COVID-19 Community of Practice for Ontario Family Physicians

## Nov 15, 2024

**Dr. Daniel Warshafsky**
**Dr. Gihane Zarifa**

# *Infectious Disease & Diabetes Pharmacotherapy*

Family & Community Medicine
UNIVERSITY OF TORONTO

Ontario College of Family Physicians

# Infectious Disease & Diabetes Pharmacotherapy

Moderator:

- Dr. Ali Damji, Division Head, Primary Care, Trillium Health Partners and Family Physician, Credit Valley Family Health Team, Mississauga, ON

Panelists:

- Dr. Daniel Warshafsky, Toronto, ON
- Dr. Gihane Zarifa, Toronto, ON

Host:

- Dr. Jobin Varughese, Brampton, ON

The COVID-19 Community of Practice for Ontario Family Physicians is a one-credit-per-hour Group Learning program that has been certified for up to a total of 32 credits.

**Please note access to the Cert+ platform will be temporarily unavailable starting November 13, 2024 due to changes to the Mainpro+ program and Cert+ platform. We will be unable to submit credits on your behalf until after December 16. Similarly, you will be unable to submit your credits manually until after this date.**

# Land Acknowledgement

We acknowledge that the lands on which we are hosting this meeting include the traditional territories of many nations.

The OCFP and DFCM recognizes that the many injustices experienced by the Indigenous Peoples of what we now call Canada continue to affect their health and well-being. The OCFP and DFCM respects that Indigenous people have rich cultural and traditional practices that have been known to improve health outcomes.

I invite all of us to reflect on the territories you are calling in from as we commit ourselves to gaining knowledge; forging a new, culturally safe relationship; and contributing to reconciliation.

# *Changing the way we work*

***A community of practice for family physicians during COVID-19***

At the conclusion of this series participants will be able to:

- Identify the current best practices for delivery of primary care within the context of COVID-19 and how to incorporate into practice.
- Describe point-of-care resources and tools available to guide decision making and plan of care.
- Connect with a community of family physicians to identify practical solutions for their primary care practice under current conditions.

## Disclosure of Financial Support

This CPD program has received in-kind support from the Ontario College of Family Physicians and the Department of Family and Community Medicine, University of Toronto in the form of logistical and promotional support.

**Potential for conflict(s) of interest:**
N/A

## Mitigating Potential Bias

- The Scientific Planning Committee has full control over the choice of topics/speakers.
- Content has been developed according to the standards and expectations of the Mainpro+ certification program.
- The program content was reviewed by a three-member national/scientific planning committee.

*Planning Committee*: Dr. Jobin Varughese (OCFP), Dr. Ali Damji (DFCM), Dr. Eleanor Colledge (DFCM), Dr. Harry O'Halloran, Julia Galbraith (OCFP), Pavethra Yogeswaran (OCFP), Marisa Schwartz (DFCM)

Previous webinars & related resources:

https://www.dfcm.utoronto.ca/covid-19-community-practice/past-sessions

## Dr. Daniel Warshafsky – Panelist

Associate Chief Medical Officer of Health at the Office of the Chief Medical Officer of Health

## Dr. Gihane Zarifa – Panelist

Diabetes Chronic Disease Management Lead, Credit Valley FHT

# Speaker Disclosure

- Faculty Name: **Dr. Daniel Warshafsky**
- Relationships with financial sponsors:
  - Grants/Research Support: N/A
  - Speakers Bureau/Honoraria: N/A
  - Others: N/A

- Faculty Name: **Dr. Gihane Zarifa**
- Relationships with financial sponsors:
  - Grants/Research Support: N/A
  - Speakers Bureau/Honoraria: Ontario College of Family Physicians, Abbott, Novonordisk, CCRN, Bayer, GSK, Diabetes Simplified
  - Membership on advisory boards: N/A
  - Consulting Fees: Novonordisk, Abbott, CCRN, Embecta, Diabetes Simplified
  - Others: N/A

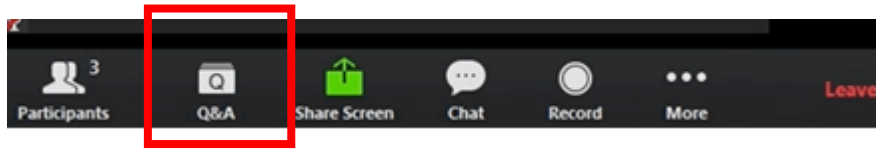
# Speaker Disclosure

- Faculty Name: **Dr. Jobin Varughese**
- Relationships with financial sponsors:
  - Grants/Research Support: N/A
  - Speakers Bureau/Honoraria: Ontario College of Family Physicians
  - Others: Toronto Metropolitan University, School of Medicine (Interim Assistant Dean of Primary Care Education), William Osler Health System (Associate Vice President of Academics)

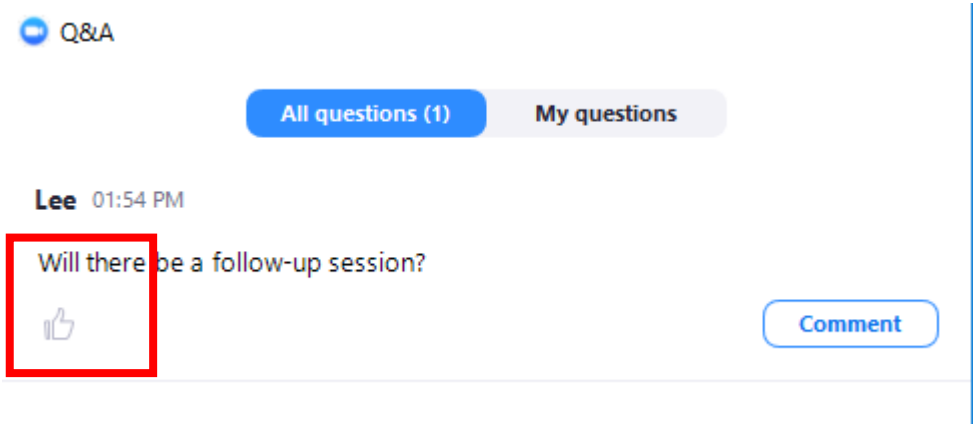
- Name: **Dr. Ali Damji**
- Relationships with financial sponsors:
  - Grants/Research Support: N/A
  - Speakers Bureau/Honoraria: Ontario Medical Association Section of General & Family Practice, Trillium Health Partners, Canadian Mental Health Association Peel Dufferin, Center for Effective Practice, GSK
  - Advisory boards: Medical Post Advisory Board, Foundation for Advancing Family Medicine, Center for Effective Practice
  - Others: N/A

# How to Participate

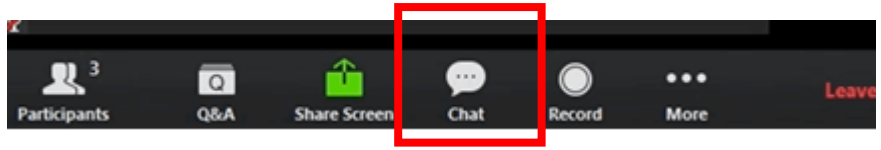
- All questions should be asked using the Q&A function at the bottom of your screen.




- Press the thumbs up button to upvote another guest's questions. Upvote a question if you want to ask a similar question or want to see a guest's question go to the top and catch the panels attention.




- Please use the chat box for networking purposes only.



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Associate Chief Medical Officer of Health at the Office of the Chief Medical Officer of Health

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Diabetes Chronic Disease Management Lead, Credit Valley FHT

# Respiratory Season – How are we doing?

November 15, 2024

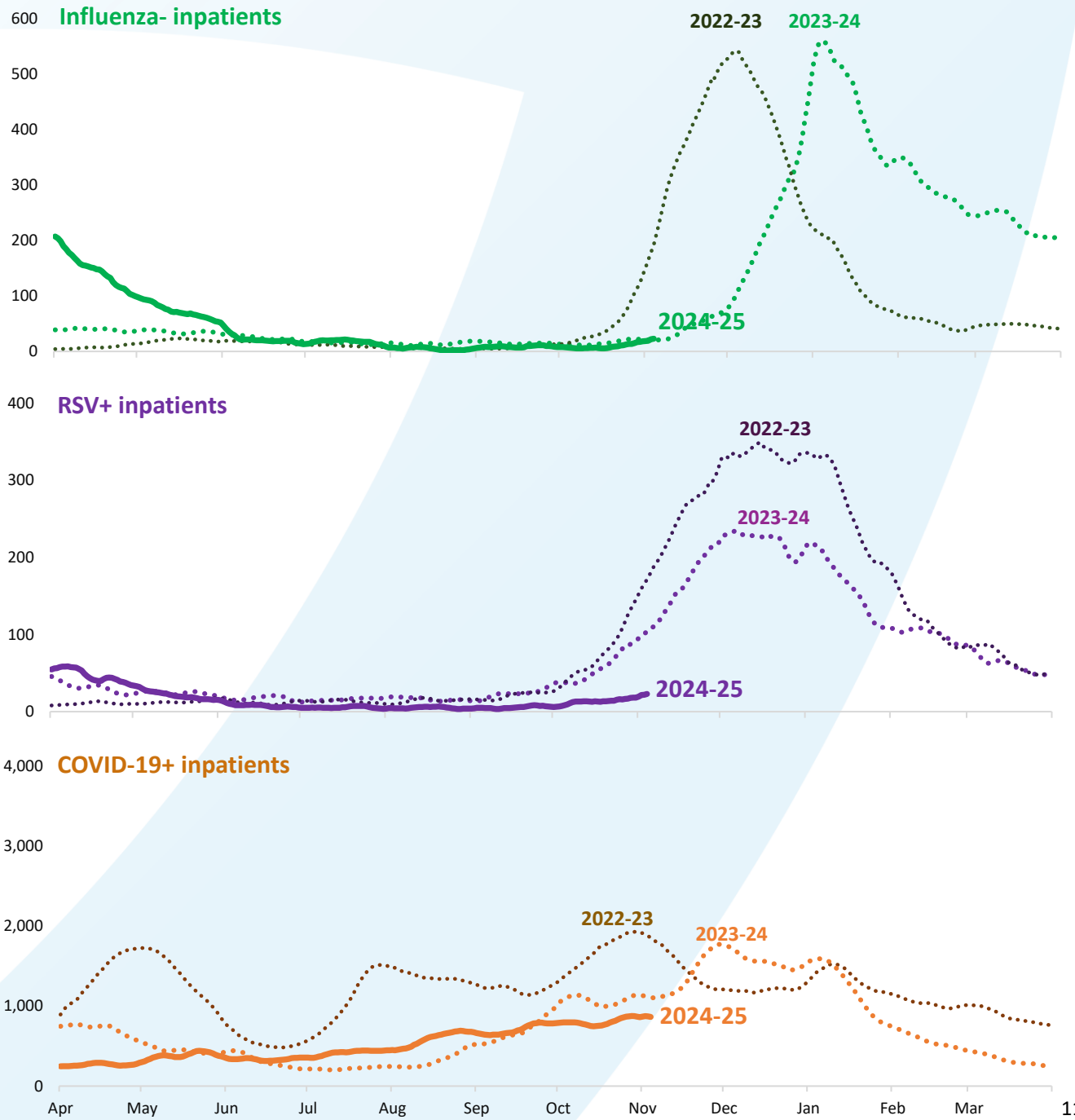
Ministry of Health and the Office of the Chief Medical Officer of Health

Ontario

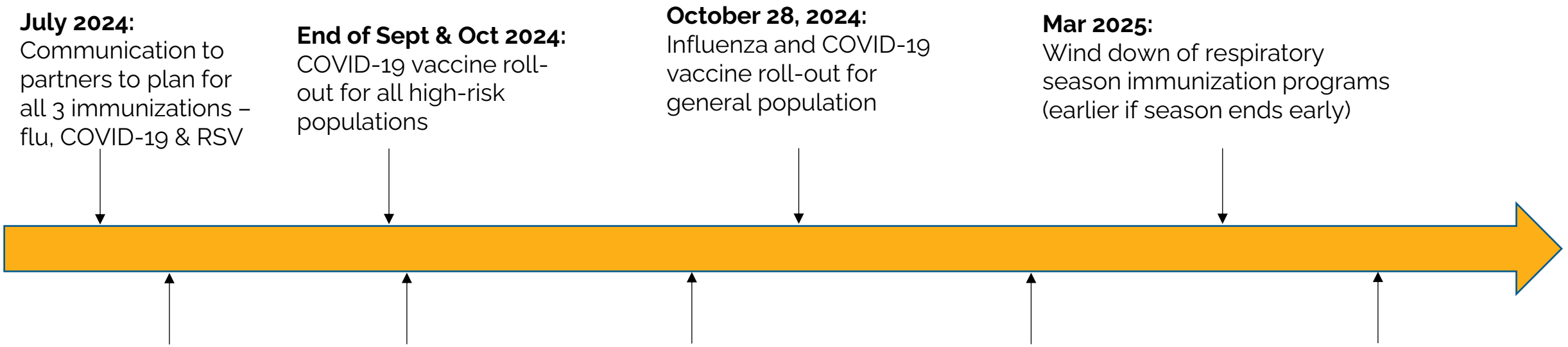
# How is Ontario's 2024-25 respiratory season shaping up in comparison with previous years?

**Right: Daily Ontario hospital census data for influenza, RSV and COVID-19 inpatients: 2024-25 compared with 2023-24 and 2022-23**
(All measures 7-day averages)

- **Influenza:** Signals suggesting similar timeline to the 2023-24 season, with a November start and peak in early- to mid-January.
- **RSV:** This year's wave is starting at least 1 month later than the (unusually early) 2023-24 and 2022-23 seasons. Suggests a peak for kids in early January followed by peak for seniors in late January / early February.
- **COVID-19:** Continues to be unpredictable, with waves driven mainly by emergence of new variants rather than regular seasonality. Currently at similar levels to 2023-24. Expect a post-holiday surge in early January.



