The Right Dose

OPA's LIVE Education Series

Moderator

Ruth Ackerman, BScPhm, MBA, RPh

Director of Professional Development at the Ontario Pharmacists Association

thank you

Guest Speaker

Tiana Tilli, PharmD

Clinical Pharmacist and lecturer at the University of British Columbia's Pharmacists Clinic

Breaking Through The Noise: Respiratory Health and COVID-19 Immunization

Disclosures

Presenter Disclosure

- Presenter's Name: Tiana Tilli
- I have the following relationships with commercial interests:
  - Speaker/Consulting Fees: Pfizer Canada
  - Advisory Group: GSK
- Speaking fees for current program:
  - I have received a speaker's fee from the OPA for this learning activity

Commercial Support Disclosure

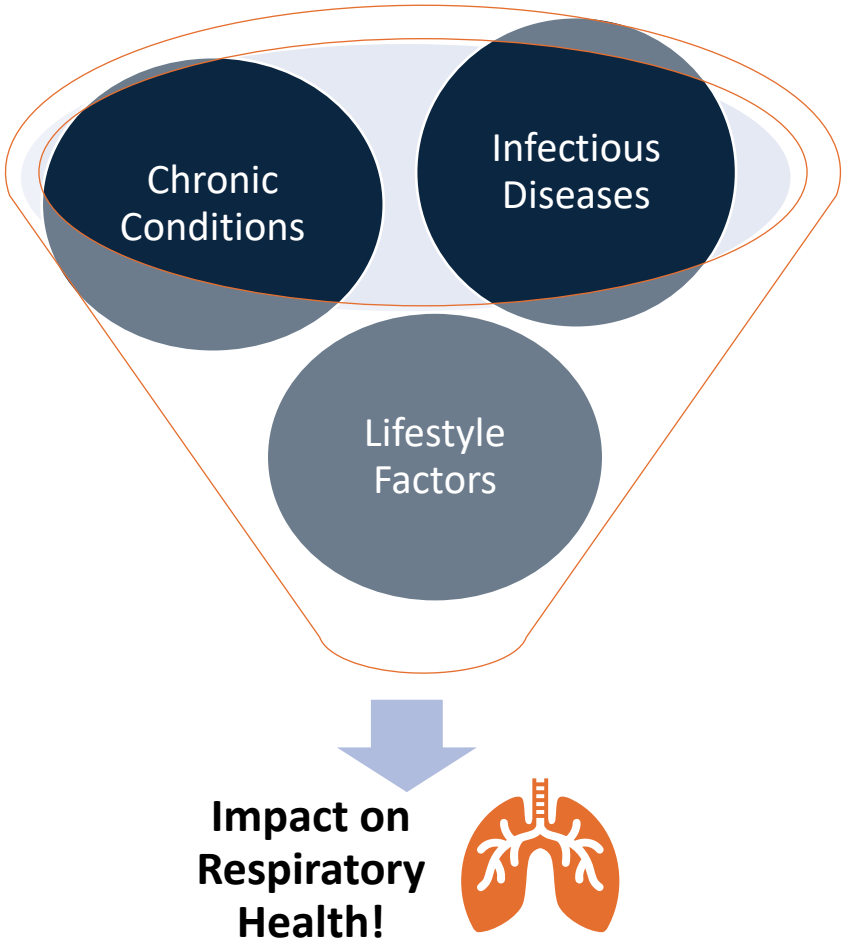
- This program has received financial support from Pfizer Canada Inc. in the form of an educational grant.

Learning Objectives

- Describe the impact of respiratory health, including pneumonia, on the morbidity and mortality of Canadians
- Outline at four populations at-risk of pneumonia and how at least two different members of the pharmacy team can identify them
- Describe two ways in which COVID-19 has impacted routine vaccine uptake and why ongoing immunization is essential
- Review National Advisory Committee on Immunization (NACI) recommendations for timing of vaccine administration, including COVID-19 vaccines in relation to non-COVID-19 vaccines
- Articulate three evidence-informed approaches to addressing vaccine hesitancy and statements to use to do so

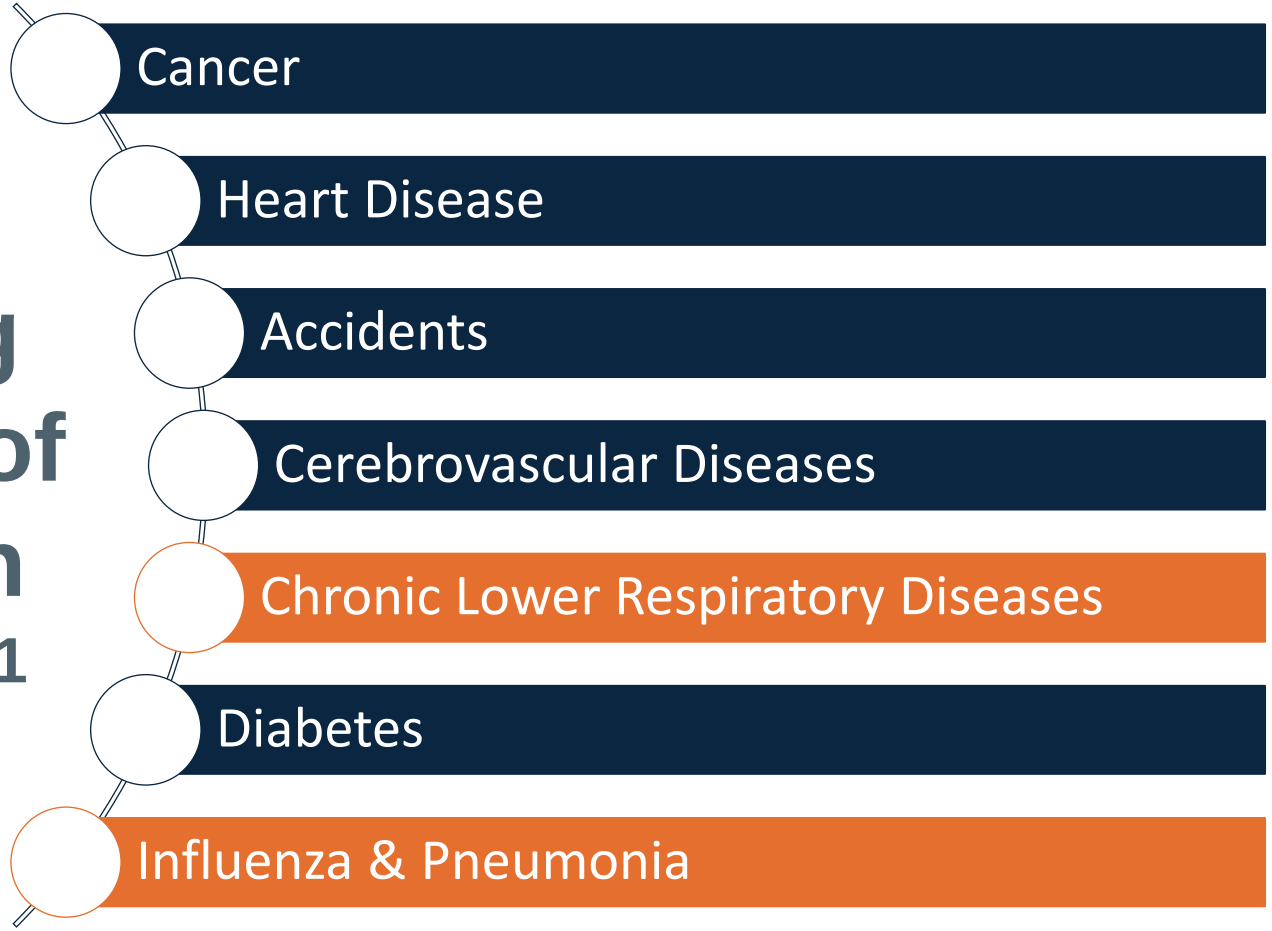
Respiratory Health

Respiratory Health



Impact of Respiratory Health

Top 7 Leading Causes of Death in Canada[1]

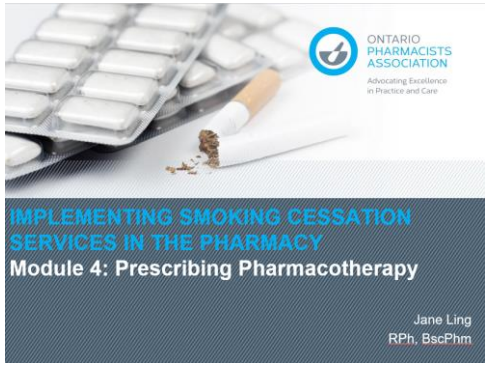


Pharmacist's Role In Respiratory Health

- Health promotion through immunizations (pneumonia, influenza, COVID-19), chronic disease management (asthma, COPD), addressing lifestyle (smoking cessation)
- Access the OPA's modules below for in-depth education

[Optimizing Adult Immunizations]

[Asthma Management]



[Smoking Cessation]

ONTARIO PHARMACISTS ASSOCIATION
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Polling Question #1:

Have you accessed any of the OPA's modules on the pharmacist's role in respiratory health?

A) Optimizing Adult Immunization
B) Asthma Management
C) Smoking Cessation
D) More than one of the above

Impact of Pneumonia

- Ranks 7th in top causes of death in Canada[1]
- Mortality rate of ~12%, increases with age[2]
- Survivors often experience sequelae[3]
- Direct healthcare costs to exceed $530M by 2025[4]

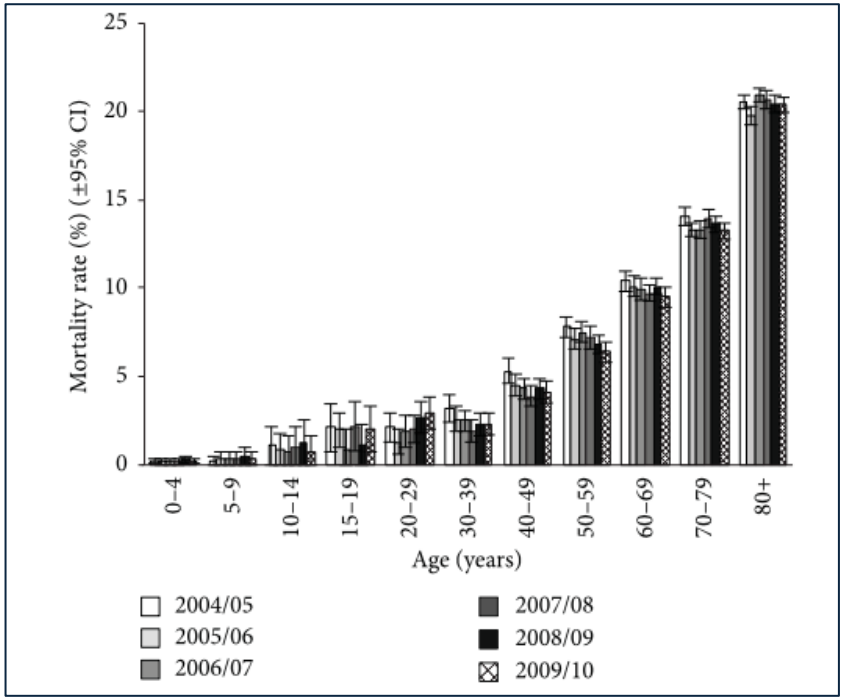


Figure 1. McNeil SA et al. A Retrospective study of clinical burden of hospitalized all-cause and pneumococcal pneumonia in Canada. Canadian Respiratory Journal. Mar 29, 2016. Retrieved from https://pubmed.ncbi.nlm.nih.gov/27445530/

