

Lincy is currently a licensed pharmacist in the state of Maryland. She previously interned with Walgreens Pharmacy, having gained experience at both the store- and district- level, and was previously a pharmacy technician at CVS Pharmacy.

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NACDS NATIONAL ASSOCIATION OF CHAIN DRUG STORES

NAIIS Influenza Vaccination Timing: Pharmacist Vaccination Venues

Lincy Abraham, Pharm.D.
Manager, Pharmacy Care
National Association of Chain Drug Stores (NACDS)

The Face of Neighborhood Healthcare

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NACDS NATIONAL ASSOCIATION OF CHAIN DRUG STORES

Current Pharmacy Vaccination Landscape

- 91% of Americans live within 5 miles of a pharmacy
- **Accessibility and convenience**
 - 2013 national community pharmacy study reported that within one year¹:
 - 6,250,402 vaccinations administered by pharmacists
 - 30.5% provided during off-clinic hours
 - 17.4% on weekends
 - 10.2% on evenings
 - 2.9% on holidays
- **Adults who reported receiving a flu vaccine from the pharmacy or store**
 - 2014 - 22.2%
 - 2018 - 32.2%

Place of Vaccination	Percentage
Healthcare Office	52.4
Pharmacy/Store	33.3
Other	14.3
Home	9.0
Workplace	8.0
Other Locations	8.0
Other	8.0
Other	8.0

 The chart also includes a legend for 'Behavioral Setting' with categories: Healthcare Office, Pharmacy/Store, Home, Workplace, Other Locations, and Other.

The Face of Neighborhood Healthcare

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NACDS NATIONAL ASSOCIATION OF CHAIN DRUG STORES

Considerations for Timing and Implementation

- **Influenza Season Planning and Implementation Timeline**
 - Workflow efficiency to best serve the public
 - Promoting vaccinations to educate and create awareness for patients
- **Communication and consistency across providers and the public**
- **MISSED OPPORTUNITIES FOR PATIENTS TO RECEIVE FLU VACCINE**

The Face of Neighborhood Healthcare

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NACDS NATIONAL ASSOCIATION OF CHAIN DRUG STORES

Final Thoughts

“Community vaccination programs should balance maximizing likelihood of persistence of vaccine-induced protection through the season with avoiding missed opportunities to vaccinate or vaccinating after onset of influenza circulation.”

- Pharmacists stand ready to help fill gaps in vaccination uptake and improve public and population health through consistent communication and education for patients on the importance of receiving vaccines.
- Community pharmacies will continue to place quality patient care at the forefront as they prepare for the influenza season.

The Face of Neighborhood Healthcare

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Victoria Sowards, BSN, RN

Director Clinical Resources at Passport Health. She has been with Passport Health since 2013. She brought hospital and out-patient experiences with her to the role as Director of Clinical Resources. She educates the nurses who provide services for on-site corporate flu and vaccination events throughout the US. Vicki has a role in educating the employer about the choices in vaccination to keep the employees healthy and on the job. Vicki values the vision of Passport Health to “empower every person that we touch by providing premier education”.

Vicki is currently pursuing a Master’s in Health Innovation through Arizona State University.

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Stefan Gravenstein, MD, MPH, MA

Dr. Gravenstein is an academic geriatrician, Professor of Health Services, Policy and Practice, and Professor of Medicine at Brown’s schools of medicine and public health. Dr. Gravenstein has a long-standing interest in immunity, inflammation and aging especially in the context of vaccines and the long-term care setting.

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Discussion

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Thank you!

Slides and recording will be posted on
www.izsummitpartners.org