# 2024-25 Fall/Spring Immunizations Timeline




- Co-administration of seasonal immunizations is encouraged. They can also be co-administered with non-seasonal immunizations
- The pharmacy locator tool is up to date for sites providing COVID-19 immunizations - https://www.ontario.ca/vaccine-locations/



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# 1. Weekly Summary: Ontario's COVID-19 vaccination program

**42,526,123**
Doses administered:
**Cumulative**

**32,705**
Doses administered:
**Daily (7-day avg)**

**232,006**
Doses administered:
**This week**

**240,600**
Doses administered:
**Last week**

**904,027**
**People w/ Fall 2024 dose**

**6.1%**
% of population
**All ages**

**21.1%**
% of population
**Age 65+**

**3.3%**
% of population
**Age 18-64**

**0.9%**
% of population
**Age <18**

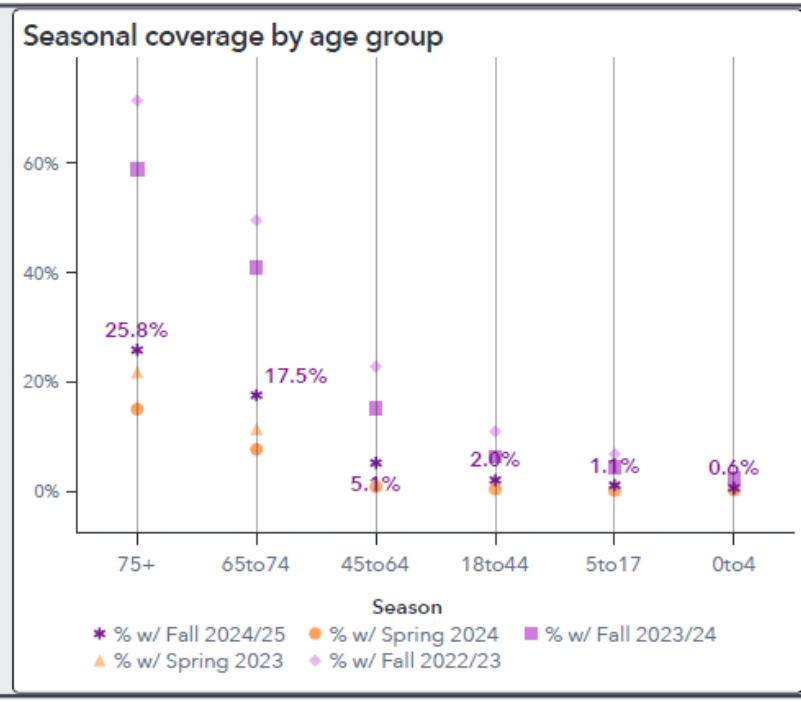
**218,819**
+from
**previous week**

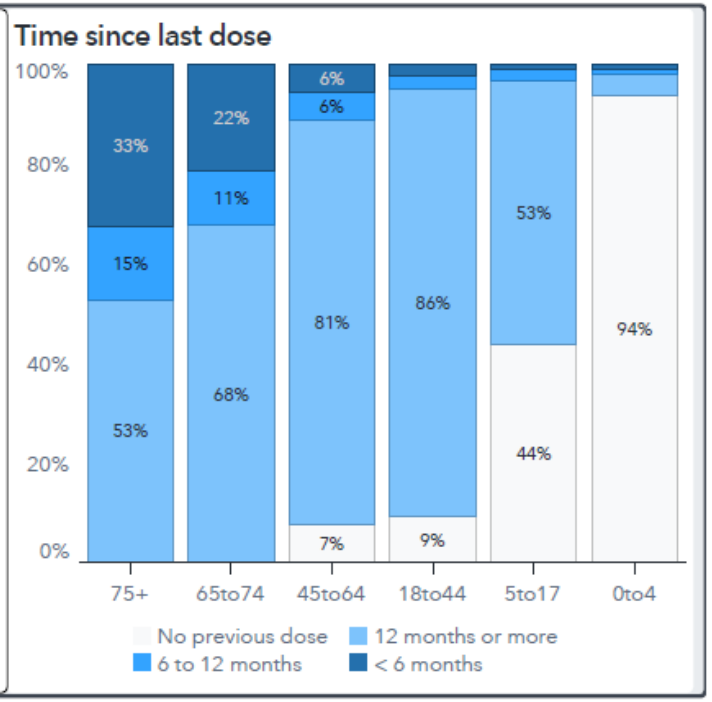
**1.48%**
+ % points from
**previous week**

**4.41%** (+118,254 ppl)
+ % points from
**previous week**

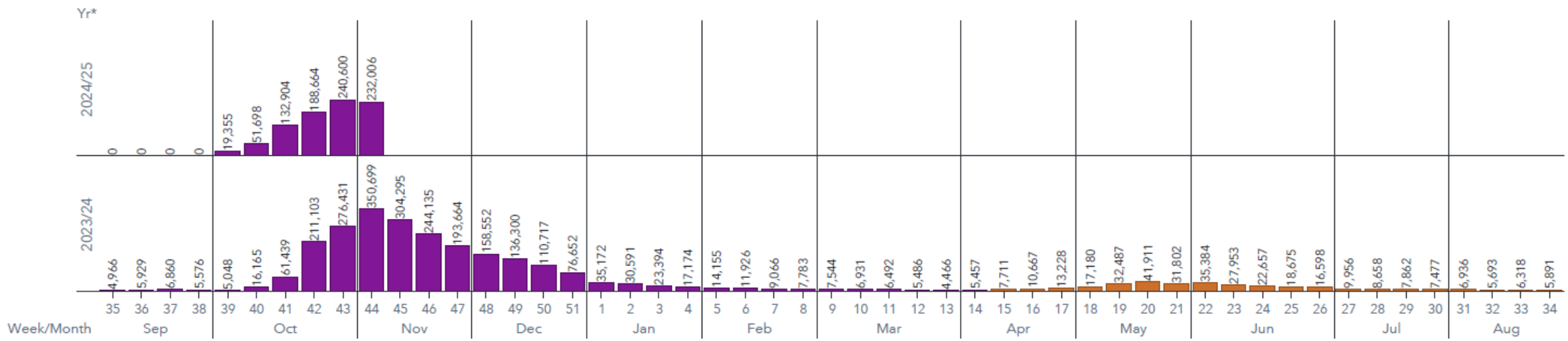
**0.97%** (+90,654 ppl)
+ % points from
**previous week**

**0.36%** (+9,908 ppl)
+ % points from
**previous week**




## Trending: Doses administered week by week




*Fall 2024/25 vaccination start date: September 30, 2024
*2023/24: September 14, 2023, to September 29, 2024; Spring 24 (April to September 2024)

## Retirement Home (RH) Residents

Total RH residents vaccinated with fall dose

**15,785**

% all RH residents with fall dose

**26.6%**

Change from previous report:

**4,161** residents

**7.0** % points

RH residents who received a Fall 2023/24 (From September 12, 2023 to March 31, 2024):

**37,563 (63.4%)**

% RH residents with a dose in the last 6 months

**39.5%**

## Long-Term Care (LTC) Home Residents

Total LTC residents vaccinated with fall dose

**15,555**

% all LTC residents with fall dose

**21.2%**

Change from previous report:

**4,969** residents

**6.5** % points

LTC residents who received a Fall 2023/24 dose (From September 12, 2023 to March 31, 2024):

**45,290 (61.6%)**

% LTC residents with a dose in the last 6 months

**37.1%**

# Flu

*As of November 4, 2024:*

- **128,395** (+8,199 since October 28) doses of publicly funded flu vaccine have been distributed to **568** (+13 since October 28) LTCHs via PHUs.

- **33,235** (+1,970 since October 28) doses of publicly funded flu vaccine have been distributed to **242** (+13 since October 28) retirement homes via PHUs.

- **945,170** doses administered through pharmacy

# RSV

- Flying off the shelves!!! Way to go!!!
- Additional supply going out to PHUs this week
- Next shipment to Ontario will be early December
- BORN data on hospital uptake pending

# Mycoplasma Pneumoniae

- A common cause of mild respiratory illness or “walking pneumonia”
- Outbreaks occur mostly in crowded environments such as schools, college residence halls, and nursing homes. Outbreaks can be prolonged due to:
  - the long incubation period of M. pneumoniae, which is between one and four weeks
  - the ability of the bacteria to persist in the respiratory tract for several months
  - the prolonged presence of symptoms such as coughing
- Testing is done through nasal/oropharyngeal swab
  - **PHO PCR test requisition form:** https://www.publichealthontario.ca/en/laboratory-services/test-information-index/mycoplasma-pneumoniae-respiratory-pcr
- In children with persistent or progressive disease, think about mycoplasma!

# Mycoplasma Pneumoniae

- Standard first-line therapy for community-acquired pneumonia (i.e., amoxicillin) is NOT effective against mycoplasma
- The first-line treatment for MP are macrolides:
  - Erythromycin: 25–50 mg/kg/day for 14 days
  - Clarithromycin: 10–15 mg/kg/day for 10 days
  - Azithromycin: 10 mg/kg/day for 3 days
- Doxycycline is recommended for macrolide-resistance, these cases often take longer to resolve than non-resistance MP
- Fluoroquinolones are another alternative, but generally contraindicated in children

**Table 1. Number of specimens tested, positive, and percent positive for *Mycoplasma pneumoniae* and *Chlamydia pneumoniae* PCR by month, October 1, 2023 to October 31, 2024**

| Year and month | Number of specimens tested | Positive for *Mycoplasma pneumoniae* (percent positive) | Positive for *Chlamydia pneumoniae* (percent positive) |
|---|---|---|---|
| October 2023 | 242 | 5 (2.1%) | 1 (0.4%) |
| November 2023 | 253 | 8 (3.2%) | 0 (0.0%) |
| December 2023 | 276 | 4 (1.4%) | 0 (0.0%) |
| January 2024 | 301 | 4 (1.3%) | 0 (0.0%) |
| February 2024 | 271 | 4 (1.5%) | 0 (0.0%) |
| March 2024 | 224 | 4 (1.8%) | 0 (0.0%) |
| April 2024 | 257 | 4 (1.6%) | 0 (0.0%) |
| May 2024 | 259 | 9 (3.5%) | 0 (0.0%) |
| June 2024 | 221 | 14 (6.3%) | 0 (0.0%) |
| July 2024 | 306 | 44 (14.4%) | 0 (0.0%) |
| August 2024 | 423 | 130 (30.7%) | 0 (0.0%) |
| September 2024 | 496 | 127 (25.6%) | 2 (0.4%) |
| October 2024 | 791 | 245 (31.0%) | 1 (0.1%) |
| **Total** | **4,320** | **602 (13.9%)** | **4 (0.1%)** |

**Note:** As data represent specimens, a single individual may have been counted multiple times. Year and month were assigned using specimen login date.
**Data source:** Public Health Ontario Laboratory Information Management System

**Number and percentage of *M. pneumoniae* samples by age group with 23S rRNA gene mutations indicating macrolide resistance, January 1, 2024 to August 31, 2024.**

| Age group | Macrolide resistance mutation(s) | No resistance mutations | Total |
|---|---|---|---|
| <5 years | 1 (5.3%) | 18 (94.7%) | 19 (100%) |
| 5-11 years | 12 (17.4%) | 57 (82.6%) | 69 (100%) |
| 12-17 years | 4 (10.3%) | 35 (89.7%) | 39 (100%) |
| 18+ years | 5 (45.6%) | 6 (54.4%) | 11 (100%) |
| **Total** | **22 (15.9%)** | **116 (84.1%)** | **138 (100%)** |

**Note:** Includes only samples that have undergone whole genome sequencing.

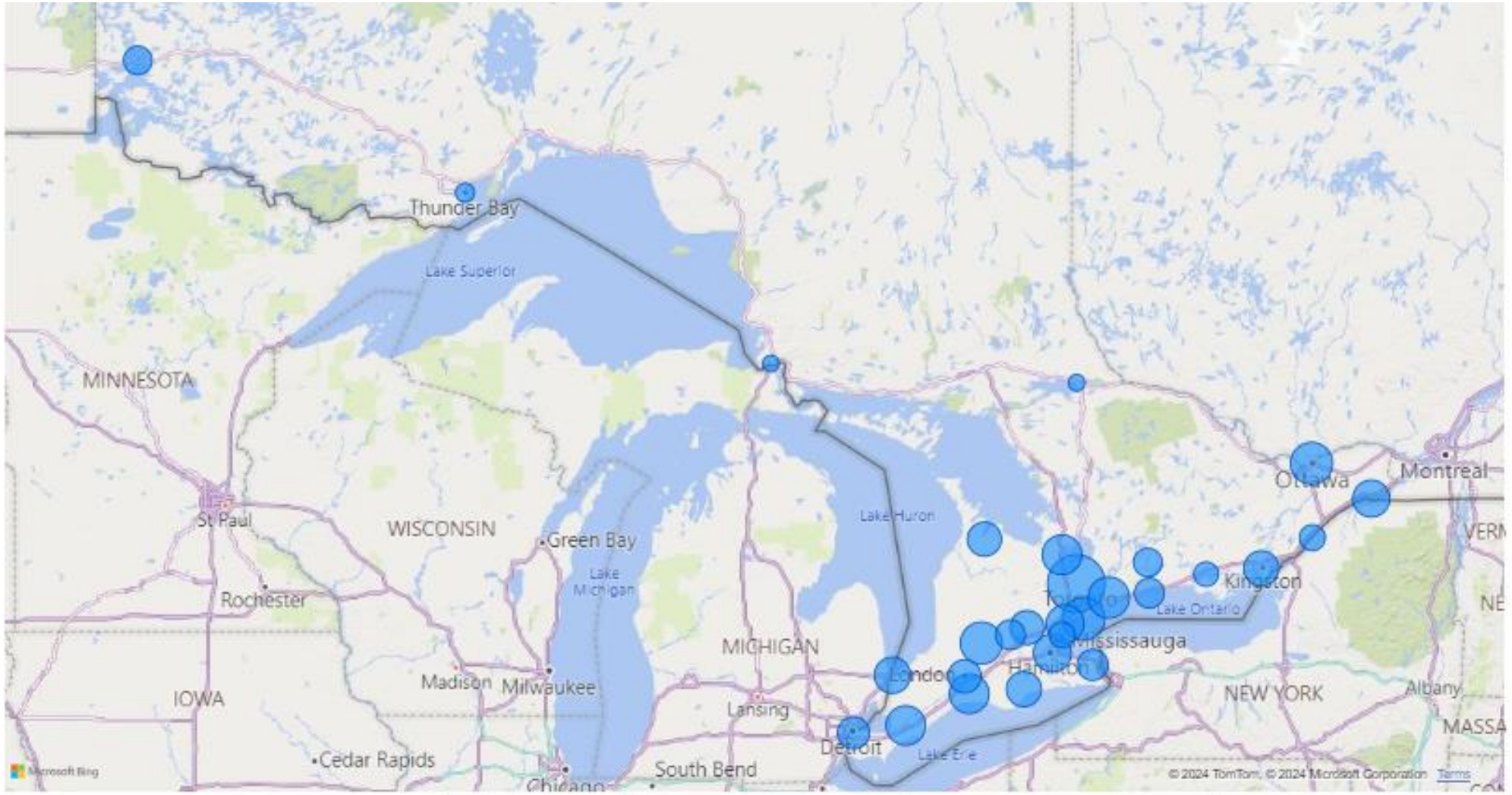
# Avian influenza (H5N1)

- Human infections with avian influenza A(H5N1) are rare and usually occur after close contact with infected birds or highly contaminated environments such as poultry farms or live animal markets
    - Infection may also occur after exposure to other infected animals, including wildlife and livestock, such as cattle
- Symptoms range from mild (often not identified) to severe, similar to other influenzas (e.g., cough, fever, runny nose, myalgias, pneumonia, ARDS)
    - The current dairy cattle related human cases have notably had conjunctivitis as a primary symptoms
- Approximately half of the over 900 human cases reported around the world since 1997 (mostly in Africa and Asia), have been fatal
- Diagnosis requires nasal/oropharyngeal swab
- Treatment with antiviral medications can be effective, ideally started within 48 hours

# Avian influenza case in Canada

- On Saturday, November 9, the Office of the Provincial Health Officer for British Columbia reported that an individual in British Columbia has tested presumptive positive for avian influenza (also known as bird flu) caused by the H5 virus.
- Samples were sent to the Public Health Agency of Canada's National Microbiology Laboratory (NML) in Winnipeg and the NML confirmed the human case of H5N1 on November 13, 2024.
- The Office of the Provincial Health Officer for British Columbia has advised that public health is following up with contacts who may have been exposed to assess for symptoms and provide guidance on testing and prevention measures. The source of exposure is under investigation.
- Based on current evidence in Canada, the **risk to the general public remains low** at this time. To date, there has been no evidence of sustained person-to-person spread of the virus in any of the cases identified globally.
- Human infection with avian influenza A(H5N1) is rare and usually occurs after close contact with infected birds or highly contaminated environments.
- This is the first domestically acquired human case of H5N1 avian influenza in Canada. In 2014, Canada reported one fatal travel-associated case in a citizen who had travelled to China.
- As a general precaution to prevent avian influenza infections, members of the public are reminded to not handle live or dead wild birds or other wild animals, and to keep pets away from sick or dead animals. People who work with animals or in environments contaminated by animals should take precautions, including using other personal protective measures to reduce the risk of getting or spreading respiratory infectious diseases.