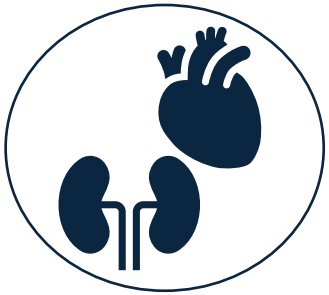
Patients At-Risk: Who They Are[5]

Extremes in Age[5]

- Infants
- Adults 65+
- Adults 50+
- Residents of chronic care facilities

Respiratory Conditions[5]

- COPD
- Asthma
- Smoking



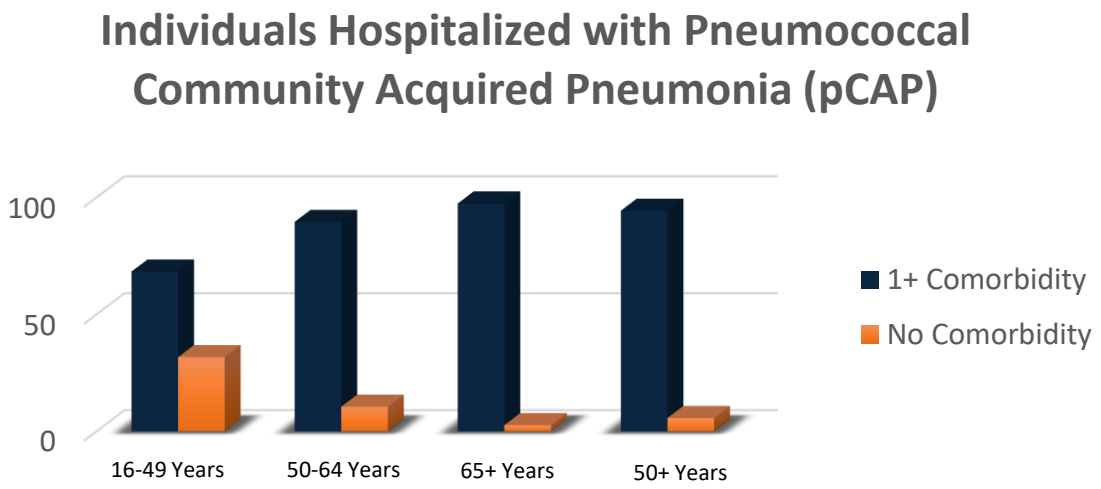
Chronic Conditions[5]

- Diabetes
- Heart disease
- Liver disease
- Kidney disease

Immunocompromised[5]

- Due to therapy
- Due to diseases
- Due to condition
- Congenital

Pneumonia – High-Risk Populations[6]

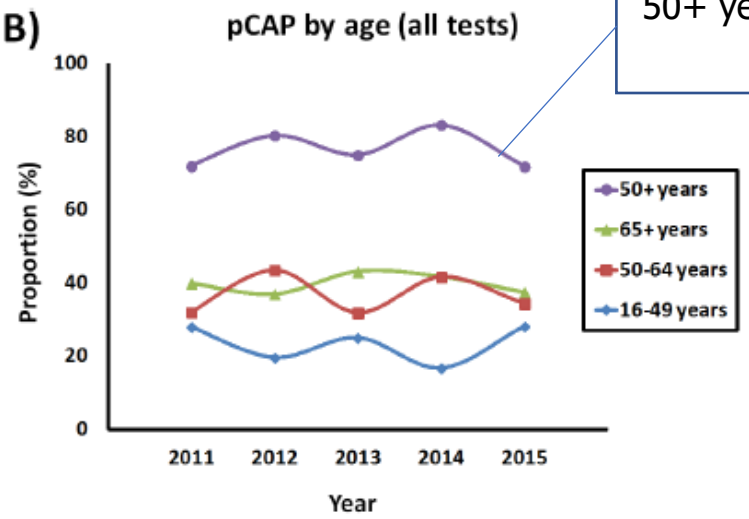


Age Cohort	PCV13 pCAP (%)	Patients with 1+ Comorbidity (%)	Patients Admitted to ICU (%)	Patient Mortality (%)	Ventilation support req. (%)
16-49	25.6	68.3	26.8	3.8	1.8
50-64	33	89.5	35.2	6.3	23.4
65+	41.4	97.4	26.6	12	18.2
50+	74.4	94.3	30.0	9.7	20.3

Adults ≥ 50-64 are related to pre-existing co-morbidities as a strongest risk factor[6]

pCAP = pneumococcal community acquired pneumonia

Pneumonia – High-Risk Populations[6]



50+ years represents the biggest proportion of pCAP.

The **proportion of pCAP** attributed to **PCV13 serotypes** was:

- 16-49 years: 25.6%
- 50-64 years: 33.0%
- ≥65years: 41.4%
- 50+years: **74.4%**

Adults ≥ 50 represented the biggest proportion of pCAP[6]

pCAP = pneumococcal community acquired pneumonia

Patients At-Risk: How to Identify[5]

All pharmacy team members have a role engaging patients

Older Adults[5]

ODB, Retirement

Asthma/COPD[5]

Inhalers, Spacers

Smoking[5]

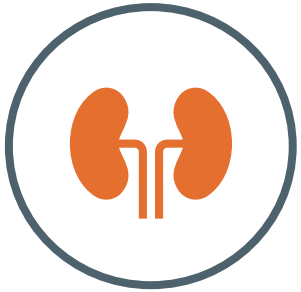
NRT, Champix®, Resolution

Diabetes[5]

Insulin, Glucometer, Strips

Heart Disease[5]

Blood Pressure Cuffs
ACEi/ARB, CCB, BB



Liver or Kidney Disease[5]

Dose Adjustments

Immunocompromised[5]

Oral Chemo, HAART
Biologics, Prograf®

Pneumonia Vaccines to Consider

Type	Description	Options	Serotypes
Pneumococcal polysaccharide vaccines (Pneu-P-23)	Polysaccharide antigens	Pneumovax® 23	Antigens of 23 pneumococcal serotypes: 1, 3, 4, 5, 6B, 7F, 9V, 14, 18C, 19A, 19F, 23F, 2, 8, 9N, 10A, 11A, 12F, 15B, 17F, 20, 22F, 33F
Pneumococcal conjugate vaccine (Pneu-C-13)	Polysaccharide antigens joined to a protein (conjugated)	Prevnar® 13	Antigens of 13 pneumococcal serotypes: 1, 3, 4, 5, 6B, 7F, 9V, 14, 18C, 19A, 19F, 23F, 6A**

** 6A is unique to Pneu-C-13

Public Health Agency of Canada. (An Advisory Committee Statement (ACS) on Immunization (NACI). (2013, October 30). Statement on the Use of Conjugate Pneumococcal Vaccine – 13 valent in Adults (Pneu-C-13). http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/13vol39/acs-dcc-5/index-eng.php

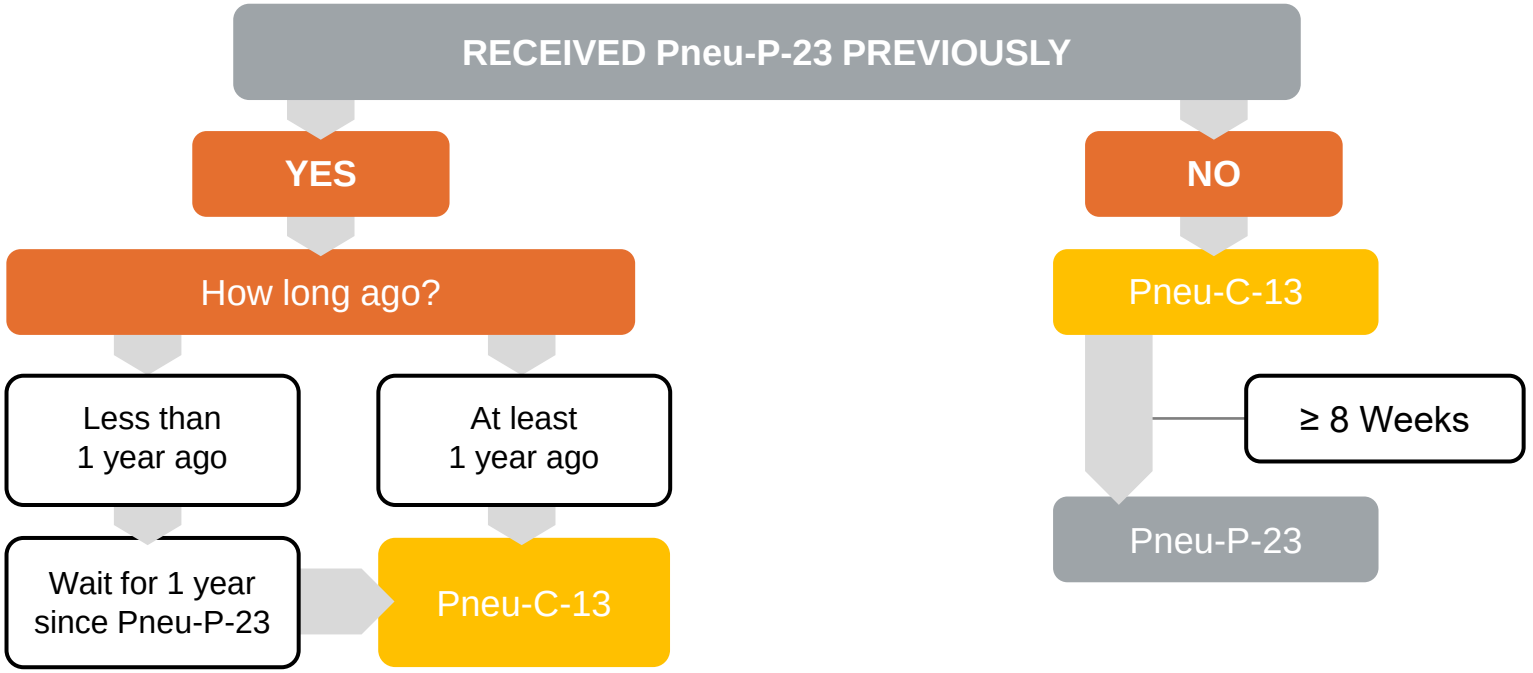
Differences Between Adult Formulations of Pneumococcal Vaccines

Characteristic	Pneu-C-13	Pneu-P-23
T cell response	✓	
Strong immune response	✓	
Induces immune memory	✓ (IgG > IgM)	IgM mostly
Provides herd immunity (reduces transmission to unimmunized)	✓	
Hypo-responsive effect on booster dosing		✓

IgG = Immunoglobulin G; IgM = Immunoglobulin G

Lazarus, R., Clutterbuck, E., Yu, L. M., Bowman, J., Bateman, E. A., Diggle, L., ... & Pollard, A. J. (2011). A randomized study comparing combined pneumococcal conjugate and polysaccharide vaccination schedules in adults. Clinical Infectious Diseases, 52(6), 736-742.

Pneumococcal Vaccine Administration: Immunocompetent Adults ≥ 65 years



Public Health Agency of Canada. An Advisory Committee Statement (ACS) National Advisory Committee on Immunization (NACI). (2016, October 17). Update on the use of 13-valent pneumococcal conjugate vaccine (PNEU-C-13) in addition to 23-valent pneumococcal polysaccharide vaccine (PNEU-P-23) in immunocompetent adults 65 years of age and older – Interim Recommendations. https://www.canada.ca/en/public-health/services/publications/healthy-living/update-use-of-13-valent-pneumococcal-conjugate-vaccine-pneu-c-13-in-addition-to-23-valent-pneumococcal-polysaccharide-vaccine-pneu-p-23-immunocompetent-adults-65-years-and-older-interim-recommendation.html

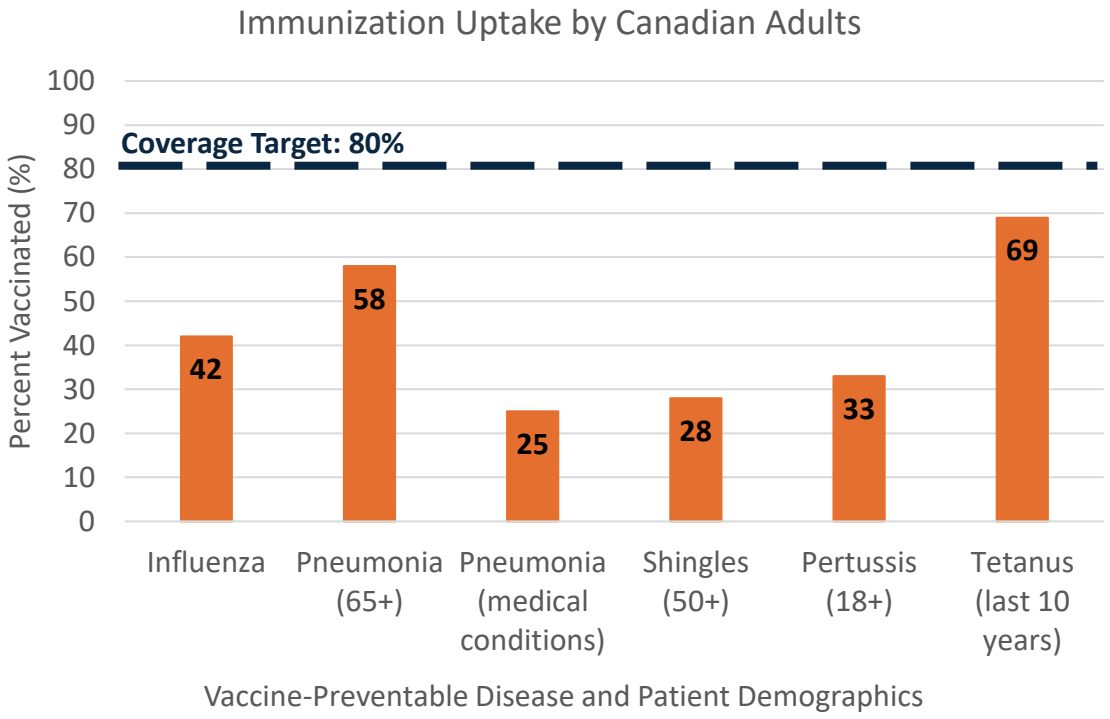
Protecting Patients Now

Protecting Patients Now

- Vaccine coverage was below target even before COVID-19 and appear to be falling further behind[7-10]
- Vaccine-preventable diseases (VPD) circulation appears to be down due to current COVID-19 measures[11]
- Once measures lifted, resurgence of VPD is a concern[9]
- Proactively immunize patients, coordinating with COVID-19 vaccine plans, to protect patients now

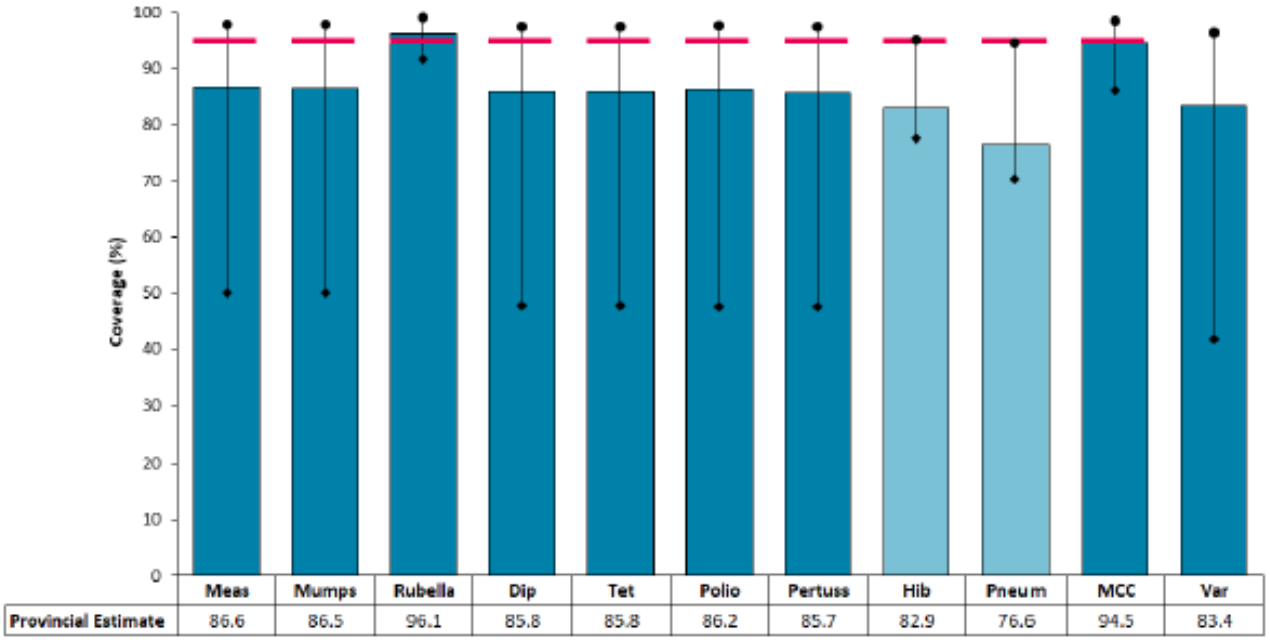
Vaccine Uptake in Canadian Adults

- Prior to COVID-19, adult immunization rates were below NACI's coverage goal of 80% uptake by Canadians[7]



Vaccine Uptake in Canadian Infants

- Prior to COVID-19, infant immunization rates were below Public Health's coverage goal of 95% uptake by Ontarians for the majority of vaccine-preventable diseases[8]

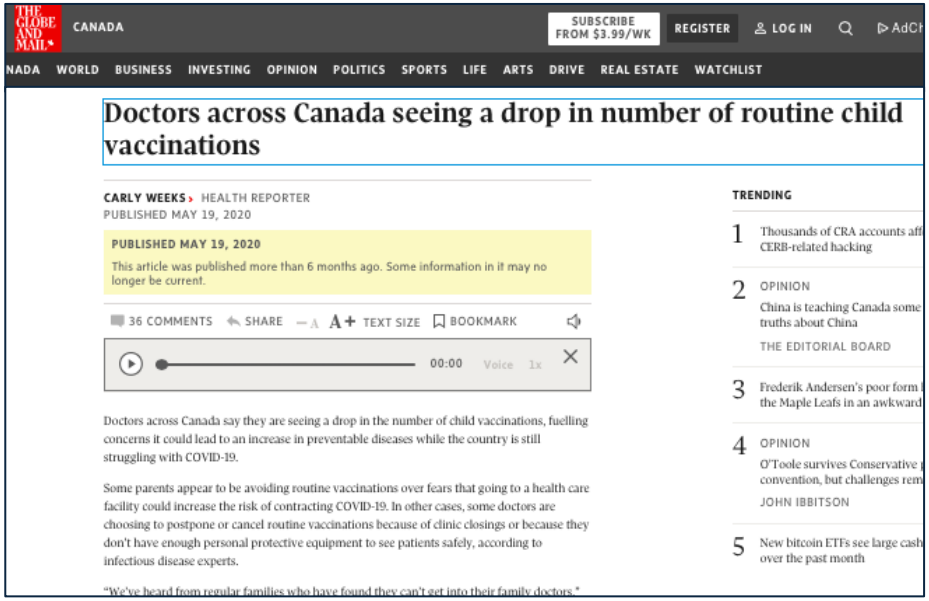


	Meas	Mumps	Rubella	Dip	Tet	Polio	Pertuss	Hib	Pneum	MCC	Var
Provincial Estimate	86.6	86.5	96.1	85.8	85.8	86.2	85.7	82.9	76.6	94.5	83.4

Figure 2. Public Health Ontario. Immunization coverage report for school pupils in Ontario: 2018-19 school year. August 2020.

Impact of COVID-19 on Vaccine Uptake

- Disruption of vaccine services[9]
  - Uncertainty, remote appointments, shift in priorities
- Reduced coverage for vaccine-preventable diseases (VPD)[9,10]
  - Physicians seeing reduction in routine childhood immunizations[10]



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Doctors across Canada seeing a drop in number of routine child vaccinations

CARLY WEEKS › HEALTH REPORTER
PUBLISHED MAY 19, 2020

PUBLISHED MAY 19, 2020
This article was published more than 6 months ago. Some information in it may no longer be current.

36 COMMENTS SHARE TEXT SIZE BOOKMARK

00:00 Voice 1x

Doctors across Canada say they are seeing a drop in the number of child vaccinations, fuelling concerns it could lead to an increase in preventable diseases while the country is still struggling with COVID-19.

Some parents appear to be avoiding routine vaccinations over fears that going to a health care facility could increase the risk of contracting COVID-19. In other cases, some doctors are choosing to postpone or cancel routine vaccinations because of clinic closings or because they don't have enough personal protective equipment to see patients safely, according to infectious disease experts.

"We've heard from regular families who have found they can't get into their family doctors."

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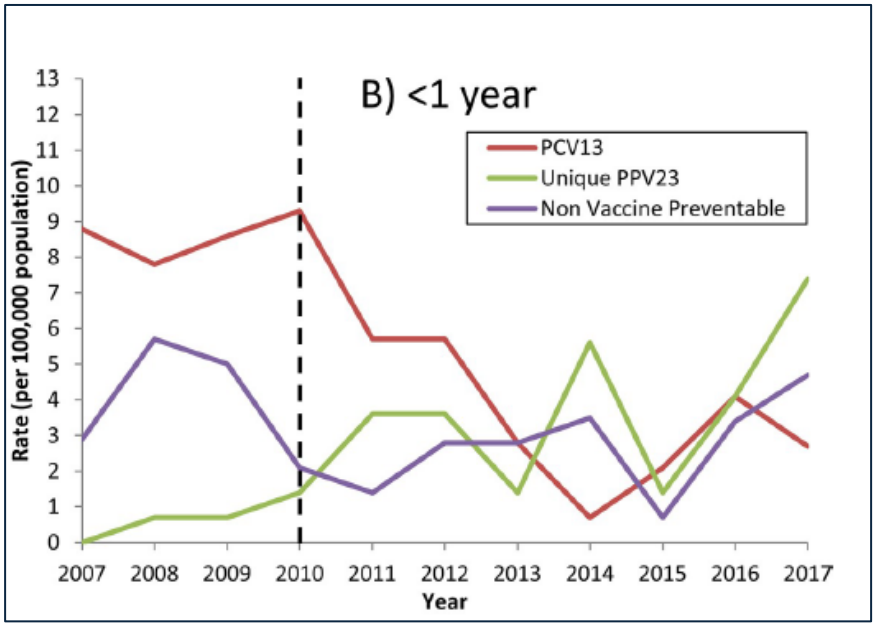
Figure 3. Weeks, C. Doctors across Canada seeing a drop in number of routine child vaccinations. May 19, 2020. Retrieved from: https://www.theglobeandmail.com/canada/article-doctors-across-canada-seeing-a-drop-in-number-of-routine-child/

Impact of COVID-19 on VPD Protection

- Publicly-funded PCV13 program for infants has previously been associated with protecting infants and older adults[12]
- Reduced rates leave both of these populations susceptible[12]

Direct Impact – Immunized Infants[12]



Indirect Impact - Herd Immunity (65+)[12]