# Ontario: Wildlife positive samples by PHU




Source: Canadian Wildlife Health Cooperative, Canadian Food Inspection Agency as reported to Ontario Ministry of Health.
Note: sample references lab testing. It could represent one animal or a case representing a flock of 10,000+ animals. Size of bubble is representative of number of positive samples. There may be reporting delays, which could be weeks/months.

# US: Summary of detections (as of October 17, 2024)

Weekly Snapshot for Week Ending October 5, 2024

AT A GLANCE

CDC influenza (flu) surveillance systems show no indicators of unusual influenza activity in people, including avian influenza A(H5N1).

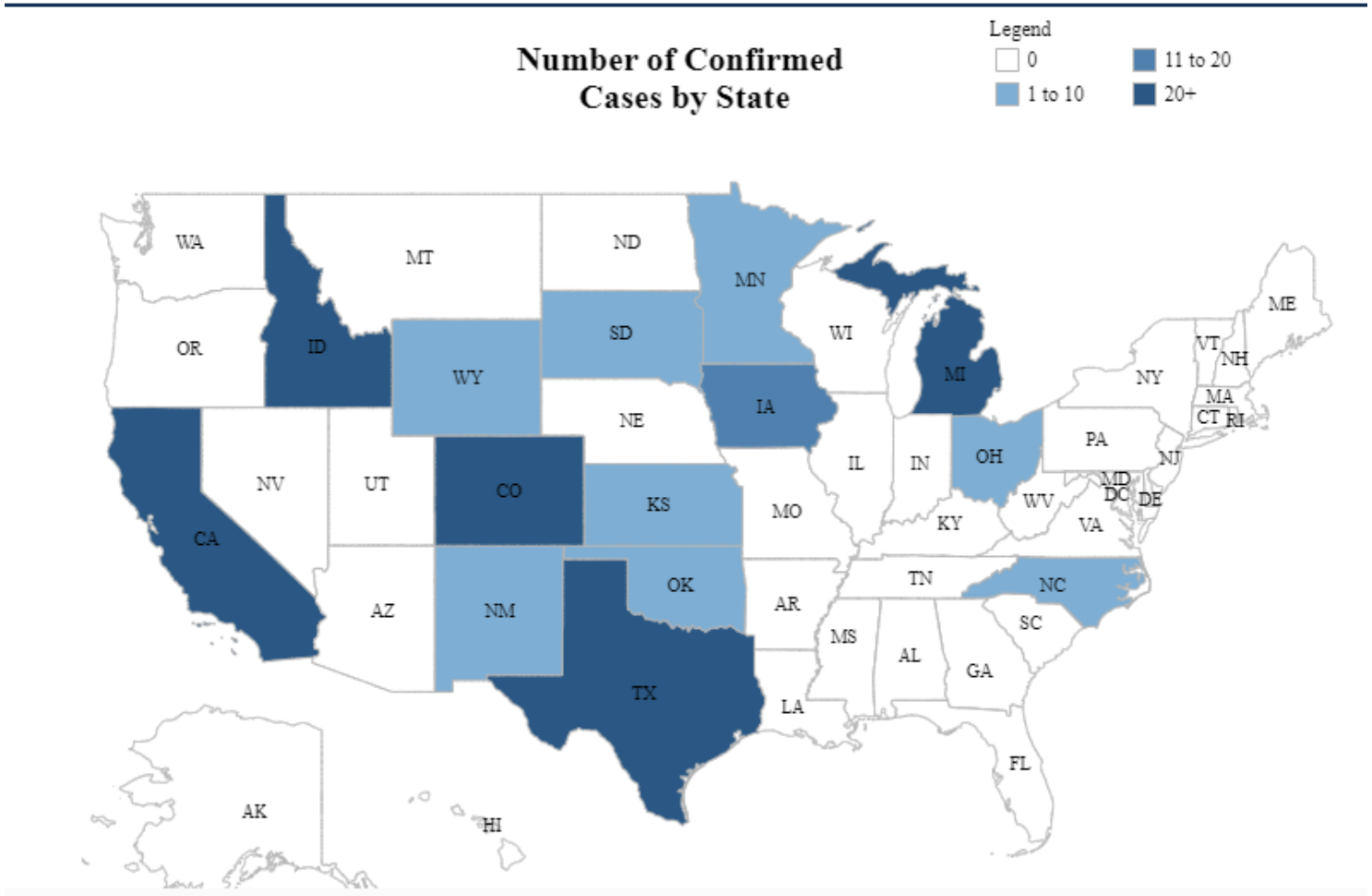
| Species | (cumulative totals) | Change since last update |
|---|---|---|
| Human | 25 cases (since April 2024)<br>(15 following exposure to dairy cows, 9 following exposure to poultry, 1 unknown) | +11 |
| Wild Bird | 10,420 birds detected | +134 |
| Poultry | 103,474,421 birds affected | +2,695,470<br>(1.85M from commercial egg table layer in Utah, 0.8M from commercial egg table layer in Washington) |
| Wild and domestic mammal | 402 detections | +3 |
| Livestock | 304 herds affected | +65 |

Source: US Centre for Disease Control (summary) and (cases)

# US: Confirmed cases of HPAI in domestic livestock

Confirmed Cases Total Outbreak
**320**

States Affected Total Outbreak
**14**






Source: US Department of Agriculture

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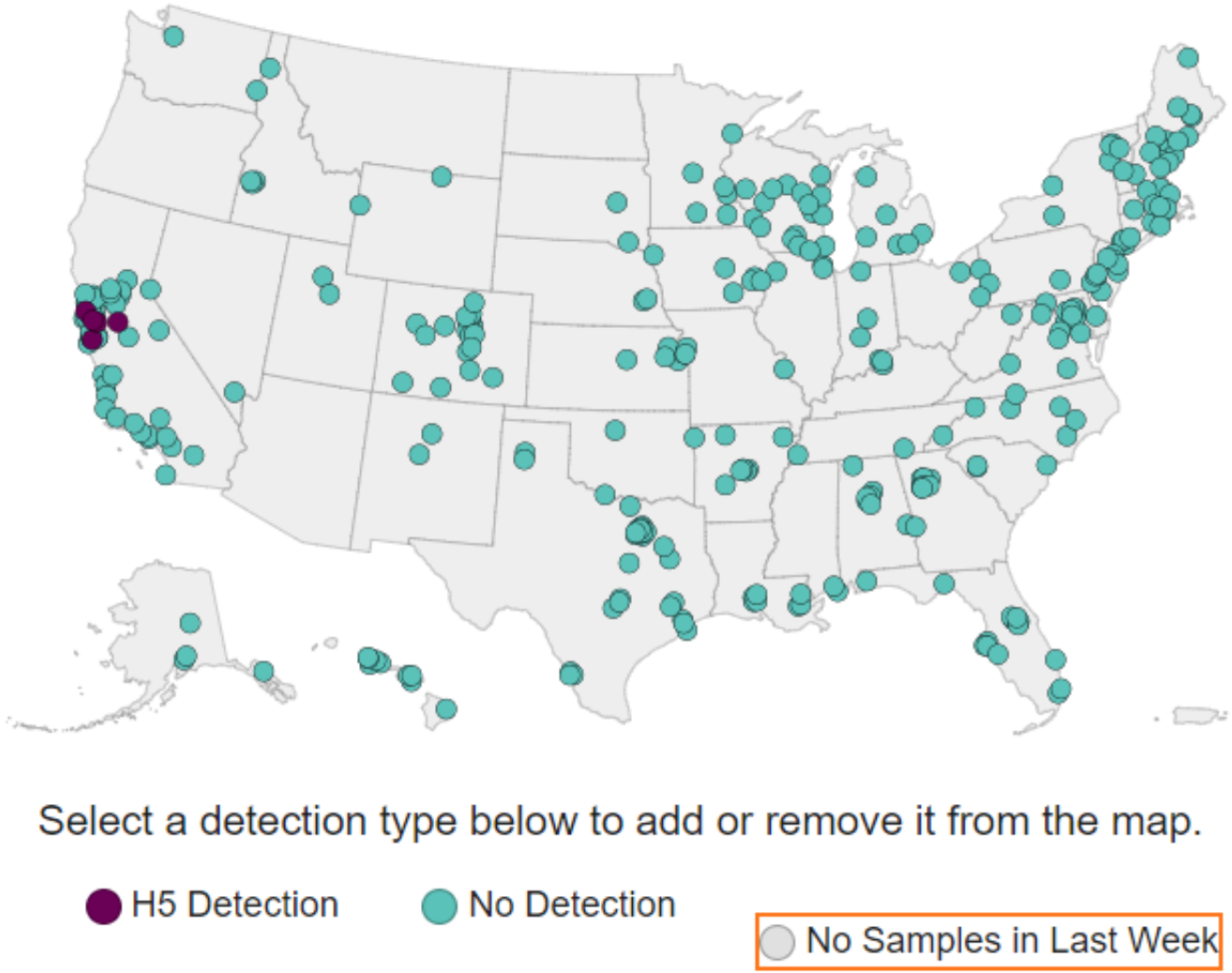
# US: Avian Influenza A (H5) Virus Detections in Wastewater (September 29 – October 5, 2024)




Source: US Centre for Disease Control

CDC receives weekly avian influenza A(H5) virus data from an academic partner (approximately 150 sites) and some state health departments. In each site, wastewater sampling and testing occurs one or more times during the week.

Wastewater data cannot determine the source of avian influenza A(H5) viruses. They could come from a human or from an animal (like a bird) or an animal product (like milk from an infected cow), and detections of avian influenza A(H5) virus in wastewater do not necessarily indicate human cases.

Each dot on the map represents a wastewater sampling site. For each site, results are reported as "H5 Detection" when any of the samples were positive during the week reported. When avian influenza A(H5) virus is not detected in any of the samples, then the site is classified as "No Detection." All data are preliminary and may change as more reports are received. Data will be updated on this site every Friday.

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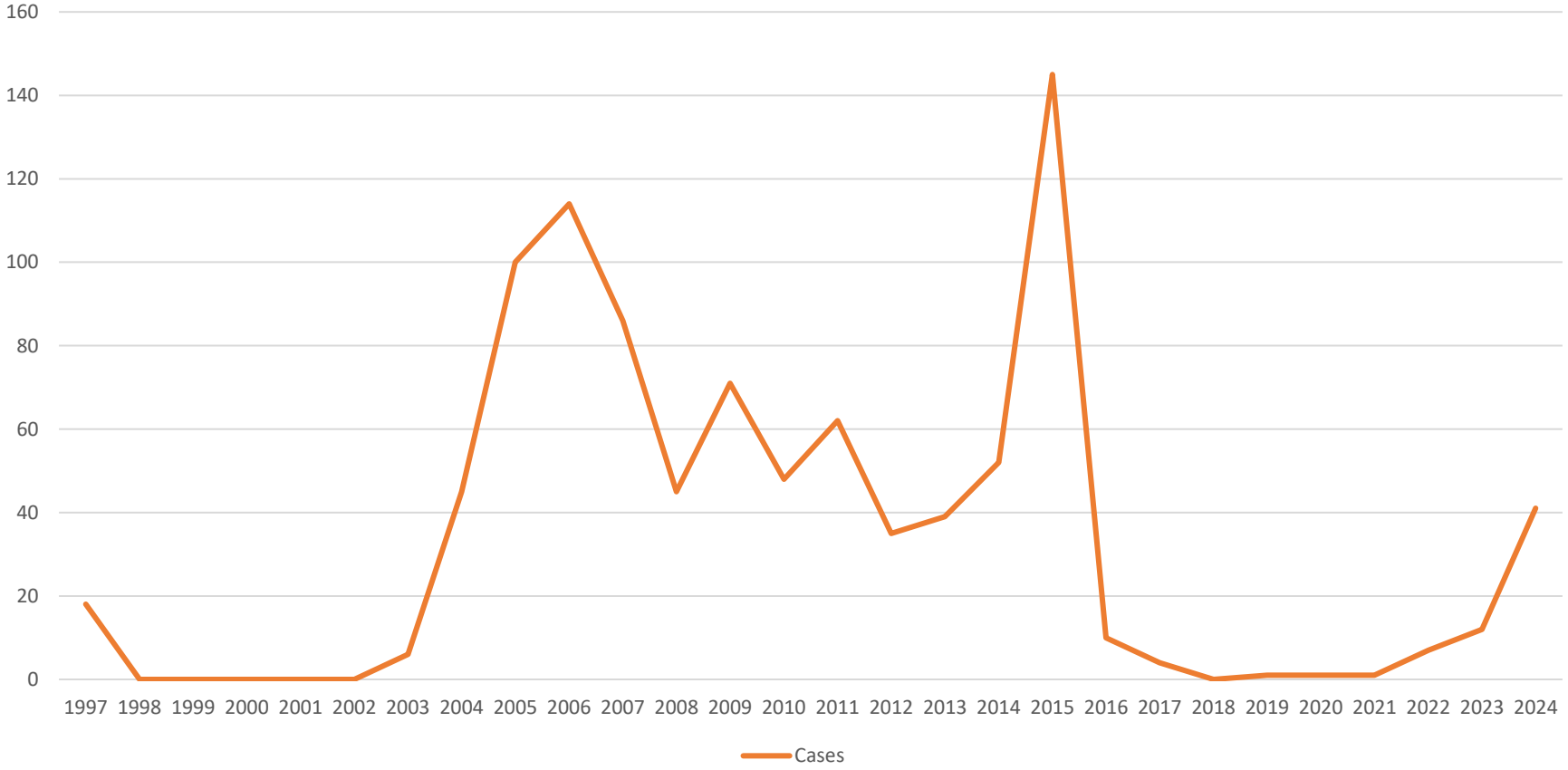
# Global: Reported Global Human Cases with Highly Pathogenic Avian Influenza A(H5N1) (HPAI H5N1), 1997-2024




2024 Cases:

- Cambodia: 10
- United States: 25 (+11)
- Australia: 1
- Vietnam: 3 (+2)
- China: 2