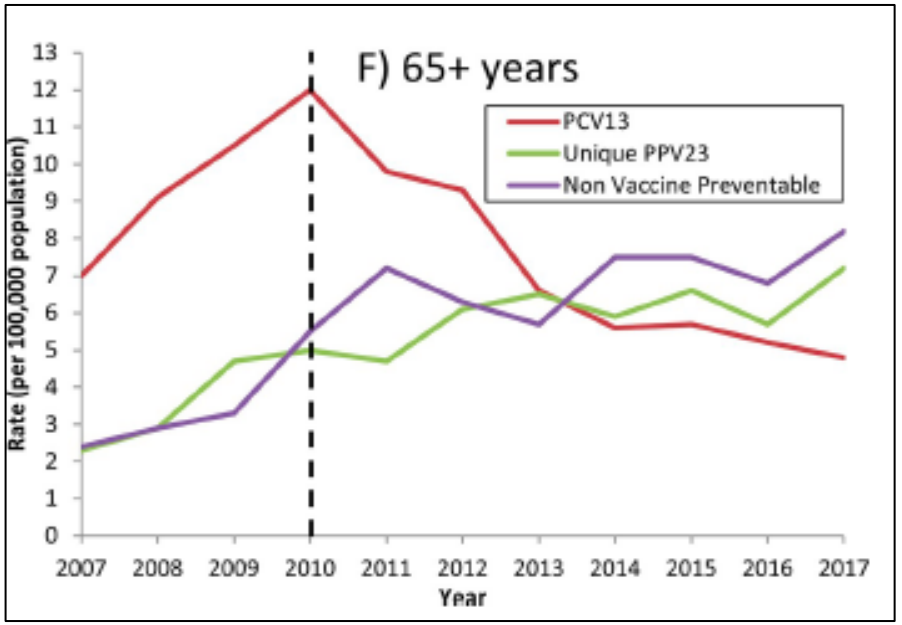


Figure 4. Hillier, K. et al. The shifting epidemiology and serotype distribution of invasive pneumococcal disease in Ontario, Canada, 2007-2017.PLoSONE. December 13, 2019. Retrieved from: https://doi.org/10.1371/journal.pone.0226353

National Advisory Committee on Immunization: Interim Guidance on Continuity of Immunization Programs During the COVID-19 Pandemic[9]

Disruption of Immunization Services[9]

Will result in accumulation of susceptible individuals, and a higher likelihood of vaccine-preventable disease (VPD) outbreaks.

Increased burden on healthcare systems[9]

Increase morbidity and mortality of VPD along with COVID-19 could potentially overwhelm Health Services.

Public Health relaxed measures and International reopening[9]

Risk for VPDs may increase as people start to travel or congregate again in settings where diseases are readily transmitted.

Catch-up immunization[9]

Might increase demand on healthcare system.

Some individual might miss routine immunizations

National Advisory Committee on Immunization: Interim Guidance on Continuity of Immunization Programs During the COVID-19 Pandemic[9]

Population[9]	Recommendations[9]
Adult immunizations	**Older adults are particularly susceptible to severe outcomes of COVID-19 and are at high risk for VPDs such as invasive pneumococcal disease, influenza, and herpes zoster:** Preferable to offer immunization when it can be combined with another medical visit, and offering multiple vaccines if required, to minimize risk of COVID-19 and reduce number of health care encounters.
Vulnerable Populations **(immunocompromised)**	**Remain priority populations for immunization against VPDs.** Jurisdictions should consider alternative strategies to ensure opportunities for immunization in settings where these populations are followed for their medical care.
Deferred Immunizations	**A reminder, recall, or documentation process should be in place** to ensure immunizations are received when full healthcare resumes.

National Advisory Committee on Immunization: Recommendations On Use of COVID-19 Vaccines[13]

- ✓**A complete COVID-19 vaccine series be offered to individuals in the authorized age group[13]**
  - Priority should be for those at highest risk of severe illness and death and highest risk of exposure[13]
- ✓**Maximize the number of individuals benefiting from the first dose by extending the second dose up to 4 months[13]**
- ✓**All individuals should practice public health measures regardless of vaccine status[13]**

National Advisory Committee on Immunization: Recommendations On Use of COVID-19 Vaccines[13]

✓**COVID-19 vaccines may be offered to individuals who:**[13]

- Have had COVID-19 infection
- Are immunocompromised*
- Are pregnant and/or breastfeeding*

✓**Efforts should be made to improve knowledge about the benefits of vaccines in general and address misinformation and communicate transparently**[13]

*These populations were not included in clinical trials in large numbers, but real-world evidence is being collected on their use and are believed to be safe.[13] It's possible that immunocompromised individuals may not mount as strong an immune response.[13] Discuss risks vs. benefits, of not just the vaccine but of not being protected from COVID-19, with patients.[13]

Polling Question #2:

If you provided a pneumonia vaccine to your 55 year old patient with COPD today, when could they receive a COVID-19 vaccine?

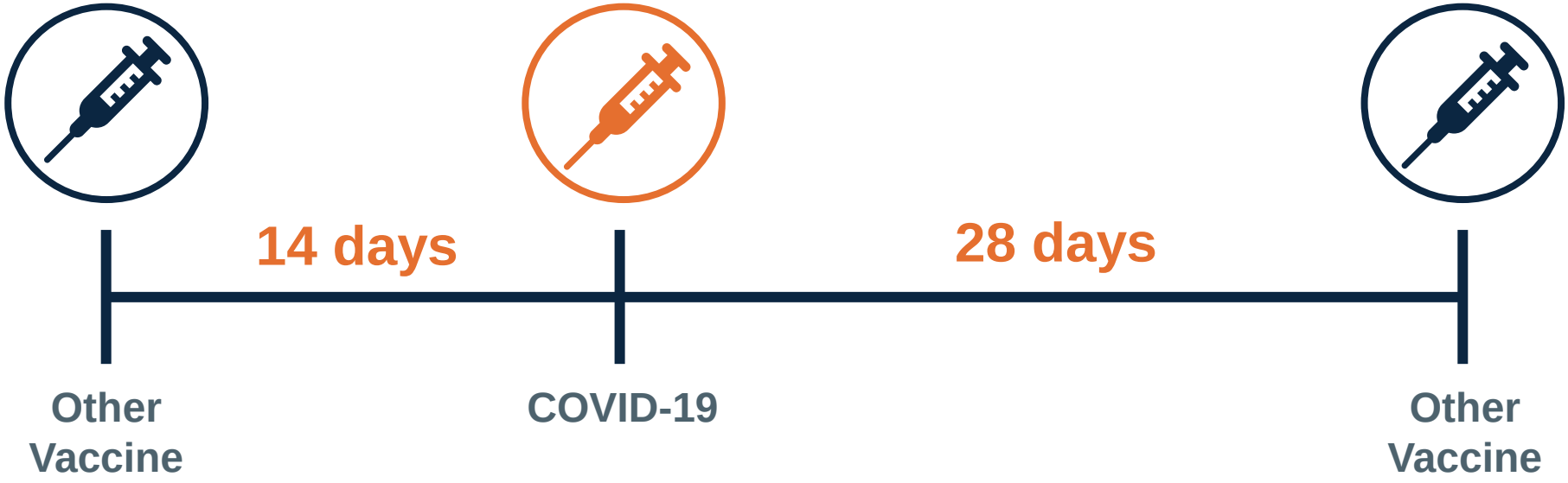
A) Same day
B) 14 days later
C) 28 days later
D) I'm not sure

Canadian Immunization Guide: Timing of Vaccine Administration

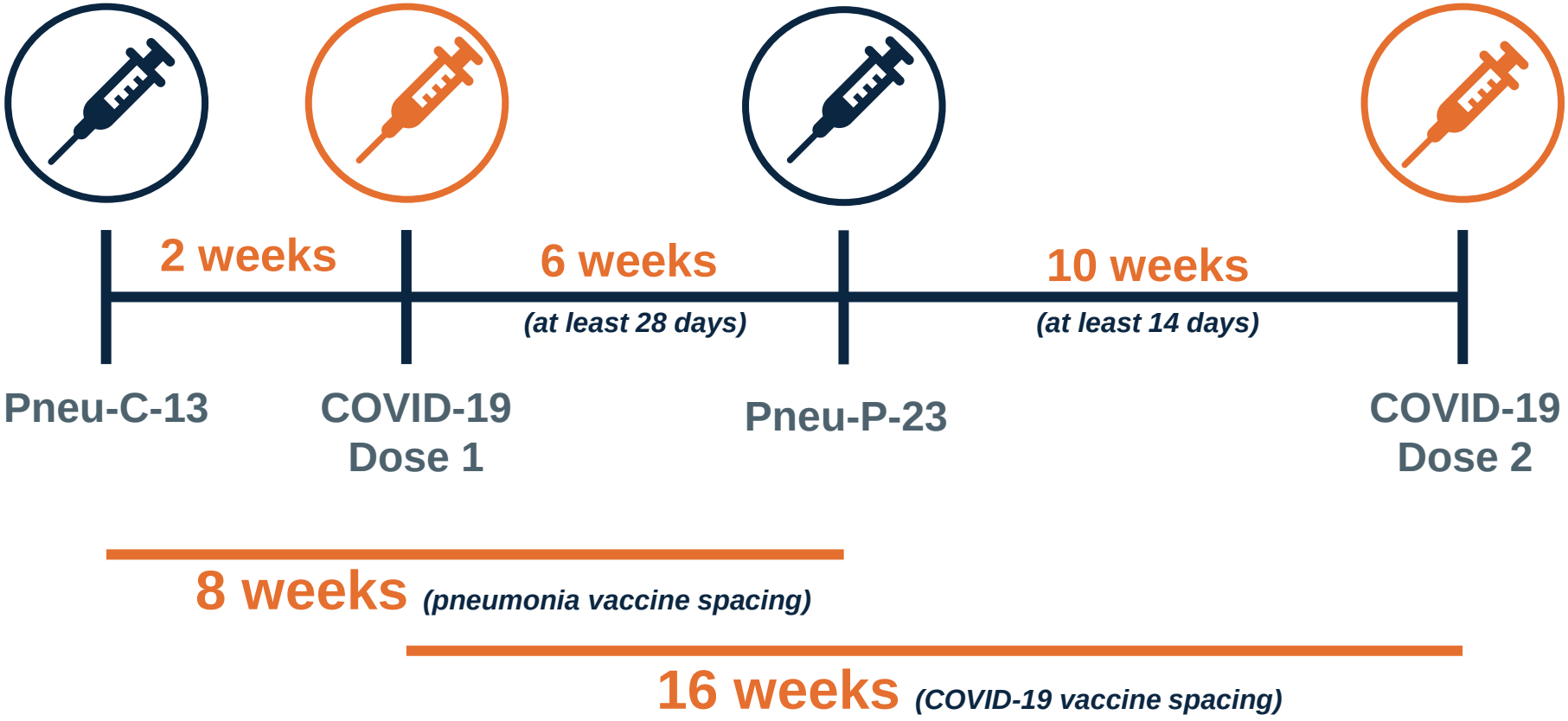
- **Generally**: Concurrent Administration of Vaccines[14]
  - **Inactivated**: same day or any time period between[14]
  - **Live**: same day or at least 4 weeks between vaccines[14]

- **Exception**: COVID-19 Vaccination[13]
  - Wait at least 14 days before each COVID-19 vaccine[13]
  - Wait at least 28 days after each COVID-19 vaccine[13]

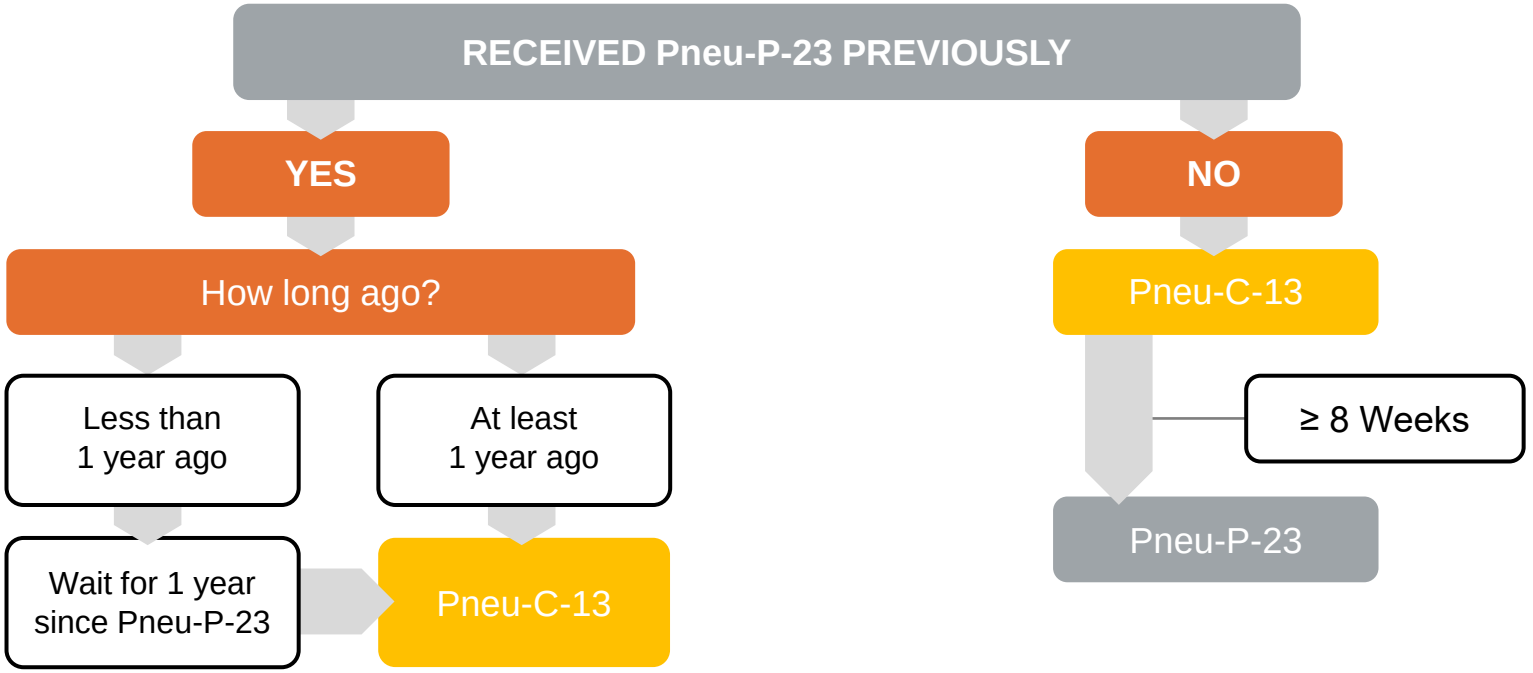
National Advisory Committee on Immunization: Recommendations On Use of COVID-19 Vaccines[13]



National Advisory Committee on Immunization: Recommendations On Use of COVID-19 Vaccines[13,15]



Pneumococcal Vaccine Administration: Immunocompetent Adults ≥ 65 years[15]



NACI Recommendations for Re-Immunization with Pneu-P-23[16]

For individuals aged 65 years and over, one dose of Pneu-P-23 should be given.

≥ 65 YEARS

Pneu-P-23

One lifetime booster of Pneu-P-23 is currently recommended for individuals at highest risk for invasive pneumococcal disease (IPD), 5 years after the previous dose.

Pneu-P-23 ≥ 5 YEARS Pneu-P-23

Individuals who have received one or two doses of Pneu-P-23 before age 65 years should receive a repeated dose of Pneu-P-23 at age 65 years or over.

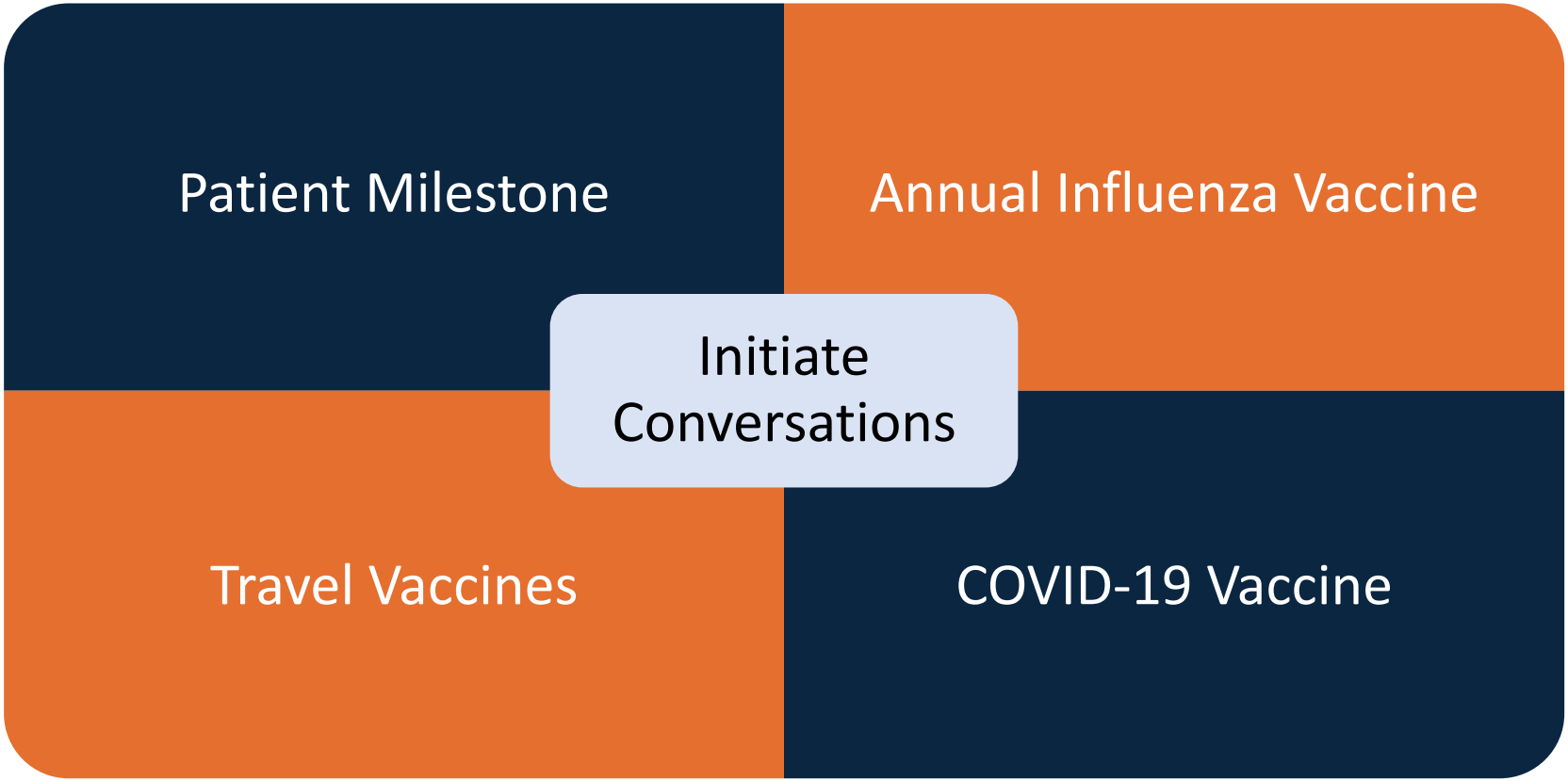
Pneu-P-23 ≥ 5 YEARS Pneu-P-23 ≥ 5 YEARS ≥ 65 YEARS Pneu-P-23

- No additional booster dose is currently recommended for those over the age of 65 years who do not have other underlying medical conditions that would put them at higher risk for IPD.
- Note that a booster dose of Pneu-13 is not required.

IPD = Invasive pneumococcal disease

Common Questions

Vaccine Conversations



Discussing Vaccinations

1. Identify eligible patients
2. Initiate a discussion at points of contact
3. Educate about risks of disease, vaccine benefit
4. Recommend with confidence
5. Vaccinate and/or follow-up

Evidence-Based Counselling Tips[17]

Approach[17]	Sample Statements[17]
Use a Presumptive Approach	"You're due for two vaccines today. Let's get you vaccinated to keep you healthy."
Address Concerns, Make a Strong Recommendation	"I strongly recommend you receive these vaccines today" "These shots are very important for protecting you against serious diseases"
Describe the Benefits	"Vaccines work. Serious diseases can occur if you are not immunized."
Describe Side Effects	"There is a risk with vaccines just as with everything we do in life, like driving a car or riding a bike"

Addressing Vaccine Hesitancy[17]

Approach[17]	Evidenced-Based Support[17]
Be Honest about Side Effects and Robust Vaccine Safety System	• Perceived risk lowered by **acknowledging** mild **side effects** and very rare serious adverse events • Information on adverse event reporting increased trust
Tell Stories in Addition to Providing Scientific Facts	• Skepticism convinced with **personal statements** on what provider would **do for their family** and experiences with vaccine safety among patients
Build Trust	• Obtained **discussing** vaccines, not deriding **concerns**, providing **answers** & **tailored information**
Focus on Protection	• One of the top **reasons for hesitancy** found to be perceived **belief that VPD not serious**

Practice Responding to Questions

- Is the vaccine safe?

  Canada has one of the most robust vaccine approval processes. Vaccines go through trials on thousands of individuals before approval and surveillance is ongoing once on the market. The most common side effects are injection-site redness, soreness, and pain or feeling unwell for a couple days. I am confident in vaccine safety and make sure to get vaccinated. Is there a specific safety concern you have?

- I'm up to date on my immunizations.

  That's really wonderful to hear! Let's take a couple minutes to review the vaccines recommended for adults your age and with your health conditions to update your file so we can reach out when you're due for any others.

Practice Responding to Questions

- Isn't pneumonia for old people?

  While adults over 65 are at high-risk for pneumonia, risks of pneumonia and complications (hospitalization, ventilation, death) are higher even in younger patients (e.g., 50 – 64) with one or more chronic health conditions. Since you're 55 and have diabetes, I strongly recommend you get vaccinated today.

- Isn't pneumonia not that bad? Can't you just take antibiotics for it and move on?

  Pneumonia is a serious disease that can occur if you're not immunized. Those who survivor may experience long-term effects like cognitive decline and lowered quality of life. While we currently have antibiotics that work against bacteria that cause pneumonia, resistance to these medications is growing and it's getting harder to treat. It's better to prevent it altogether!

Role for Pharmacy Technicians

Action	Sample Statements
RECOGNIZE all adults 50+ as potential candidates for pneumococcal vaccination	*"Hello. Welcome to the pharmacy. Can I please have your name and date of birth?"*
RELAY that the pharmacist on duty recommends vaccination for appropriate patients	*"Our pharmacist can give you more information about some vaccines you may need that we offer in the pharmacy. You can get your vaccination as soon as today!"*
REFER appropriate patients to the pharmacist for vaccination conversations	*"It's important that you speak to the pharmacist. They can answer questions you may have and may be able to explain whether vaccination is right for you"*

Integrating Vaccines into Practice

"Start low and go slow"

- Doesn't have to be a drastic practice overhaul
- Slowly integrate vaccine education, recommendations, and/or administrations
- Develop impactful yet attainable goals:
  - One recommendation per day
  - One target population at a time
  - Pivot COVID-19 conversations to touch on vaccines

Case Examples

Polling Question #3:

Are you providing COVID-19 vaccines in your pharmacy practice?