Source: US Centre for Disease Control

Ontario

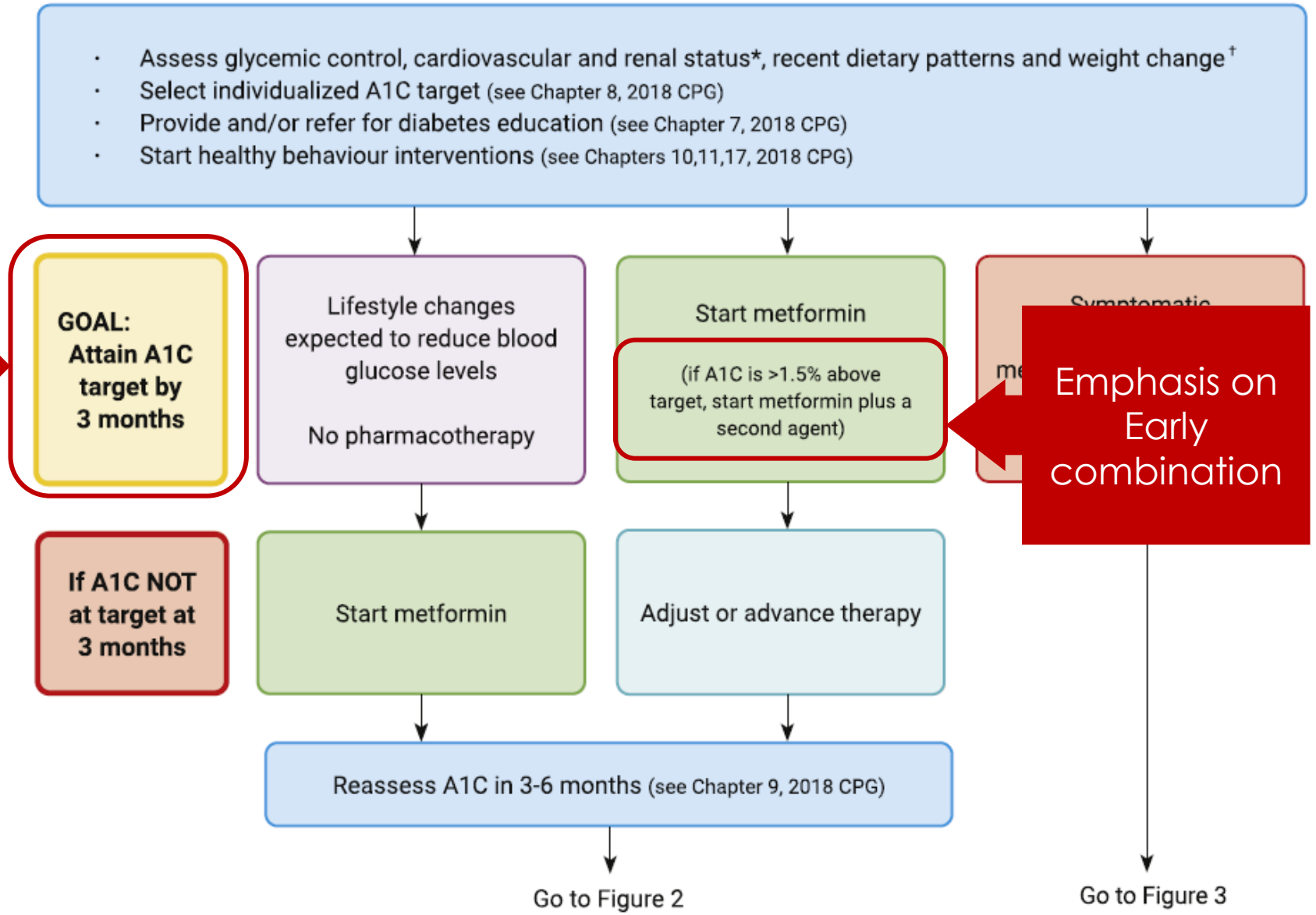
# Updates in type 2 Diabetes Pharmacotherapy

# Agenda

1. Highlights from updated Diabetes Canada pharmacotherapy chapter
2. Updates on renoprotective medications:
   - nsMRA: Finerenone
   - GLP1RA : Semaglutide renal trial
3. Once weekly basal insulin - Icodec
4. Resources

# PARADIGM SHIFTS IN TREATMENT OF T2D: 2020 DIABETES GUIDELINES

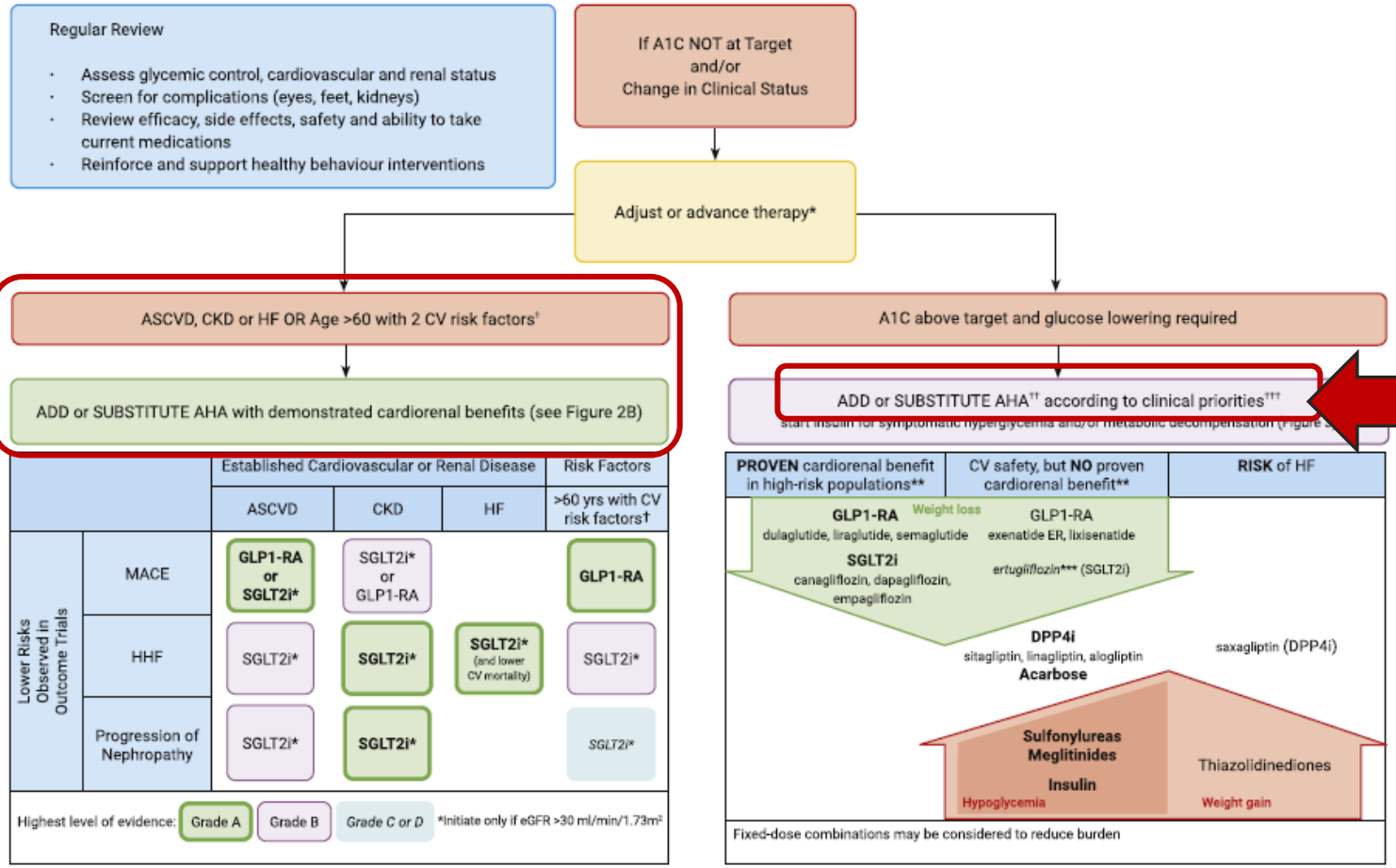
Emphasis on early control



# **PARADIGM SHIFTS IN TREATMENT OF T2D:** 2020 DIABETES GUIDELINES

Shift from glucose- centric to **individualized organ protection** treatment

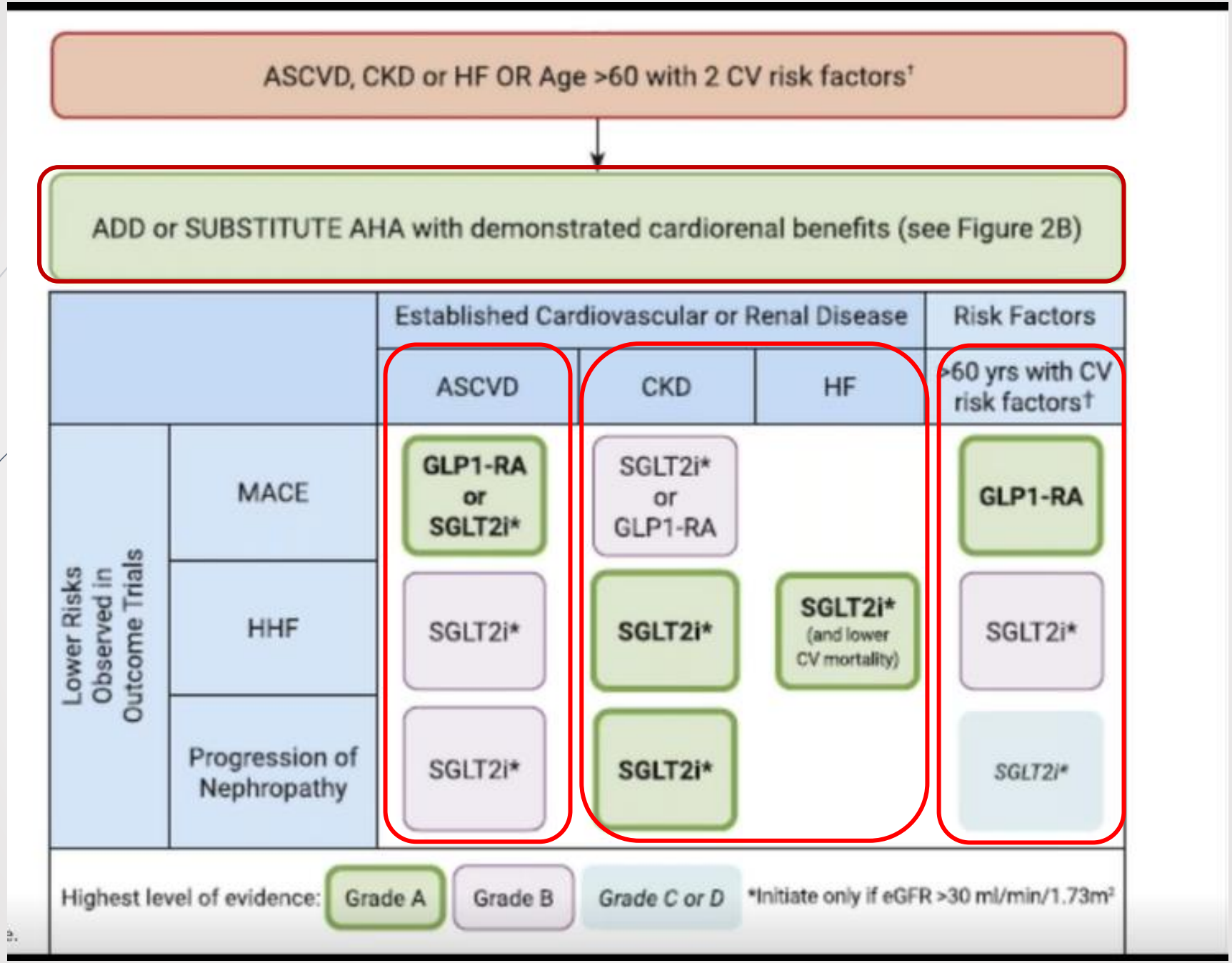


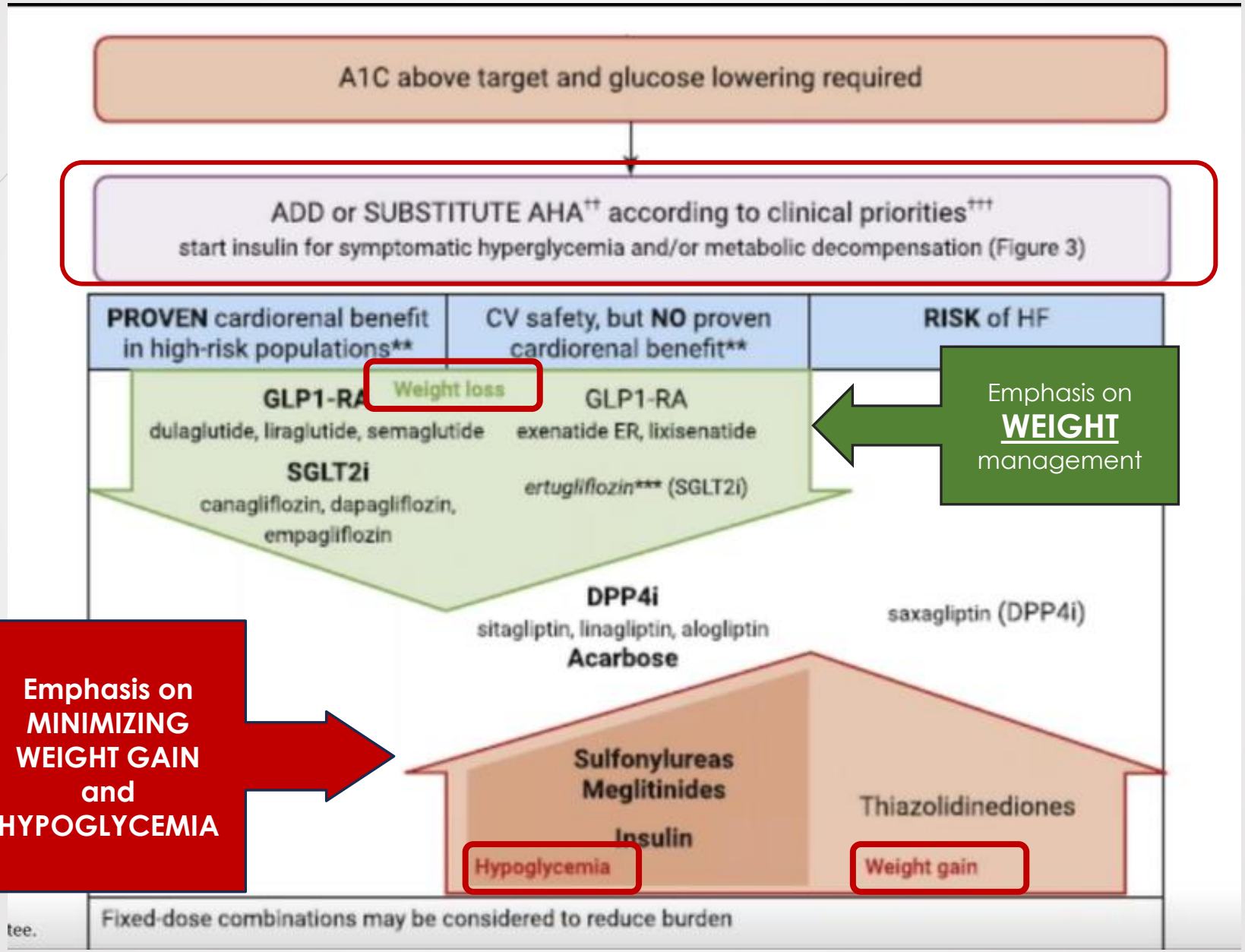



* Changes in clinical status may necessitate adjustment of glycemic targets and/or deprescribing.
† Tobacco use; dyslipidemia (use of lipid-modifying therapy or a documented untreated low-density lipoprotein (LDL) ≥3.4 mmol/L, or high-density lipoprotein-cholesterol (HDL-C) <1.0 mmol/L for men and <1.3 mmol/L for women, or triglycerides ≥2.3 mmol/L); or hypertension (use of blood pressure drug or untreated systolic blood pressure [SBP] ≥140 mmHg or diastolic blood pressure [DBP] ≥95 mmHg).
†† All antihyperglycemic agents (AHAs) have Grade A evidence for effectiveness to reduce blood glucose levels.
††† Consider degree of hyperglycemia, costs and coverage, renal function, comorbidity, side effect profile and potential for pregnancy.
** In CV outcome trials performed in people with atherosclerotic cardiovascular disease (ASCVD), chronic kidney disease (CKD), heart failure (HF) or at high cardiovascular (CV) risk.
*** VERTIS (CV outcome trial for ertugliflozin) presented at American Diabetes Association (ADA) June 2020 showed noninferiority for major adverse CV events (MACE). Manuscript not published at time of writing.
*A1C*, glycated hemoglobin; *DPP4i*, dipeptidyl peptidase-4 inhibitors; *eGFR*, estimated glomerular filtration rate; *GLP1-RA*, glucagon-like peptide-1 receptor agonists; *exenatide ER*, exenatide extended-release; *HHF*, hospitalization for heart failure; *SGLT2i*, sodium-glucose cotransporter 2 inhibitors; *yrs*, years.