A) Yes – enough supply for demand
B) Yes – but not enough supply for demand
C) No – not yet in my region
D) No – don't plan to in my practice

Case Example – Mausam (61 YO)

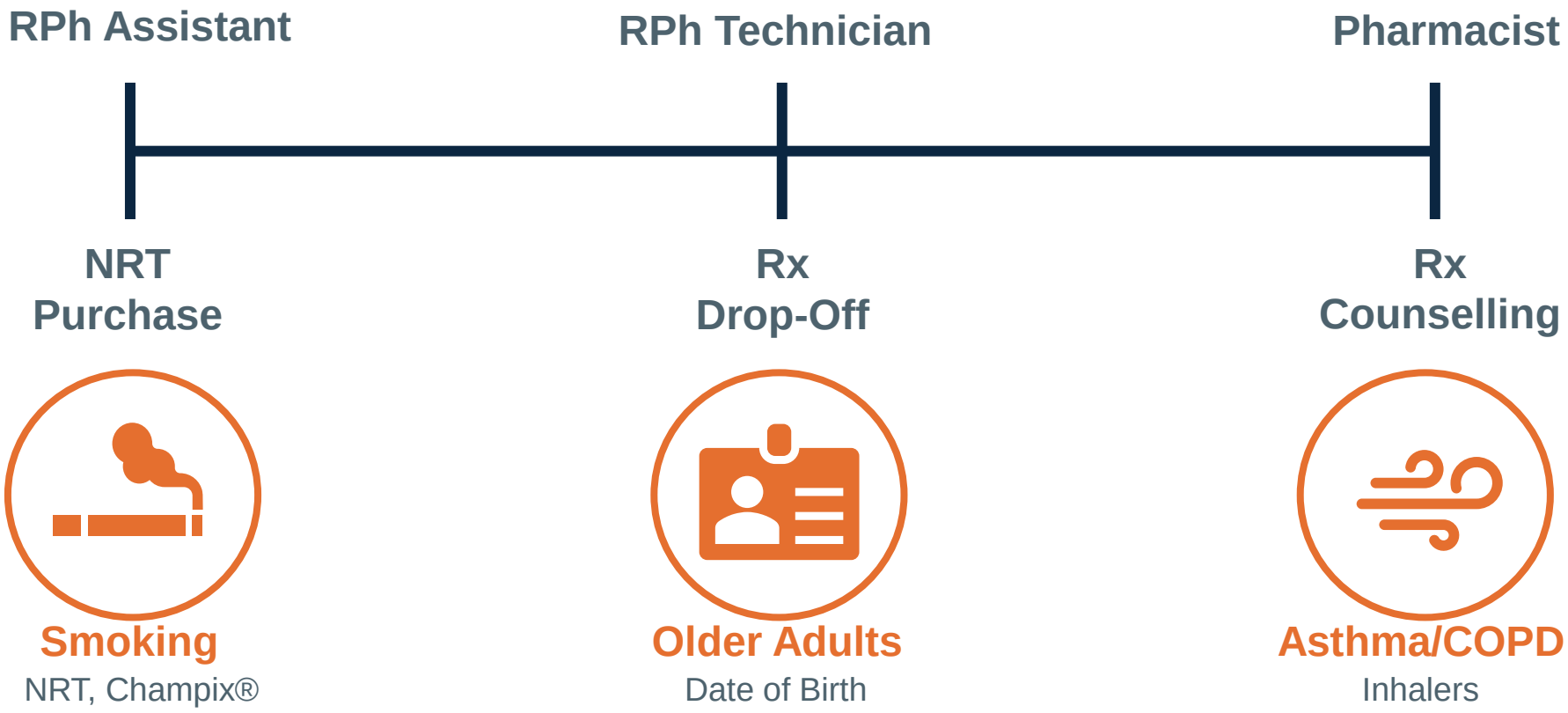
- **Medical Conditions:** COPD, hypertension
- **Allergies:** none
- **Medications:** tiotropium, ramipril, amlodipine, indapamide
- **SHx:** smokes ½ pack cigarettes daily

- **Picking-up a prescription for Varenicline Starter Pack and buying NRT (Patch + Gum)**

Figure 5. Getty Images. Portrait of woman smiling .

Identify Patients & Initiate a Discussion

All pharmacy team members have a role engaging patients



Educate on Disease Risks, Vaccine Benefits

"Our pharmacist can give you more information about some vaccines you may need that we offer in the pharmacy. You can get your vaccination as soon as today!"

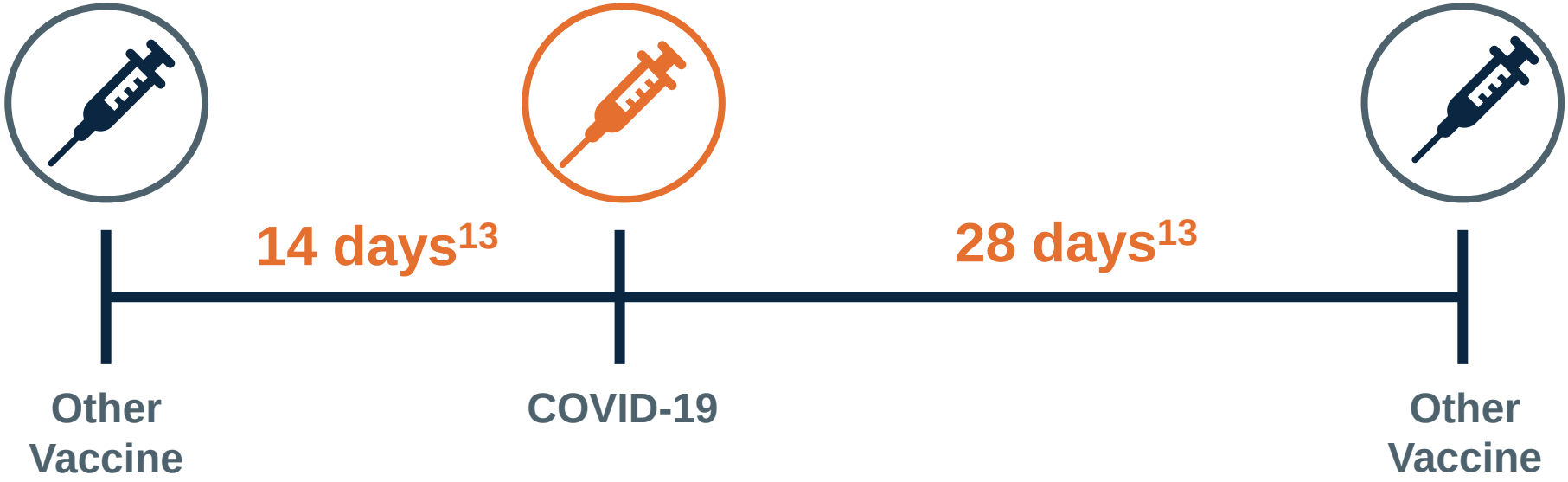
"I see you're quitting smoking – that's an excellent way to improve your lung health. Another important way to protect your lungs is with pneumonia vaccination. Your age and COPD put you at-risk, so I strongly recommend we get you vaccinated today.[5,6]"

"Pneumonia is the 7th leading cause of death in Canada, with risk of dying from the condition higher in older adults. There are vaccines that work to prevent pneumonia that you're due for.[1,2,5] Let's get you vaccinated to keep you healthy."

""The risk of anaphylaxis after vaccination is approximately 1 in a million, the same as the yearly risk of being struck by lightning.[17] That being said, we'll monitor you after vaccination to make sure you're ok."

Recommend, Vaccinate, Follow-Up

- Keep in mind COVID-19 immunization roll-out
- Balance:
  - Interfering with COVID-19 immunization given vaccine timing and local roll-out
  - Ongoing risk of pneumonia and susceptibility as pandemic measures lifted



Recommend, Vaccinate, Follow-Up

- Protect patients now!
- Don’t delay pneumococcal immunization while waiting for a COVID-19 vaccine if it’s weeks/months down the line[18,19]

Figure 6. Bruce MacKinnon. Bruce MacKinnon Cartoon: March 17, 2021. The Chronicle Herald. Retrieved from: https://www.thechronicleherald.ca/opinion/editorial-cartoons/bruce-mackinnon-cartoon-march-17-2021-564364/

COVID-19 Immunization Roll-Out

- Keep an eye on local & provincial vaccine roll-out timing
- COVID-19 immunization of adults 50 – 64 years with comorbidities may be weeks to months into the future[18,19]

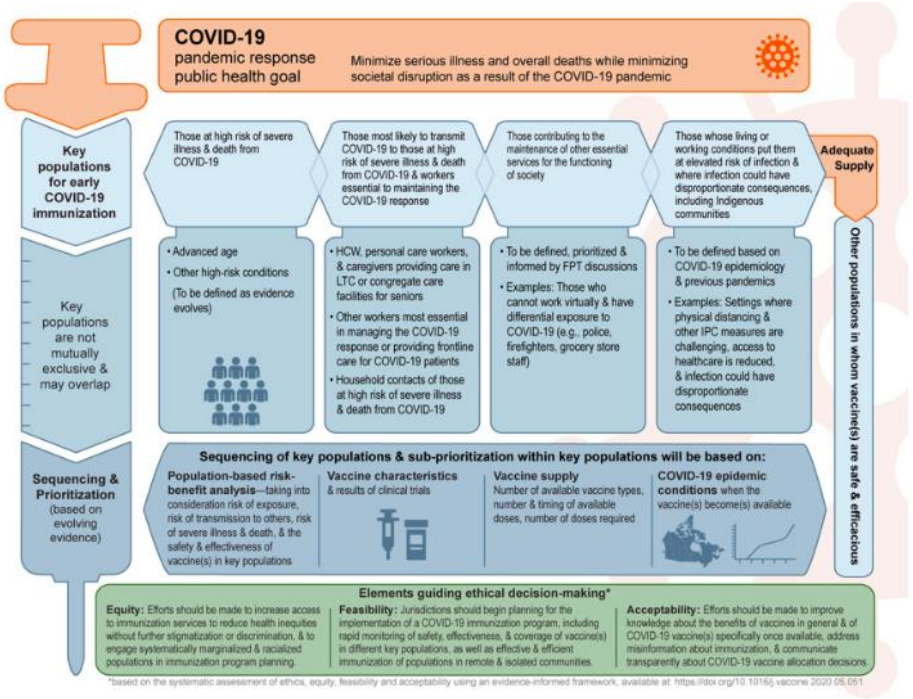
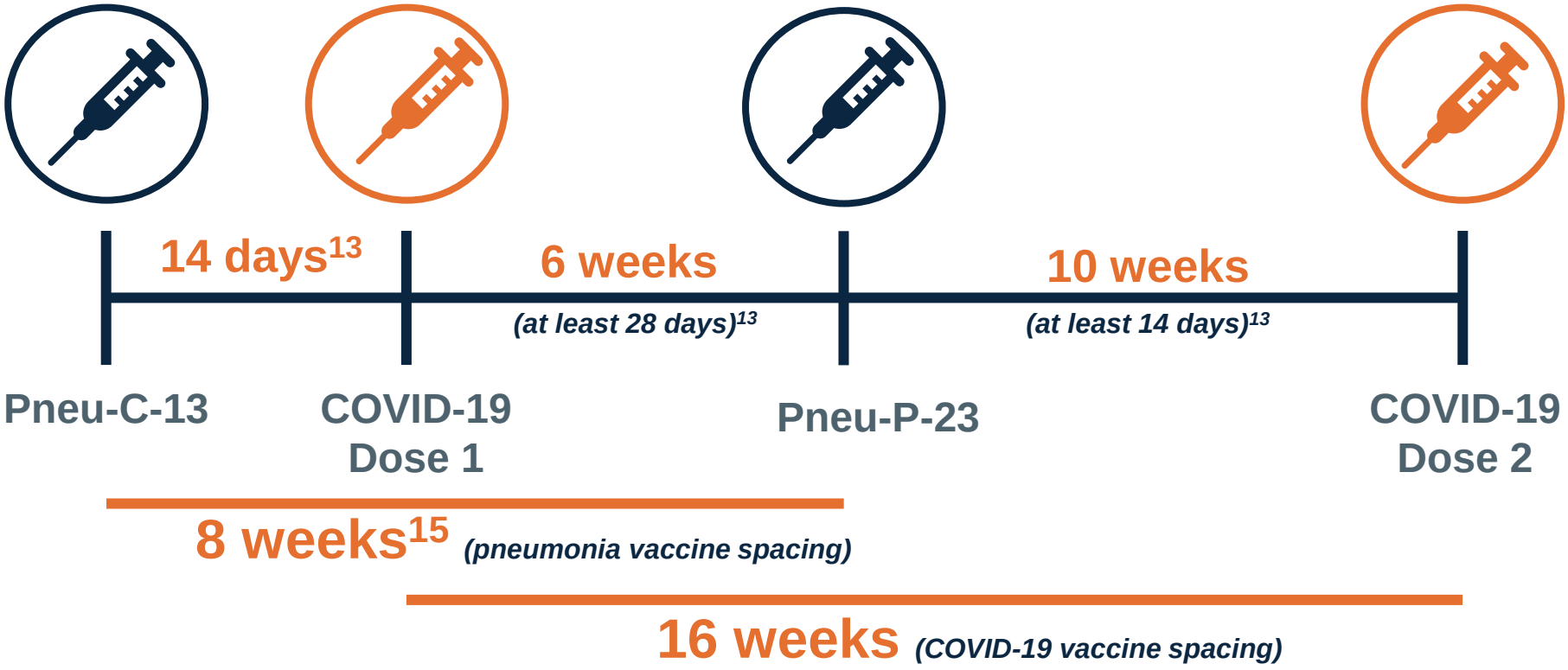


Figure 7. NACI. Preliminary guidance on key populations for early COVID-19 immunization. November 3, 2020. Retrieved from: https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/guidance-key-populations-early-covid-19-immunization.html

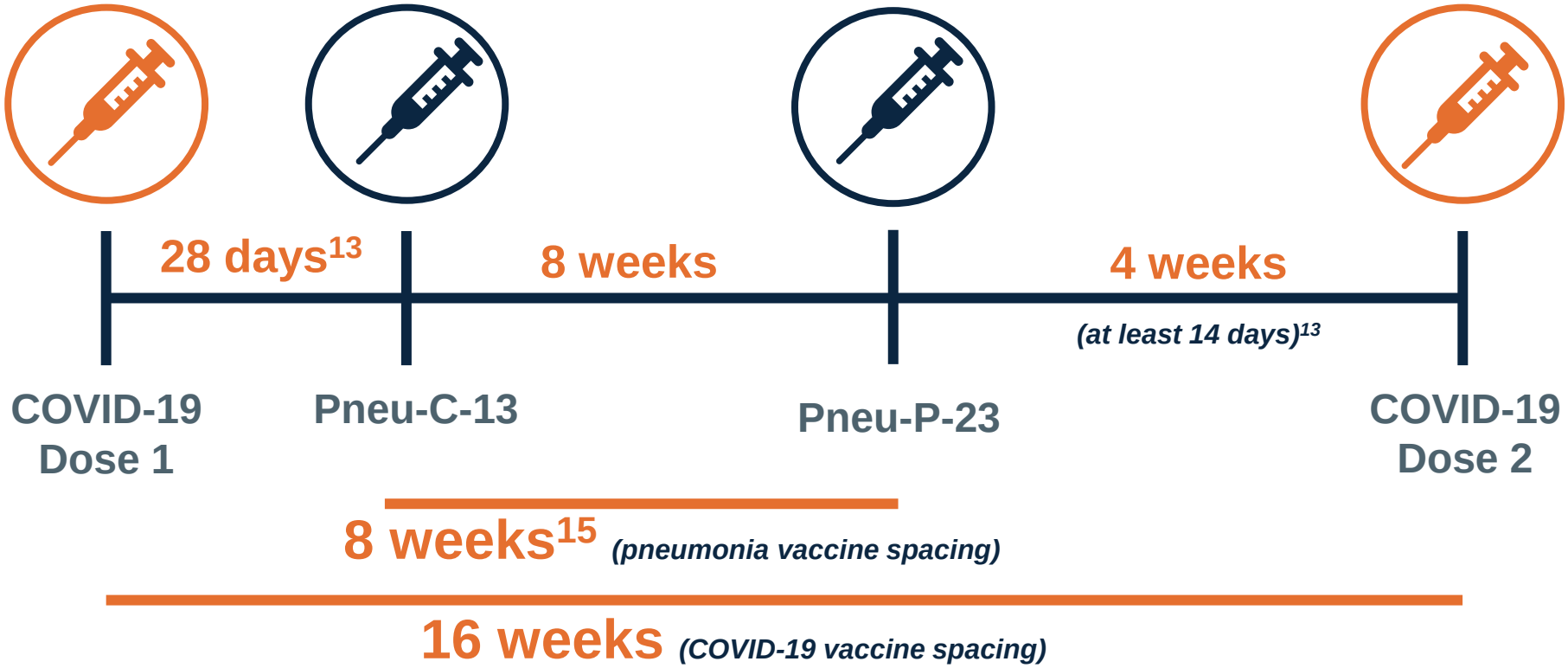
Timing: COVID-19 Vaccine Available Soon

If Mausam lives in an area where vaccines, or vaccine appointments, for adults 60 – 64 years are weeks away…[18-20]



Timing: COVID-19 Vaccine Available

If Mausam lives in an area where COVID-19 vaccines, and vaccine appointments, for adults 60 – 64 years are currently available…[21]



Case Example – Mausam

- Pharmacy assistant, technician, & pharmacist identify her as at-risk of pneumonia and start the vaccine conversation[5]
  - Pharmacy assistant & technician: recognize, relay, refer
  - Pharmacist: use presumptive language, make strong recommendation
- The local public health unit and community pharmacy are booking COVID-19 vaccine appointments in two weeks for adults 55 years and older[18-20]
- To protect Mausam now, the pharmacist immunizes her against pneumococcal disease today with Pneu-C-13. In 14 days, she'll be eligible to receive a COVID-19 vaccine once available[13]
  - The pharmacist provides an update to Mausam's nurse practitioner and recommends the nurse practitioner provide Mausam with publicly funded Pneu-P-23 in at least 8 weeks – spacing from COVID-19 vaccine by min. 14 days before or 28 days after[13,15]

Tools & Resources

Vaccine Hesitancy

The A·S·K Approach
for effective immunization communication

A

Acknowledge your client's concerns
1. Acknowledge
2. Clarify to understand your client's needs

S

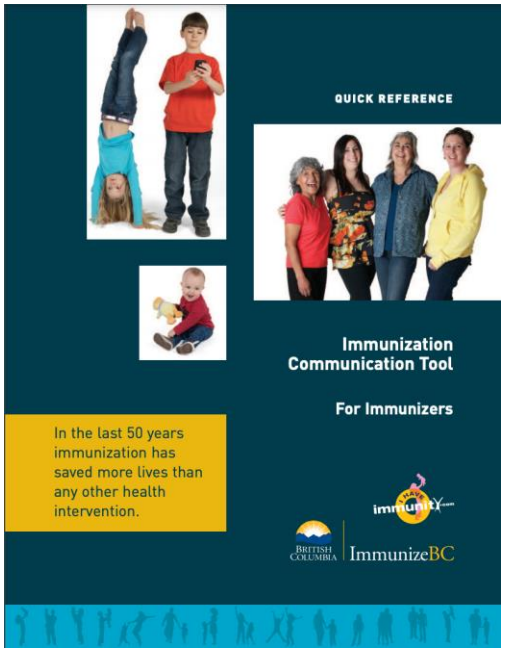
Steer your conversation
1. Refute the myth(s)
2. Continue your conversation

Note: This is the point where you skillfully close your conversation if client is a conscientious objector

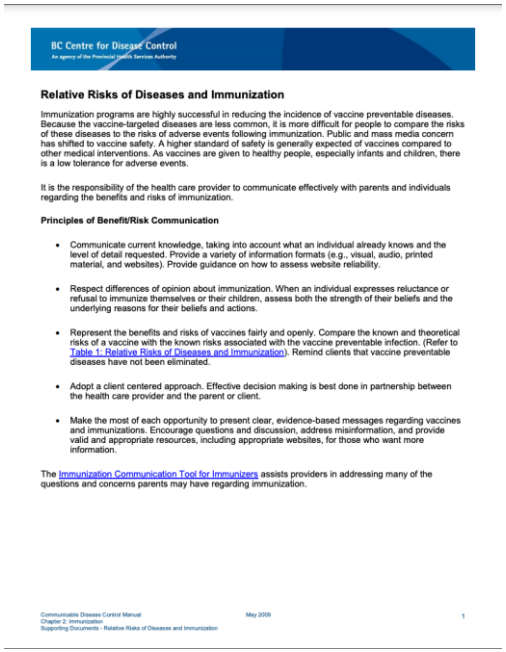
K

Knowledge – know the facts well!
1. Provide further knowledge, tailored to your client's needs
2. To close, reinforce discussion with a benefit statement
3. Provide further reading materials
4. Provide your recommendation

[ASK Desk Reference]



[Communication Tool]


BC Centre for Disease Control

Relative Risks of Diseases and Immunization

Immunization programs are highly successful in reducing the incidence of vaccine preventable diseases. Because the vaccine-targeted diseases are less common, it is more difficult for people to compare the risks of these diseases to the risks of adverse events following immunization. Public and mass media concern has shifted to vaccine safety. A higher standard of safety is generally expected of vaccines compared to other medical interventions. As vaccines are given to healthy people, especially infants and children, there is a low tolerance for adverse events.

It is the responsibility of the health care provider to communicate effectively with parents and individuals regarding the benefits and risks of immunization.

Principles of Benefit/Risk Communication

- Communicate current knowledge, taking into account what an individual already knows and the level of detail requested. Provide a variety of information formats (e.g., visual, audio, printed material, and websites). Provide guidance on how to assess website reliability.
- Respect differences of opinion about immunization. When an individual expresses reluctance or refusal to immunize themselves or their children, assess both the strength of their beliefs and the underlying reasons for their beliefs and actions.
- Represent the benefits and risks of vaccines fairly and openly. Compare the known and theoretical risks of a vaccine with the known risks associated with the vaccine preventable infection. (Refer to Table 1: Relative Risks of Diseases and Immunization). Remind clients that vaccine preventable diseases have not been eliminated.
- Adopt a client centered approach. Effective decision making is best done in partnership between the health care provider and the parent or client.
- Make the most of each opportunity to present clear, evidence-based messages regarding vaccines and immunizations. Encourage questions and discussion, address misinformation, and provide valid and appropriate resources, including appropriate websites, for those who want more information.

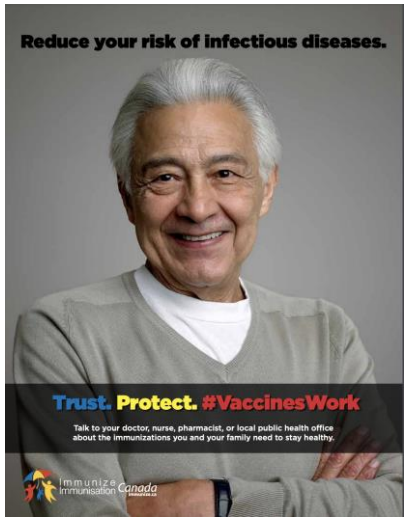
The Immunization Communication Tool for Immunizers assists providers in addressing many of the questions and concerns parents may have regarding immunization.