**Figure 2A.** Reviewing, adjusting or advancing therapy in type 2 diabetes.

Emphasis on **CLINICAL PRIORITIES** management


ASCVD, CKD or HF OR Age >60 with 2 CV risk factors†
ADD or SUBSTITUTE AHA with demonstrated cardiorenal benefits (see Figure 2B)
Established Cardiovascular or Renal Disease
Risk Factors
ASCVD
CKD
HF
>60 yrs with CV risk factors†
Lower Risks Observed in Outcome Trials
MACE
HHF
Progression of Nephropathy
GLP1-RA or SGLT2i*
SGLT2i* or GLP1-RA
GLP1-RA
SGLT2i*
SGLT2i*
SGLT2i* (and lower CV mortality)
SGLT2i*
SGLT2i*
SGLT2i*
SGLT2i*
Highest level of evidence:
Grade A
Grade B
Grade C or D
*Initiate only if eGFR >30 ml/min/1.73m²


A1C above target and glucose lowering required
ADD or SUBSTITUTE AHA†† according to clinical priorities†††
start insulin for symptomatic hyperglycemia and/or metabolic decompensation (Figure 3)
PROVEN cardiorenal benefit in high-risk populations**
CV safety, but NO proven cardiorenal benefit**
RISK of HF
Weight loss
GLP1-RA
dulaglutide, liraglutide, semaglutide
GLP1-RA
exenatide ER, lixisenatide
SGLT2i
canagliflozin, dapagliflozin, empagliflozin
ertugliflozin*** (SGLT2i)
Emphasis on WEIGHT management
DPP4i
sitagliptin, linagliptin, alogliptin
saxagliptin (DPP4i)
Acarbose
Emphasis on MINIMIZING WEIGHT GAIN and HYPOGLYCEMIA
Sulfonylureas
Meglitinides
Insulin
Thiazolidinediones
Hypoglycemia
Weight gain
Fixed-dose combinations may be considered to reduce burden

# Updates on renoprotective therapies

ns-MRA

# KDIGO Staging and Prognosis of CKD

| Prognosis of CKD by GFR and albuminuria categories: KDIGO 2012 | | | | Persistent albuminuria categories<br>Description and range | | |
|---|---|---|---|---|---|---|
| | | | | **A1** | **A2** | **A3** |
| | | | | Normal to mildly increased | Moderately increased | Severely increased |
| | | | | < 30 mg/g<br>< 3 mg/mmol | 30–300 mg/g<br>3–30 mg/mmol | > 300 mg/g<br>> 30 mg/mmol |
| **GFR categories (ml/min/1.73 m²)**<br>Description and range | **G1** | Normal or high | ≥ 90 | | | |
| | **G2** | Mildly decreased | 60–89 | | | |
| | **G3a** | Mildly to moderately decreased | 45–59 | | | |
| | **G3b** | Moderately to severely decreased | 30–44 | | | |
| | **G4** | Severely decreased | 15–29 | | | |
| | **G5** | Kidney failure | < 15 | | | |

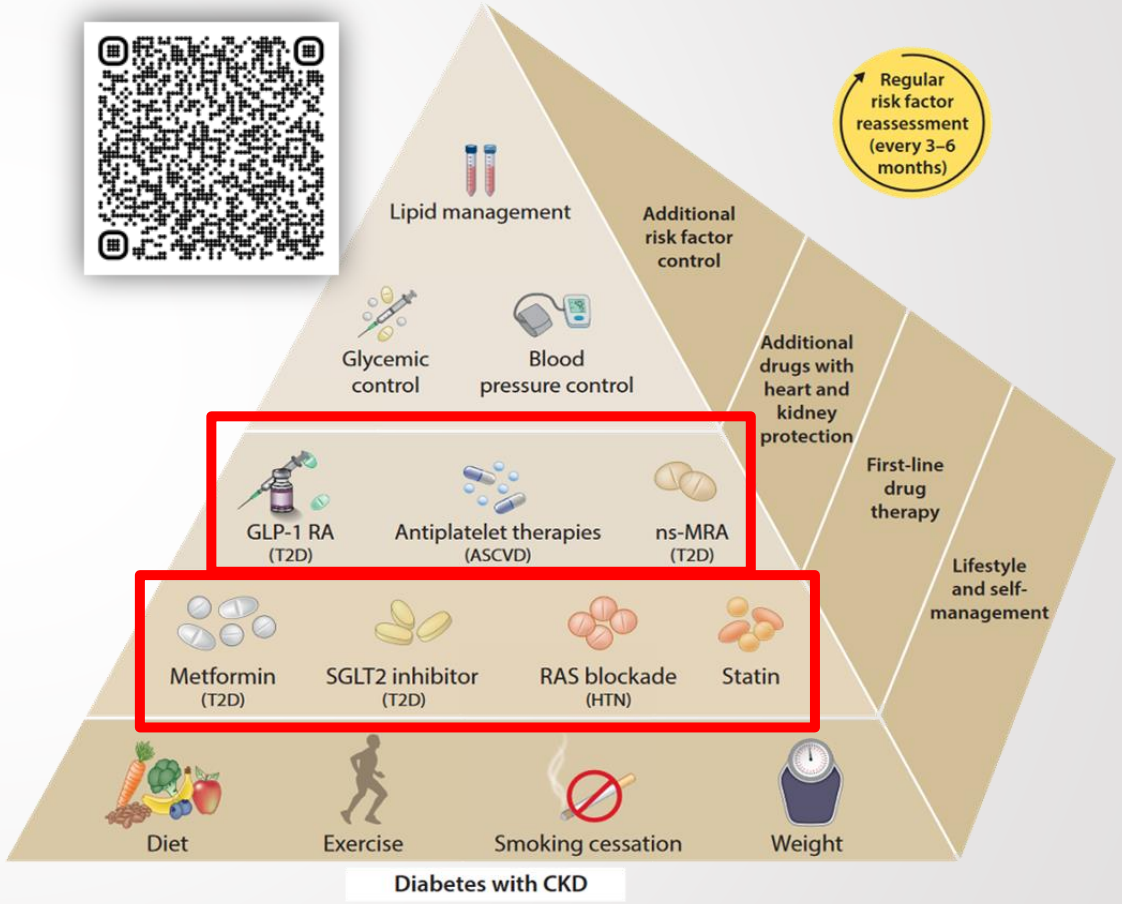
**Relative risk of adverse outcomes**

- Low risk
- Moderately increased risk
- High risk
- Very high risk

KDIGO. KDIGO 2012 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease. Kidney Int. 2013;3(1).

# KDIGO 2022 Recommendations for Type 2 Diabetes and CKD

- KDIGO 2022 provided new guidelines of managing diabetes and CKD
- 1st line:
  - Metformin, SGLT2i, ACEi or ARB, Statin
- 2nd line
  - Hyperglycemia: GLP-1 RA
  - Improve outcome in people with CKD and albuminuria: Finerenone (ns-MRA)




Rossing, Peter, M. Luiza Caramori, Juliana C.N. Chan, Hiddo J.L. Heerspink, Clint Hurst, Kamlesh Khunti, Adrian Liew, et al. "KDIGO 2022 Clinical Practice Guideline for Diabetes Management in Chronic Kidney Disease." *Kidney International* 102, no. 5 (November 2022): S1–127. https://doi.org/10.1016/j.kint.2022.06.008.

# Comparison between steroidal MRAs (spironolactone and eplerenone) and nonsteroidal MRA finerenone

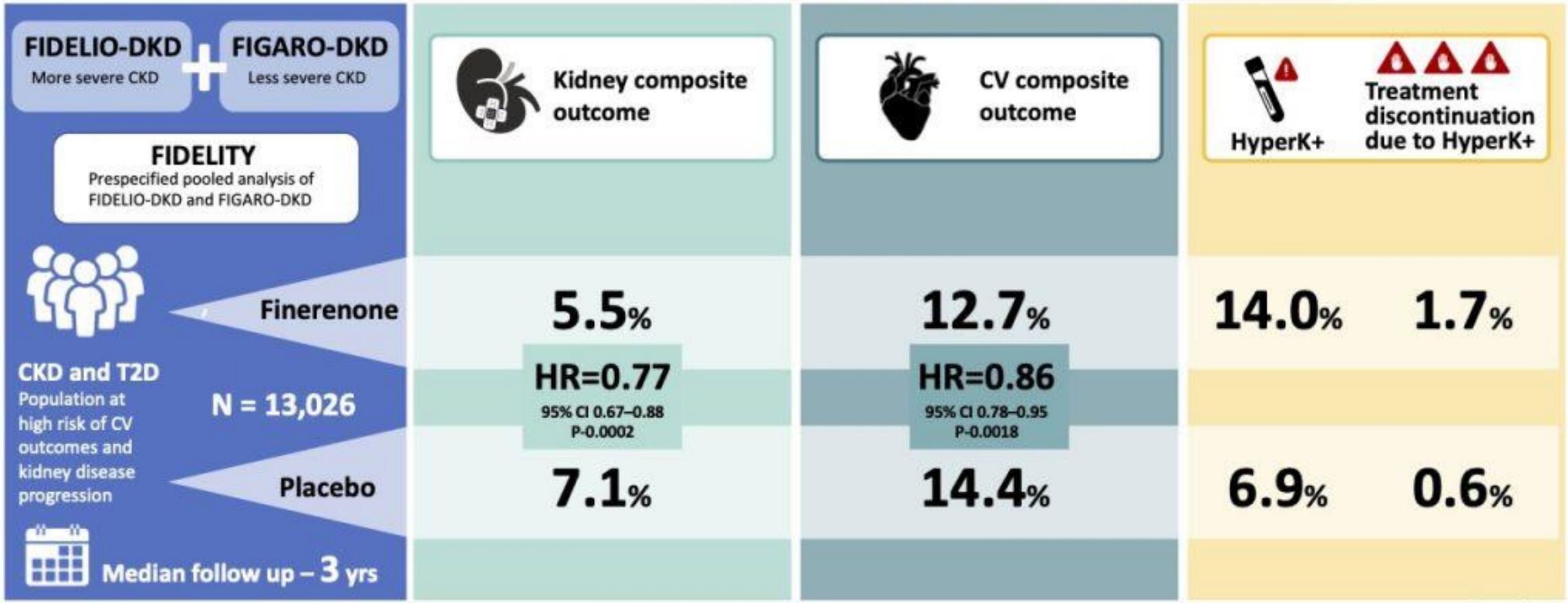
| | Aldosterone antagonists | | Finerenone |
|---|---|---|---|
| |   |   |   |
| **Structural properties** | Flat (steroidal) | Flat (steroidal) | Bulky (nonsteroidal) |
| **Potency to MR** | High | Moderate | High |
| **Selectivity to MR** | Low | Moderate | High |
| **CNS penetration** | Yes | Yes | No |
| **Sexual side effects** | Yes (gynecomastia, ED) | Less than spironolactone | No |
| **Hyperkalemia** | Yes | Yes | Moderately increased |
| **Tissue distribution** | Kidney > heart (at least 6-fold) | Kidney > heart (~3-fold) | Balanced kidney : heart (1:1) |
| **Half-life** | >20 h | 4-6 h | 2-3 h |
| **Active metabolites** | ++ | - | - |
| **Effect on BP** | +++ | ++ | + |

MR, mineralocorticoid receptor

Adapted from: Kintscher U et al. Br J Pharmacol. 2022;179:3220–3234.

# Finerenone in mild to severe chronic kidney disease and type 2 diabetes: The FIDELITY prespecified pooled analysis

Abstract number: WCN22-0843





**Rossing P et al**

Visual Abstract by
**Aakash Shingada DNB**
@aakashshingada


**CONCLUSION:** The FIDELITY prespecified pooled analysis provides robust evidence of cardiorenal benefits in patients with CKD and type 2 diabetes across a wide spectrum of CKD severity. Finerenone was well tolerated, with only ~2% of patients having to discontinue treatment due to hyperkalemia. Treatment-induced hyperkalemia was manageable with routine potassium monitoring


& Virtual WCN'22

# Updates on renoprotective therapies

## GLP1 RA Semaglutide- FLOW trial

# FLOW objectives

## Primary objective

To demonstrate that **semaglutide delays the progression of renal impairment and lowers the risk of renal and cardiovascular mortality** compared to placebo, both added to standard-of-care, in subjects with type 2 diabetes and chronic kidney disease

## Secondary objectives

To compare the effect of treatment with semaglutide versus placebo with regards to **cardiovascular morbidity, peripheral artery disease, glycaemic control, body weight, blood pressure, and safety**

FLOW
semaglutide | renal outcomes trial

# Semaglutide for CKD in Patients with Type 2 Diabetes: "FLOW"ing with the Semaglu"TIDE"

#NephJC

## METHODS

International, double-blind, placebo-controlled
28 countries

**Type 2 DM and CKD:**
GFR 50-75 ml/min + ACR 300-5000 mg/g
or
GFR 25-<50 ml/min + ACR 100-5000 mg/g

Median follow-up, 3.4 years

| | Major kidney disease events | Death from any causes | Adverse event leading to discontinuation |
|---|---|---|---|
| **Placebo** n = 1766 | 7.5 events per 100 patient-years | 279(15.8%) | 211(11.9%) |
| | HR 0.76 (95% CI, 0.66-0.88) | HR 0.80 (95% CI, 0.67-0.95) | |
| **Semaglutide** n = 1767 | 5.8 events per 100 patient-years | 227(12.8%) | 233(13.2%) |

**Major kidney disease events-** kidney failure, ≥50% reduction in GFR, death from CV or kidney-related causes

HR= Hazard ratio

**Reference:** Perkovic,V et al. Effects of Semaglutide on Chronic Kidney Disease in Patients with Type 2 Diabetes. NEJM, May 2024.

VA by Anjana Gopal @anjanagopal9

**Conclusion:** Semaglutide reduced the risk of clinically important kidney outcomes and death from cardiovascular causes in patients with type 2 diabetes and chronic kidney disease.

# New insulins

From daily to weekly

# Who to consider for Insulin Therapy in

## When to Consider Basal Insulin

- ✓ A1C above target despite multiple
- ✓ New diagnosis A1C ≥ 8.5%
- ✓ Metabolic decompensation
- ✓ End-organ failure
- ✓ Planning and during pregnancy
- ✓ Acute illness
- ✓ Prolonged course of steroids
- ✓ Intolerance to oral medications
- ✓ **Any time you consider this is an appropriate option for your patients from diagnosis onwards**

## When NOT to Initiate Insulin

- There are no contraindications for the use of insulin, but it may not be appropriate for:
- Some older, asymptomatic patients, who may not gain sufficient benefit because of short life expectancy
- People limited in their capacity (physical or cognitive) to manage their diabetes who are at greater risk of hypoglycemia

Berard L, Antonishyn N, Arcudi K, et al. Insulin Matters: A Practical Approach to Basal Insulin Management in Type 2 Diabetes. Diabetes Ther. 2018;9(2):501-519. doi:10.1007/s13300-018-0375-7

# Guideline recommendations on insulin therapy

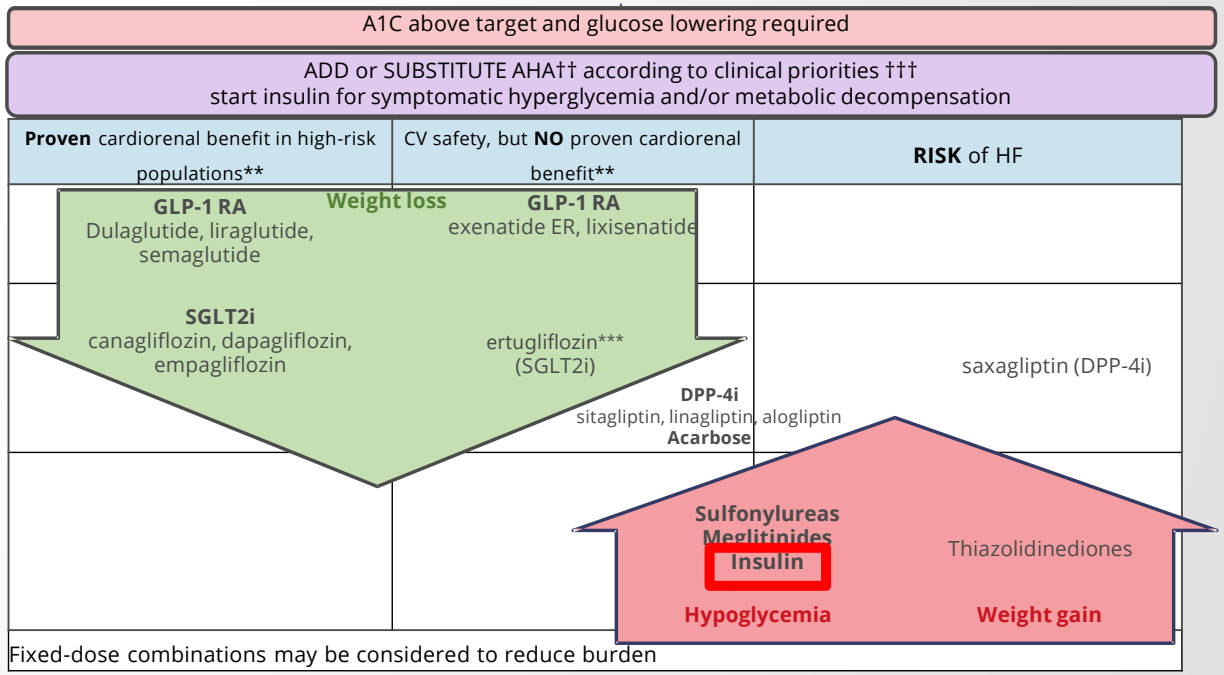
**Regular review**
- Assess glycemic control, CV and renal status
- Screen for complications (eyes, feet, kidneys)
- Review efficacy, side effects, safety and ability to take current medications
- Reinforce and support healthy behaviour interventions

If A1C NOT at target and/or change in clinical status

Adjust or advance therapy*

## Guideline Recommendation for Insulin in Type 2 Diabetes

- In people not achieving glycemic targets on existing noninsulin antihyperglycemic medication(s), the addition of a basal insulin regimen should be considered over premixed insulin or bolus-only regimens, if lower risk of hypoglycemia and/or preventing weight gain are priorities.
- In adults with type 2 diabetes treated with basal insulin therapy, if minimizing risk of hypoglycemia is a priority:
- Long-acting insulin analogues should be considered over NPH insulin.
- Insulin degludec or insulin glargine U-300 may be considered over insulin glargine U-100 to reduce overall and nocturnal hypoglycemia severe hypoglycemia

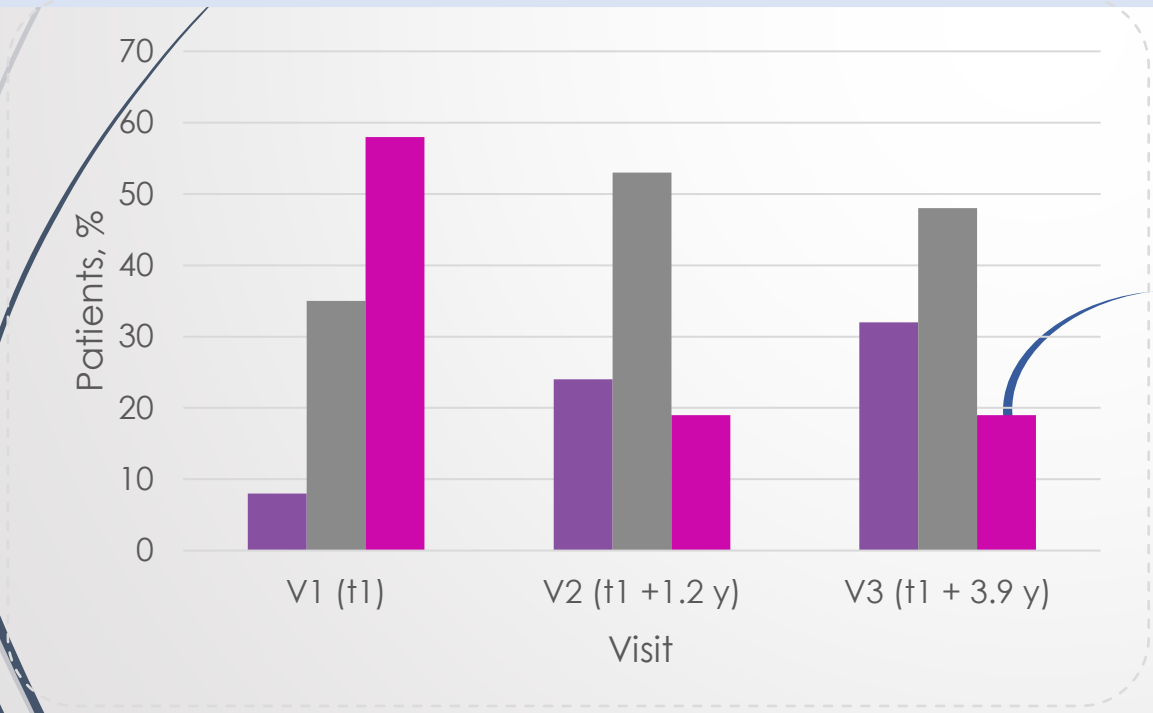



*Changes in clinical status may necessitate adjustment of glycemic targets and/or deprescribing. †Tobacco use dyslipidemia or hypertension. ††All AHAs have Grade A evidence for effectiveness to reduce blood glucose levels. †††Consider degree of hyperglycemia, costs and coverage, renal function, comorbidity, side effect profile and potential for pregnancy.
**In CV outcome trials performed in people with ASCVD, CKD, HF or at high CV risk. ††††VERTIS presented at ADA June 2020 showed noninferiority for MACE.
AHA, antihyperglycemic agent; ASCVD, atherosclerotic cardiovascular diseases; CKD, chronic kidney disease; CV, cardiovascular disease; DPP-4i, dipeptidyl peptidase-4 inhibitor; GLP-1 RA, glucagon-like peptide 1 receptor agonist; HF, heart failure; HHF, hospitalization for heart failure; MACE, major adverse cardiovascular events; SGLT2i, sodium glucose co-transporter 2 inhibitor
Lipscombe, Lorraine, Sonia Butalia, Kaberi Dasgupta, Dean T. Eurich, Lori MacCallum, Baiju R. Shah, Scot Simpson, and Peter A. Senior. "Pharmacologic Glycemic Management of Type 2 Diabetes in Adults: 2020 Update." Canadian Journal of Diabetes 44, no. 7 (October 1, 2020): 575–91. https://doi.org/10.1016/j.jcjd.2020.08.001.

# Although Recommended, There are Long Delays Before Insulin is Initiated

Studies show that insulin initiation is delayed until after multiple oral antidiabetic drug (OAD) failures and deterioration of glycemic control well beyond recommended guidelines[1]

A recent **Canadian survey of family physicians** showed that FPs waited an average of **9.2 years** before initiating insulin in patients with T2D, at which point A1C levels were well above target, and resultant diabetes-related complications had begun to develop[2]




***~20% of patients had A1C >9% at Visit 3, about 3.9 y after initial diagnosis***

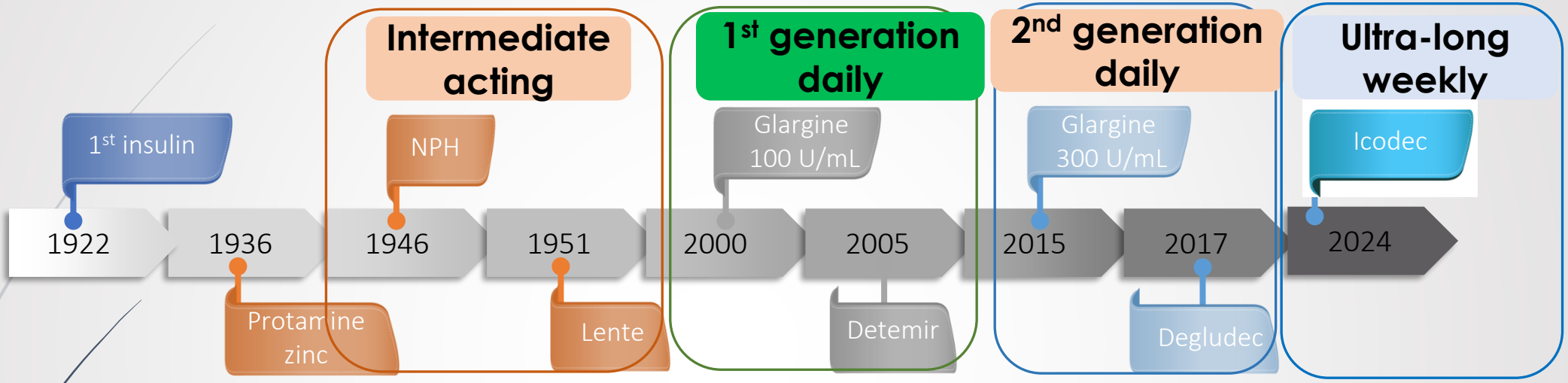
[1] https://www.sciencedirect.com/science/article/pii/S1751991816300997
[2] https://www.cfp.ca/content/cfp/56/12/e418.full.pdf

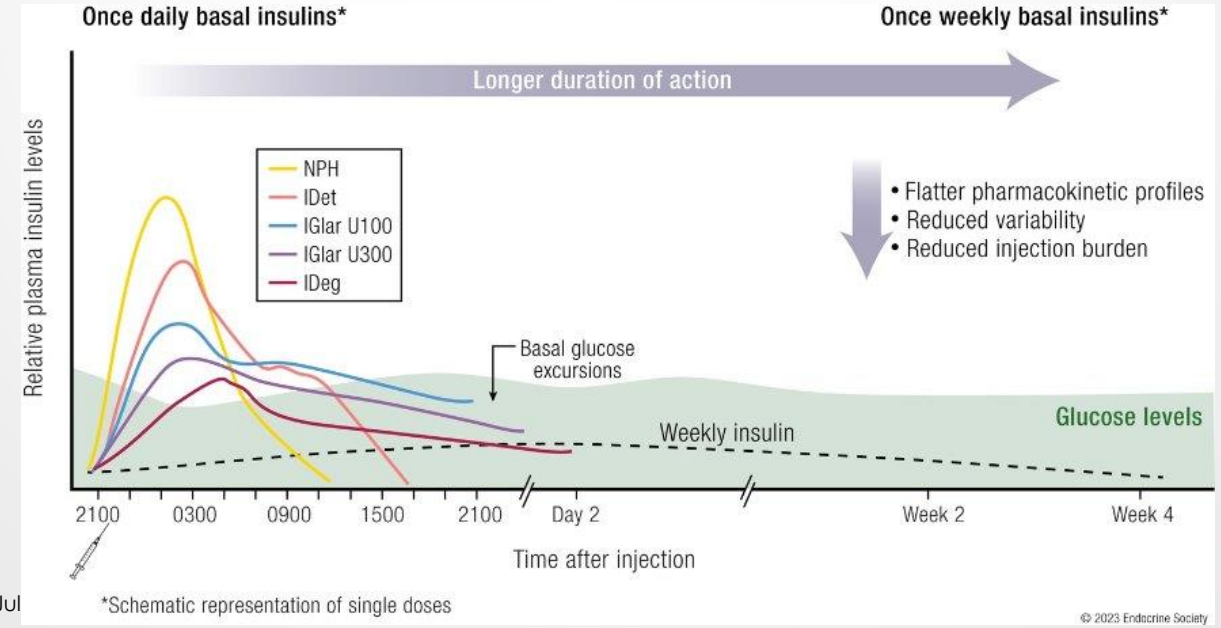
# Selecting the basal insulin

- All basal insulins are effective at reducing glucose levels
- The primary differences are:
  - Duration and peaks of action
  - Hypoglycemia risk
  - Glycemic variability

Types of Insulin. Canadian Journal of Diabetes. 2018;42:S314. doi:10.1016/j.jcjd.2017.12.006. Heise et al. Diabetes 2004;53:1614–20

# Evolution of Basal Insulins



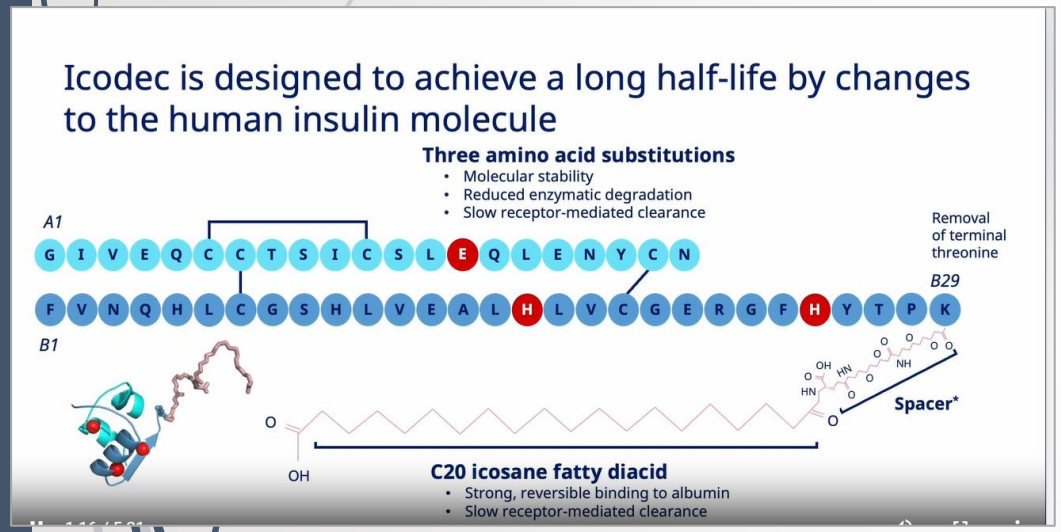

Eliaschewitz FG and Barreto T, Diabetol Metab Syndr (2016) 8:2;
Image adapted from Mathieu C, et al, Nat Rev Endocrinol. 2017 Jul