Communicable Disease Control Manual May 2009
Chapter 2: Immunization
Supporting Documents - Relative Risks of Diseases and Immunization

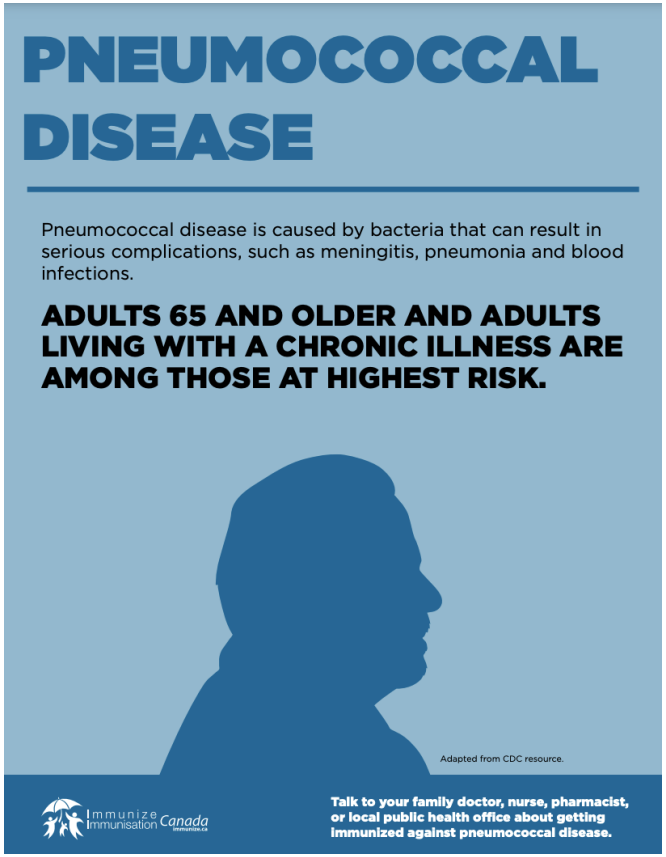
[Relative Risk of Disease and Immunization]

ONTARIO PHARMACISTS ASSOCIATION
Advocating Excellence in Practice and Care

Vaccine Public Awareness



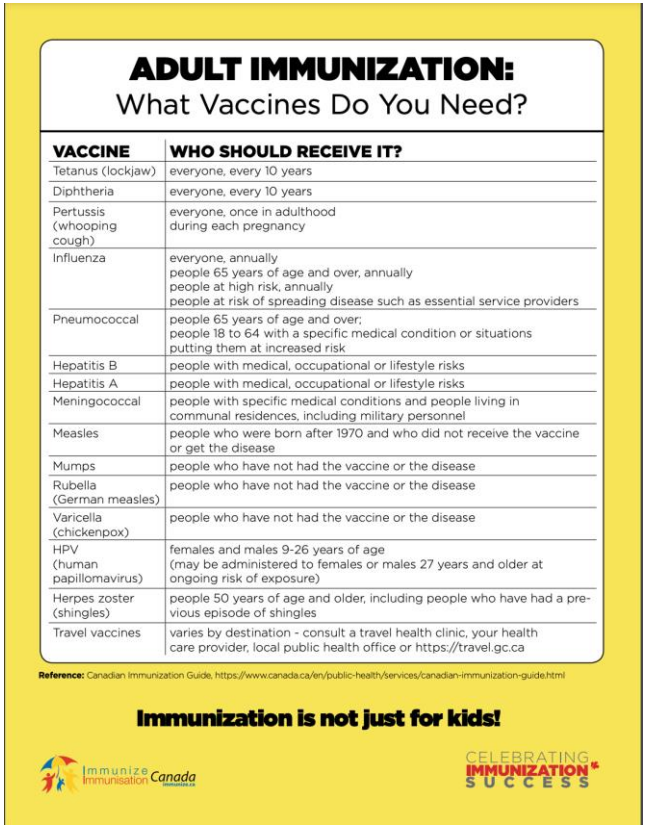
[Social Media Content]



[Posters]

[Vaccine Safety]

Quick References



ADULT IMMUNIZATION:
What Vaccines Do You Need?

VACCINE	WHO SHOULD RECEIVE IT?
Tetanus (lockjaw)	everyone, every 10 years
Diphtheria	everyone, every 10 years
Pertussis (whooping cough)	everyone, once in adulthood during each pregnancy
Influenza	everyone, annually people 65 years of age and over, annually people at high risk, annually people at risk of spreading disease such as essential service providers
Pneumococcal	people 65 years of age and over; people 18 to 64 with a specific medical condition or situations putting them at increased risk
Hepatitis B	people with medical, occupational or lifestyle risks
Hepatitis A	people with medical, occupational or lifestyle risks
Meningococcal	people with specific medical conditions and people living in communal residences, including military personnel
Measles	people who were born after 1970 and who did not receive the vaccine or get the disease
Mumps	people who have not had the vaccine or the disease
Rubella (German measles)	people who have not had the vaccine or the disease
Varicella (chickenpox)	people who have not had the vaccine or the disease
HPV (human papillomavirus)	females and males 9-26 years of age (may be administered to females or males 27 years and older at ongoing risk of exposure)
Herpes zoster (shingles)	people 50 years of age and older, including people who have had a previous episode of shingles
Travel vaccines	varies by destination - consult a travel health clinic, your health care provider, local public health office or https://travel.gc.ca

Reference: Canadian Immunization Guide, https://www.canada.ca/en/public-health/services/canadian-immunization-guide.html

Immunization is not just for kids!

Immunize Canada

CELEBRATING IMMUNIZATION SUCCESS

[Recommendation Overview]

Questions & Answers About Adult Immunization

Immunization provides the most effective protection against disease, and the need for vaccines does not go away with age. In fact, immunity acquired from childhood immunizations can decrease over time. Also, you may be traveling to other countries and need protection from diseases not normally seen in Canada. The vaccines you need as an adult are determined by many factors including your age, lifestyle, health condition, and which vaccines you've received during your life.

If you need more information, talk with your doctor, nurse, pharmacist or local public health office.

1. WHY DO ADULTS NEED IMMUNIZATIONS?

Vaccines are not just for children. Many parents are careful about protecting their children with vaccines but forget about protecting themselves. Adults continue to need immunizations for several reasons:

- **Some vaccines do not provide lifelong protection.** In order to be protected against tetanus and diphtheria, all adults need a booster shot every 10 years. All adults should get the influenza vaccine each year, especially those with medical conditions putting them at high risk, the elderly, and people who provide essential community services. Experience in other countries has shown that if large numbers of people do not keep their immunizations up to date, serious outbreaks of disease can occur. For example, in Russia there were 5,000 deaths due to diphtheria in 1994 after the organized immunization system broke down.

- **Some adults did not get all the vaccines recommended in childhood.** People who have lived in another country as a child may not have received all the immunizations that are recommended in Canada. There may be other reasons for a person not receiving all of the routine vaccines for children – for example, leaving school before graduation.

  Some diseases, such as measles, that were once rare are now re-emerging because not everyone is immunized. If an outbreak of measles occurs in a community, adults who did not receive all their shots as children may be at high risk for serious disease. Another example: pregnant women who are not protected against rubella (German measles) may become infected and pass the infection on to their baby, causing serious birth defects. Other adults who are not protected against rubella can spread the disease to unprotected pregnant women.

- **New vaccines have become available in recent years.** Vaccines which protect against shingles are among several new vaccines now available for adults. It is important to talk to your doctor about whether you need any of the new vaccines.

- **Adults may need vaccines when they travel to other countries.** Most Canadians are not protected against diseases that do not exist in Canada – such as yellow fever, typhoid fever, and Japanese encephalitis. Other diseases such as hepatitis A and hepatitis B are more common in other countries than they are in Canada. Before you travel to other parts of the world, you should find out what diseases may be a risk for you. The vaccines you need will depend on where you are travelling and what you plan to do there. For example, some tropical diseases may be a risk in rural areas of a country but not in a city. To get current information on which vaccines are required or recommended for travel, contact a travel health clinic or your local public health office. You can also find out more from your doctor and from the Public Health Agency of Canada (https://travel.gc.ca/travelling/health-safety/vaccines). You can obtain the vaccines you need from a travel health clinic.

- **Some jobs or lifestyles put people at risk for specific diseases that can be prevented by vaccines.** Health care workers, emergency responders, laboratory workers and students training for these jobs are at risk of exposure to communicable diseases because of their contact with people or specimens from people who may carry disease. These workers and students also have a responsibility to protect themselves against communicable disease because they could pass it on during their work to sick or injured people who are at risk of serious complications from disease. All of these workers and students should be immunized against diphtheria, tetanus, measles, mumps, pertussis, polio, rubella, hepatitis B, influenza, and chickenpox (if they do not already have immunity). Other vaccines may also be recommended for laboratory workers, health care workers or for other occupations.

  People who live or work in residential institutions should also be immunized against meningococcal, diphtheria, tetanus, measles, polio, rubella, hepatitis B, and influenza.

  People who use street drugs and people with multiple sexual partners have a lifestyle that puts them at risk for certain diseases. Anyone who works with people with these lifestyle or environmental risks can help prevent disease by encouraging these people to get the vaccines they may need.

2. WHICH IMMUNIZATIONS DO ADULTS GENERALLY NEED?

Diphtheria and tetanus: Adults need a tetanus-diphtheria booster shot every 10 years. The vaccines against diphtheria and tetanus are combined into one shot. Tetanus (lockjaw) is caused by bacteria that live in soil and causes painful

Immunization. It's not just for kids!

Immunize Canada

1

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[Q & A Responses]

Vaccine Schedules

Vaccines	Drug Schedule	Requires a Prescription
BCG	I	Yes
Hib	II	No
Hepatitis A	I	Yes
Hepatitis B	I II	Yes No
Human Papillomavirus (HPV)	II	No
Japanese Encephalitis	I	Yes
Meningococcal Men-C-C	II	No
Men-C-ACYW	II	No
Men-P-ACYW	II	No
4CMenB	II	No
Pneumococcal Pneu-C-13	II	No
Pneu-P-23	II	No
Rabies	I	Yes
Shingles	I	Yes
Typhoid	I	Yes
Varicella	I	Yes
Yellow Fever	I	Yes

Figure 8. Source Unknown (2016). [Pharmacists' Expanded Scope of Practice in Relation to Vaccines]. Retrieved from https://www.toronto.ca/wp-content/uploads/2017/10/8e6f-tph-Pharmacists_expand_practice_table-Dec2016.pdf

Supplementary Reading List

- COVID-19 Vaccines for Ontario: https://covid-19.ontario.ca/covid-19-vaccines-ontario
- Ontario's COVID-19 Vaccination Plan: https://covid-19.ontario.ca/ontarios-covid-19-vaccination-plan
- COVID-19 Pharmacy Vaccine Locations: https://covid-19.ontario.ca/vaccine-locations

Supplementary Reading List

- NACI Interim Guidance on Continuity of Immunization Programs During the COVID-19 Pandemic: https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/interim-guidance-immunization-programs-during-covid-19-pandemic.html

- NACI Recommendations On The Use of COVID-19 Vaccines: https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/recommendations-use-covid-19-vaccines.html

- Canadian Immunization Guide: Timing of Vaccine Administration: https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-1-key-immunization-information/page-10-timing-vaccine-administration.html

Key Learning Points

- Patients over 50 and those with comorbidities are at-risk of pneumococcal morbidity and mortality in Canada
- Adult and infant immunization rates were below target prior to COVID-19 and are likely even lower now
- While COVID-19 has reduced the spread of some infectious diseases, there may be a resurgence of vaccine-preventable diseases once measured lifted
- NACI recommends vaccines be given 14 days before or 28 days after a COVID-19 vaccine
- Pharmacists should make strong recommendations, addressing any concerns and educating on benefits and side effects, to ensure patients don’t wait to vaccinate

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