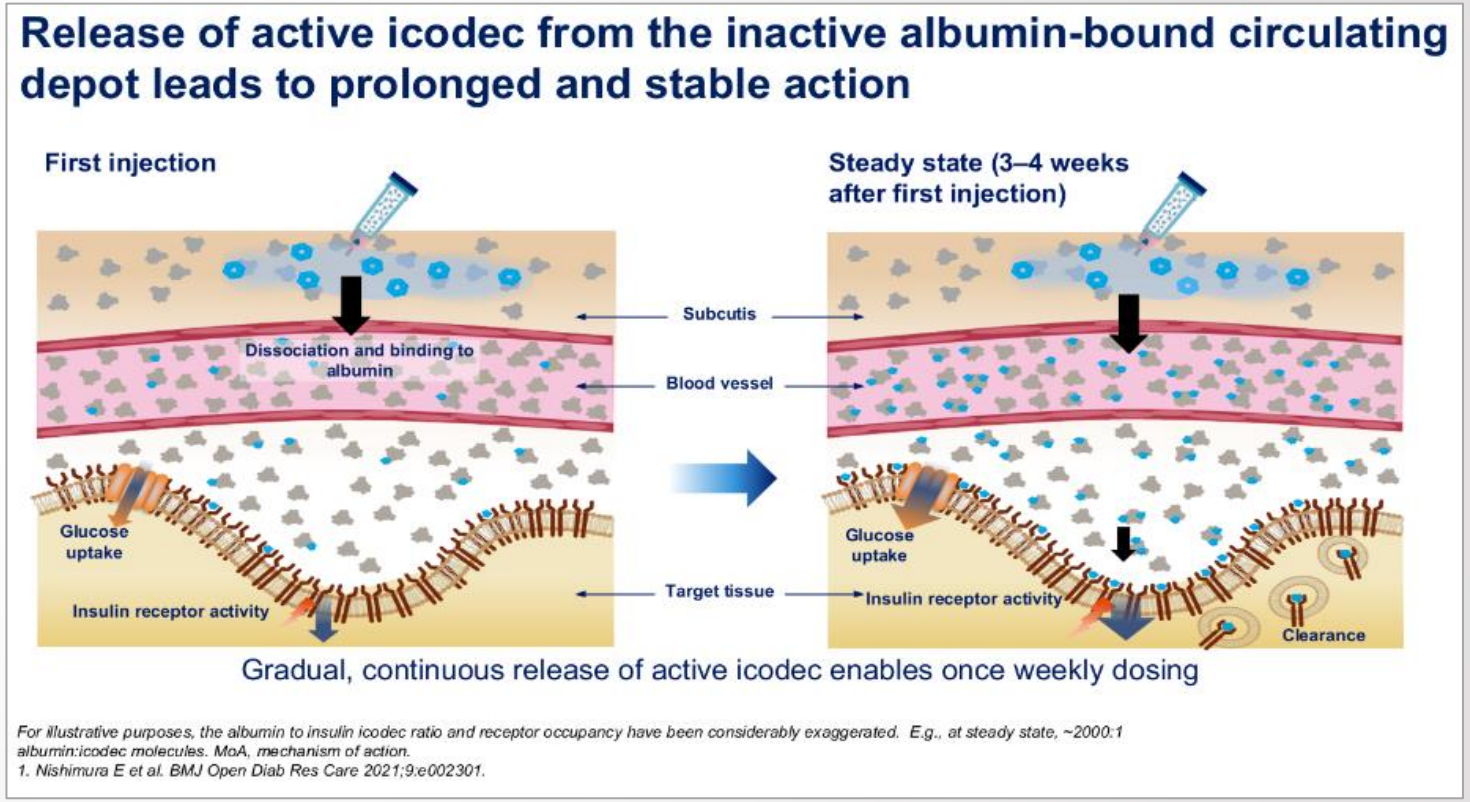
# Potential Advantages of a Basal Insulin with **Long Duration of Action**

- ✓ Improve glycemic control
- ✓ Potentially overcome clinical inertia for insulin initiation
- ✓ Reduce patient/caregiver burden
- ✓ Improve adherence to an insulin regimen
- ✓ Improve patient satisfaction and quality of life

Bue-Valleskey JM, et al. Diabetes Care. 2023 May 1;46(5):1060-1067. doi: 10.2337/dc22-2396. Nishimura et al. BMJ Open Diabetes Res Care. 2021 Aug;9(1):e002301. doi: 10.1136/bmjdrc-2021-002301.

# Insulin Icodec MoA



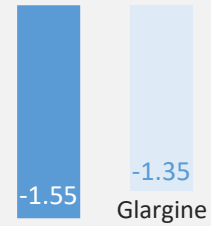



# ONWARDS Program: A1C Efficacy and Hypoglycemia in T2D

## Insulin-naïve type 2 diabetes

### ONWARDS 1
BASAL INITIATION

Trial duration (weeks): 52#
Baseline A1C (%): 8.5
A1C Non-inferiority confirmed: ✓
A1C Superiority: ✓



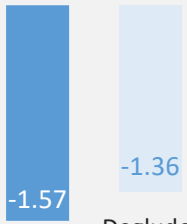

Icodec* | Glargine U100

Estimated rate of level 2 or 3 hypoglycemia (event per PYE): 0.3 | 0.16

Wk 0-52: ERR 1.64 (0.98-2.75); p=0.06

### ONWARDS 3
DOUBLE-BLIND, DOUBLE-DUMMY

Trial duration (weeks): 26
Baseline A1C (%): 8.5
A1C Non-inferiority confirmed: ✓
A1C Superiority: ✓



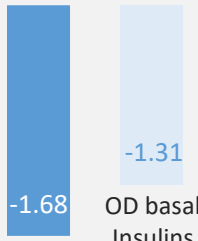

Icodec* | Degludec

Estimated rate of level 2 or 3 hypoglycemia (event per PYE): 0.31 | 0.15

Wk 0-31:ERR 1.82 (0.87-3.80); p=0.11

### ONWARDS 5
ICODEC + TITRATION APP

Trial duration (weeks): 52
Baseline A1C (%): 8.9
A1C Non-inferiority confirmed: ✓
A1C Superiority: ✓




Icodec w/ Dosing Guide App* | OD basal Insulins

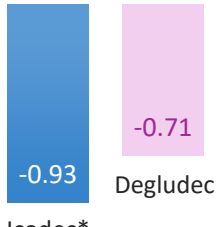
Estimated rate of level 2 or 3 hypoglycemia (event per PYE): 0.19 | 0.14

Wk 0-57:ERR 1.17 (0.73-1.86); p=0.52

## Insulin-treated type 2 diabetes

### ONWARDS 2
BASAL SWITCH

Trial duration (weeks): 26
Baseline A1C (%): 8.1
A1C Non-inferiority confirmed: ✓
A1C Superiority: ✓



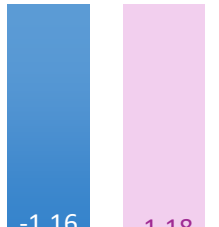

Icodec* | Degludec

Estimated rate of level 2 or 3 hypoglycemia (event per PYE): 0.73 | 0.27

Wk 0-31: ERR 1.93 (0.93-4.02); p=0.078

### ONWARDS 4
BASAL/BOLUS SWITCH

Trial duration (weeks): 26
Baseline A1C (%): 8.3
A1C Non-inferiority confirmed: ✓
A1C Superiority: ✓




Icodec | Glargine U100

Estimated rate of level 2 or 3 hypoglycemia (event per PYE): 5.64 | 5.62

Wk 0-31: ERR 0.99 (0.73-1.33); p=0.93

#Primary results are presented. Note that the treatment arms in ONWARDS 1 are 78 weeks duration and entire study is 83 weeks;
*Statistically significant superiority versus the comparator;
p-values for HbA1c comparison represent p-value for superiority; Insulin degludec or insulin glargine U100/U300.
Level 2: clinically significant hypoglycemia (blood glucose <54 mg/dL (<3 mmol/L)
Level 3: hypoglycemia with severe cognitive impairment requiring external assistance for recovery
Level 1: blood glucose ≥ 54 to <70 mg/dL (23.0to <3.9 mmol/L)

PYE, patient-year of exposure
ERR, estimated rate ratio; ETD, estimated treatment difference

Adapted from: Bajaj H, Goldenberg R. touchREVIEWS in Endocrinology. 2023,19(1):4-6.
ONWARDS 1: Rosenstock J et al. N Engl J Med 2023; doi: 10.1056/NEJMoa2303208
ONWARDS 3: Lingvay I et al. JAMA 2023; JAMA. doi: 10.1001/jama.2023.11313
ONWARDS 5: Bajaj H et al. Ann Intern Med 2023; doi:10.7326/M23-1288
ONWARDS 2: Philis-Tsimikas A, et al. Lancet Diab Endocrinol. 2023; ONWARDS 4: Mathieu C et al. Lancet. 2023.

# Initiating Basal Insulin – Four Considerations

1

## Choose the Basal Insulin

**Daily Insulins**
- NPH
- Glargine U100
- Detemir
- Degludec
- Glargine U-300

**Weekly Insulins**
- Icodec

2

## Choose Starting Dose

**Daily Insulins**
- 10 units daily
- Can be lower in older and lean adults

**Weekly Insulins**
- 70 units weekly

3

## Titration based on Fasting Glucose

**Daily insulin**
- 1 unit daily
- Degludec 2 units Q3-4 days
  or 4U once a week
- Until FPG 4.0-7.0 mmol/L

**Weekly insulin**
- 20 units weekly
- Until FPG 4.4-7.2 mmol/L

4

## Monitoring for Efficacy and Safety

**CBG:**
- ≥ 1 time per day as fasting
- Testing for hypoglycemia

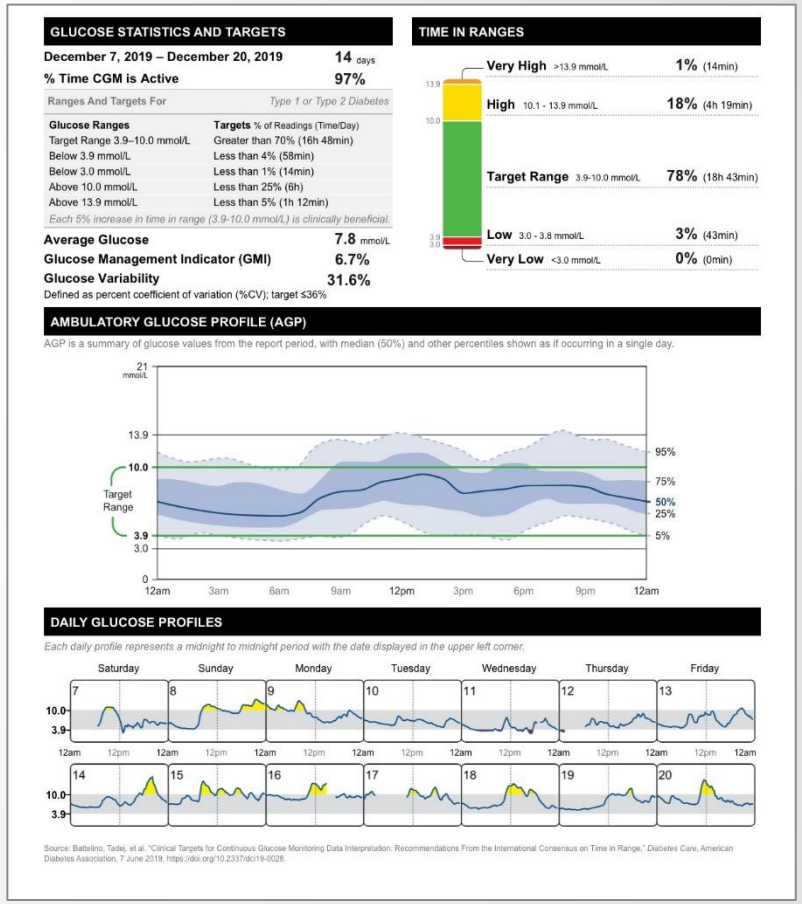
**CGM**
- Can monitor fasting and safety

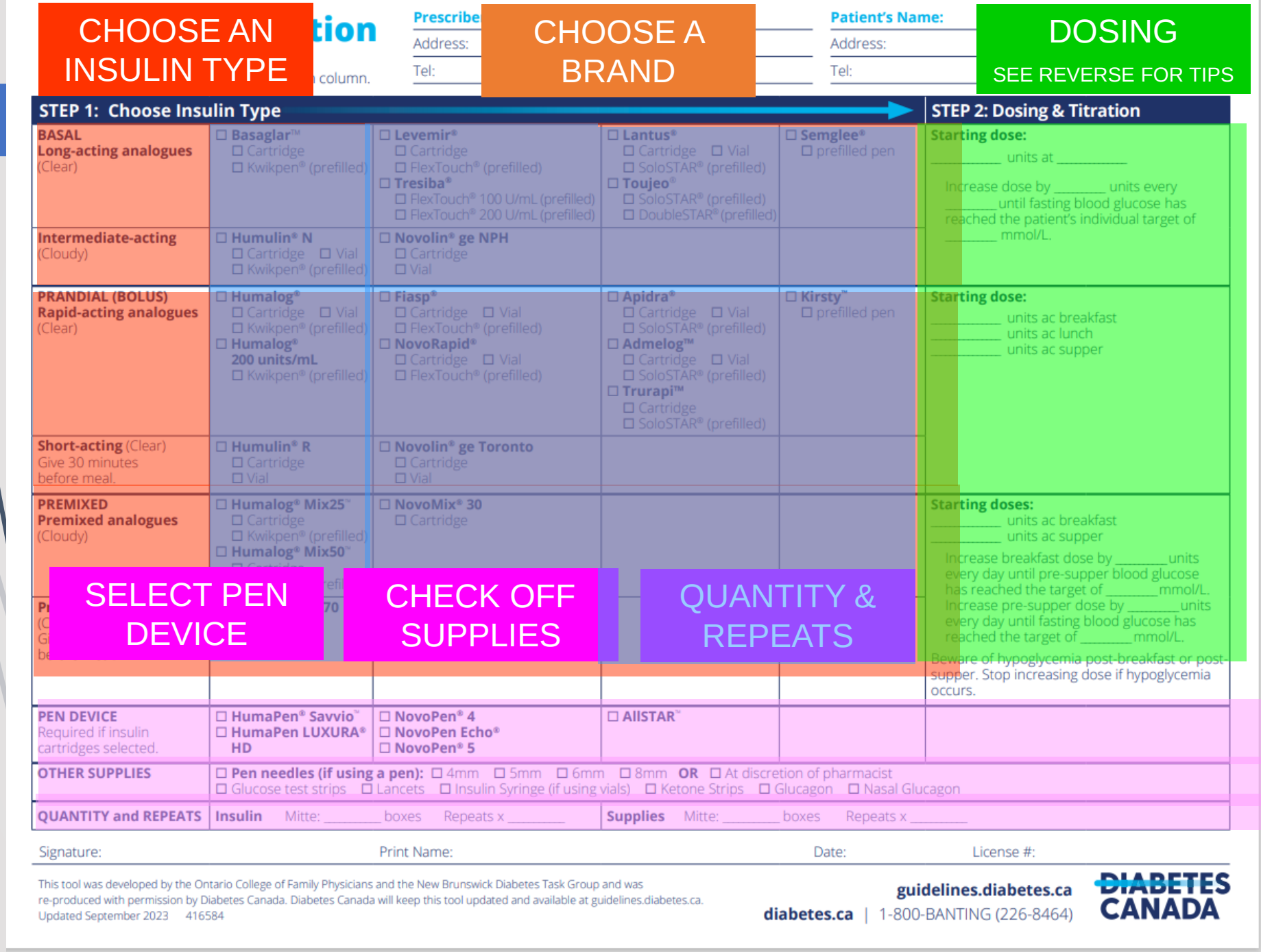
CBG, capillary blood glucose; CGM, continuous glucose monitoring

Diabetes Canada. Insulin Prescription Tool. Accessed January 24, 2021. http://guidelines.diabetes.ca/docs/resources/insulin-prescription-fillable-EN.pdf

# Key Benefits for Interstitial Fluid Monitoring

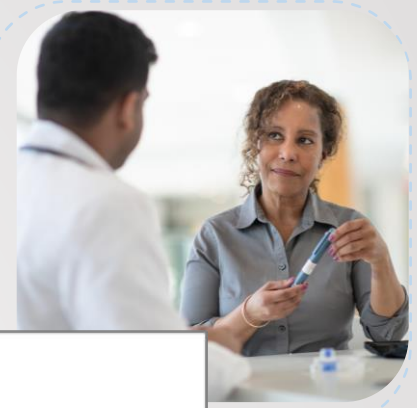
1. Captures a 24-hour picture of glycemic control to identify trends
2. Assesses glycemic variability
3. Time in range (TIR)
4. Ambulatory glucose profile (AGP)
5. Making clinical decisions with the patient
6. Lowers A1C and risk of hypoglycemia compared to SMBG technology





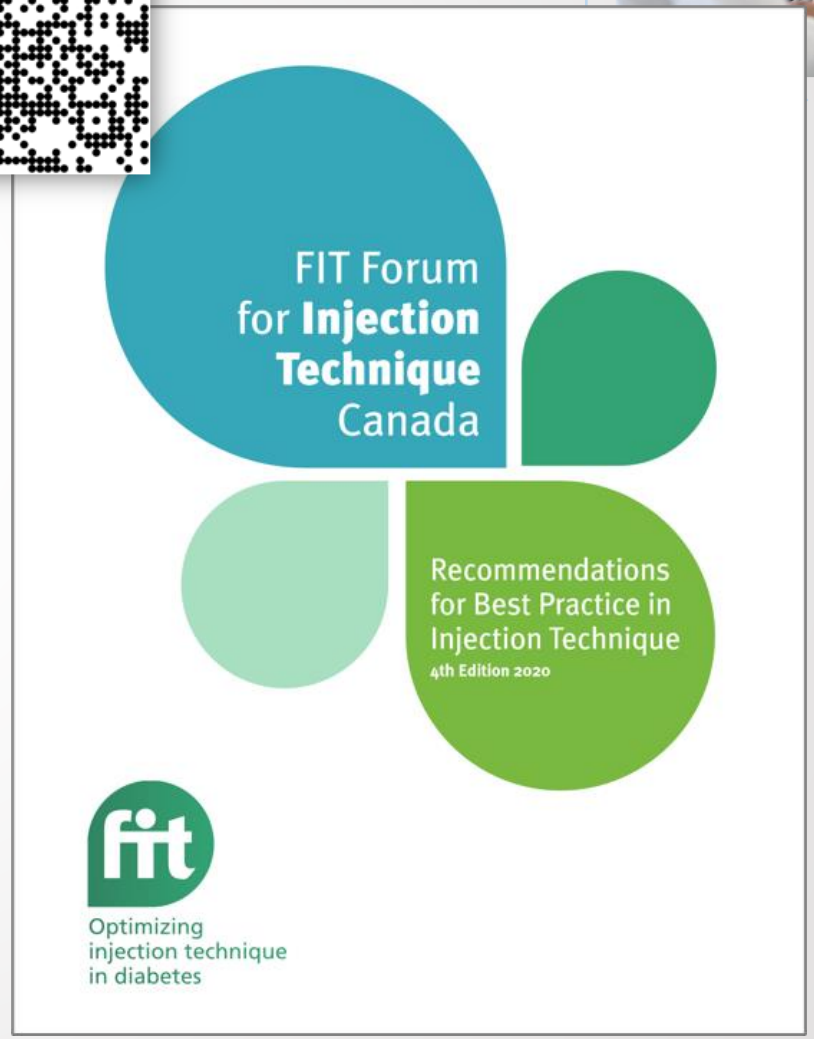

- Can act as a prescription
- The second page has initiation and titration schedule

# Proper Injection Techniques and Habits



- **The Forum for Injection Technique (FIT)**
  - Recommendations on injection technique
  - Also contains patient material and handouts you can use in practice to educate patients
  - Pharmacists and CDEs can support training

- ✓ Consistently administer into the subcutaneous space
- ✓ Avoid needle sticks
- ✓ Inject with correct technique
- ✓ Injection timing
- ✓ Use smallest needle size
- ✓ Rotate injection sites
- ✓ Do not reuse needles

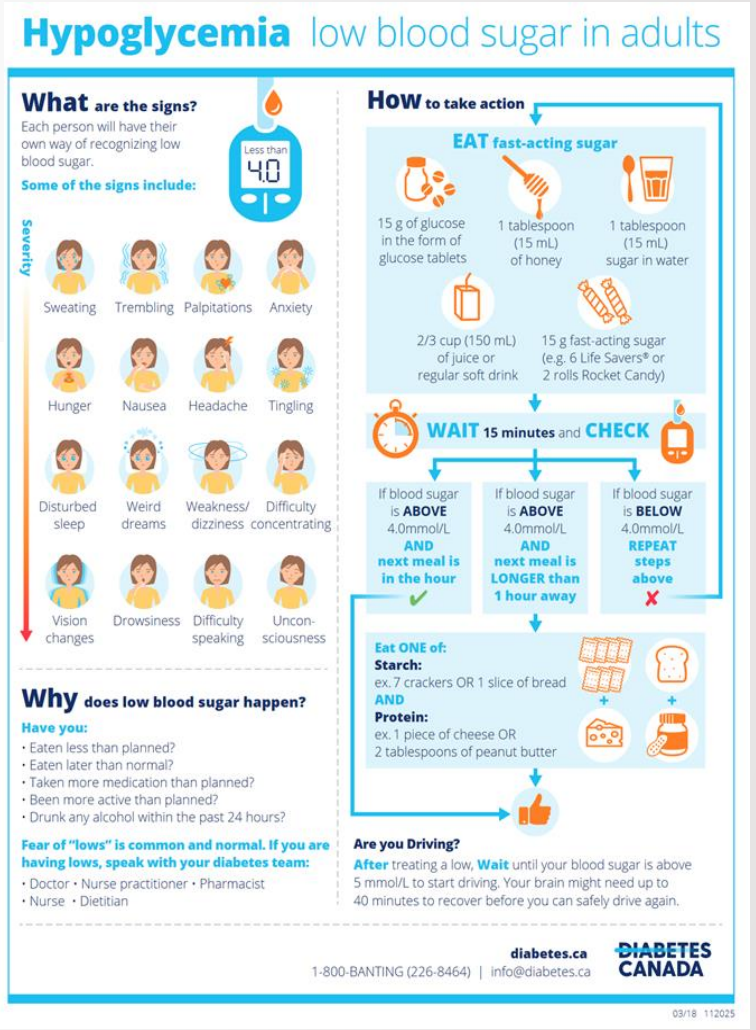



Mehta R, et al. Ann Med. 2021 Dec;53(1):998-1009. doi: 10.1080/07853890.2021.1925148. FIT Forum for Injection Technique Canada. Available at: https://fit4diabetes.com/wp-content/uploads/2023/08/FIT-Pocket-Guide_EN-2022.pdf

Berard L, Desrochers F, Husband A, MacNeil G, Roscoe R. FIT Canada Recommendations for Best Practice in Injection Technique - 4th Edition. Accessed Jun 9, 2023. http://www.fit4diabetes.com/canada-english/

# Patient Education


https://diabetes.ca/DiabetesCanadaWebsite/media/Managing-My-Diabetes/Tools%20and%20Resources/drive-safe-with-diabetes.pdf?ext=.pdf




https://www.diabetes.ca/DiabetesCanadaWebsite/media/Managing-My-Diabetes/Tools%20and%20Resources/hypoglycemia-low-blood-sugar-in-adults.pdf?ext=.pdf

# Take home messages

- Treat early to achieve target.
- Recognizing the shift to selecting pharmacotherapies that have proven organ protection and not just glucose lowering
- Considering combination drugs to decrease pill burden
- Basal insulin is an effective therapy for patients with type 2 DM. Key considerations are
  - longer duration of action,
  - lower hypoglycemia and
  - lower variability.

  Second generation basal insulin ( and Icodec) are preferred over NPH and first generation basal analogues
- Consider use of technology such CGM for optimizing patient care and promoting patient self management


QUESTIONS

# EMR searches for Respiratory Syncytial Virus (RSV) Immunizations

**EMR searches** have been developed by eHealth Centre of Excellence. in partnership with Ontario Health, to help primary care clinicians more efficiently identify patients who would benefit from RSV immunizations.

PS SUITE EMR

**TELUS PS Suite:**

1. Download the package: Click here
2. Unzip the .zip file to your Desktop
3. Import the search file (.stx file) into PS Suite

ACCURO® Electronic Medical Records

**Accuro QHR:**

1. **Search name:** ECE RSV Searches V1
2. **Author:** eHealth Centre of Excellence
3. **Date:** October 8, 2024

OSCAR PRO | Part of the WELL EMR Group

**OSCAR Pro:**

1. Download the package: Click here
2. Import the search file (.xml file) into OSCAR Pro

RSV - eHealth Centre of Excellence

# OCFP supports for Mental Health, Addictions and Chronic Pain

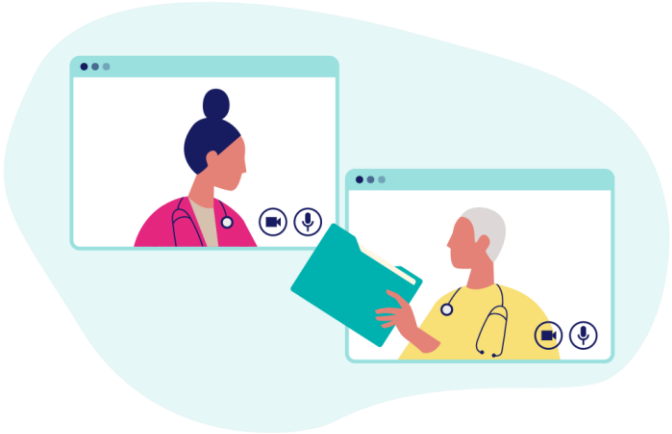
Mental health, addictions and chronic pain are challenging conditions. Find information to support the care you give patients – in a way that also considers your wellbeing.

## Community of Practice

Join upcoming sessions:

Approaches to caring for children's mental health (November 27th )

Strategies to help family doctors transition from practice (December 11th)



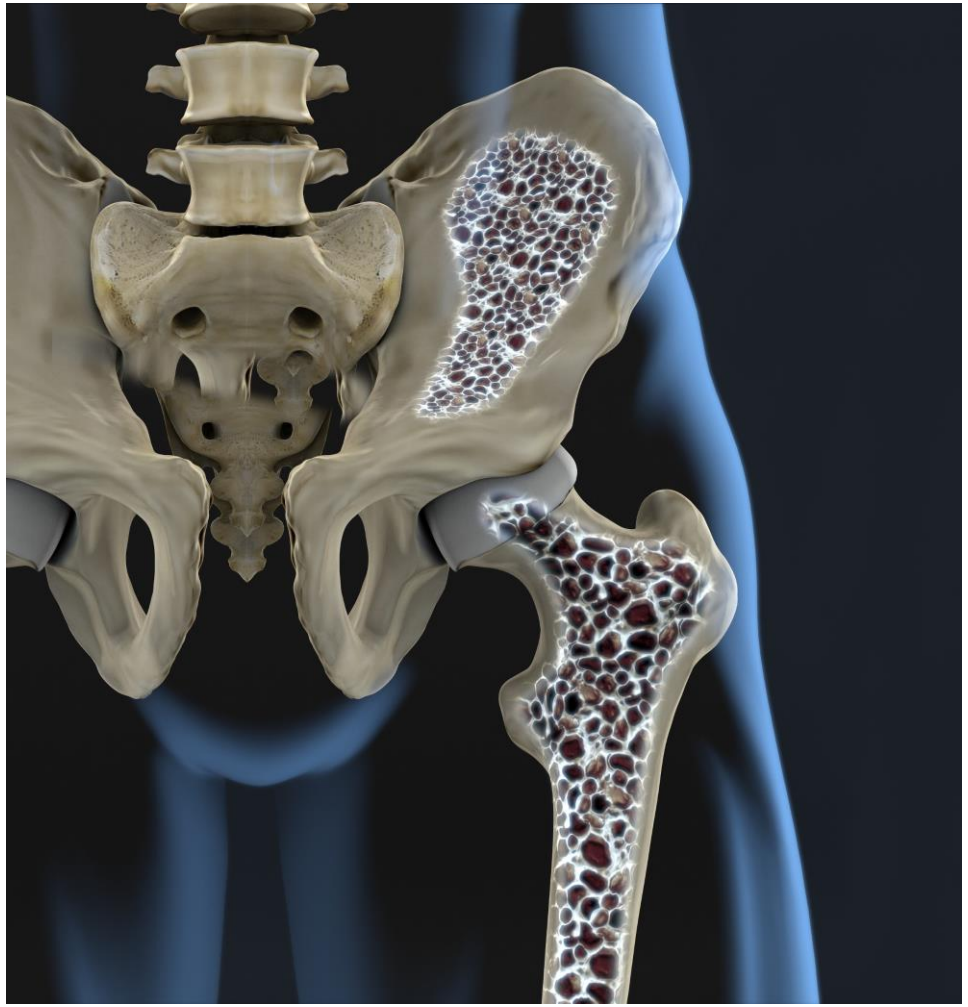
## Peer Connect Mentorship

Receive tailored support to skillfully respond to mental health issues, address substance use disorders, and chronic pain challenges in your practice.

Join

NEW!

# Osteoporosis and Fracture Prevention Workshop



Scan to learn more

December 4, 2024
1 p.m. – 4 p.m.

**Registration now open**

$195 + HST

**This is a three-credit-per-hour Mainpro+ certified program**

# RECENT SESSIONS

| | | |
|---|---|---|
| June 21 | **Infectious Disease Updates, Managing Alcohol Use & Practical Tips for a Restful Summer** | Dr. Daniel Warshafsky<br>Dr. Jennifer Wyman<br>Dr. Joan Chan |
| July 26 | **Infectious Disease: Circulating Seasonal Illnesses & Important Vaccine Updates** | Dr. Daniel Warshafsky<br>Dr. Zain Chagla |
| September 6 | **Preparing for Fall & Practice Management** | Dr. Daniel Warshafsky<br>Dr. Darrell Tan<br>Dr. Chase McMurren |
| September 20 | **Managing Respiratory Illness in Kids & COPD** | Dr. Ronald Grossman<br>Dr. Tasha Stoltz |
| October 18 | **Infectious Disease & OBSP Updates** | Dr. Allison McGeer<br>Dr. Jonathan Isenberg |

**Previous webinars & related resources:**
**https://www.dfcm.utoronto.ca/covid-19-community-practice/past-sessions**

# UPCOMING SESSIONS

| Month | Date |
|---|---|
| **December 2024** | December 6 |
| **January 2025** | January 17 |
| **February 2025** | February 7<br>February 21 |

## SAVE THE DATE

Registration link will be emailed to you closer to the date

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# Questions?

Webinar recording and curated Q&A will be posted soon
https://www.dfcm.utoronto.ca/covid-19-community-practice/past-sessions

Our next Community of Practice: Dec 6, 2024

*Contact us: ocfpcme@ocfp.on.ca*

*Visit*: https://www.ontariofamilyphysicians.ca/tools-resources/covid-19-resources

The COVID-19 Community of Practice for Ontario Family Physicians is a one-credit-per-hour Group Learning program that has been certified for up to a total of 32 credits..

**Post session survey will be emailed to you. Mainpro+ credits will be entered for you with the information you provided during registration.**

**Please note access to the Cert+ platform will be temporarily unavailable starting November 13, 2024 due to changes to the Mainpro+ program and Cert+ platform. We will be unable to submit credits on your behalf until after December 16. Similarly, you will be unable to submit your credits manually until after this date.**

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