INDIGENOUS SERVICES CANADA

COVID-19 and Chronic Disease

CHN Orientation

FNIHB Ontario Region

April 17, 2020

Indigenous Services Canada | Services aux Autochtones Canada

Canada

Learning Objectives

- Review and discuss what is known and not known regarding chronic diseases and current COVID-19 Pandemic
- Discuss key messages/guidance from chronic disease organizations
- Explore role in supporting those at risk of or living with chronic disease(s) – healthy behaviors and wellness

COVID-19 & Chronic Disease – Data from China* & Italy*

Characteristic	Lombardy, Italy[1] ICU admits (1591 pts)	Wuhan, China[2] Hospitalizations (140 pts)	Wuhan, China[3] Deaths (168 pts)
Median age	63 yrs	57 yrs	70 yrs
Gender	82% male	Even split	75% male
≥1 Comorbidity	**68%**	**64%**	**74%**
HTN	**49%**	**30%**	**50%**
CVD	21%	5%	18.5%
DM	17%	12%	25%
Hyperlipidemia	18%	5%	na
Chronic Lung	4%	1.4%	9%

**Keep in mind these are all retrospective observational or case studies*

1. JAMA. doi:10.1001/jama.2020.5394 Published online April 6, 2020
2. https://www.ncbi.nlm.nih.gov/pubmed/32077115
3. https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2764293

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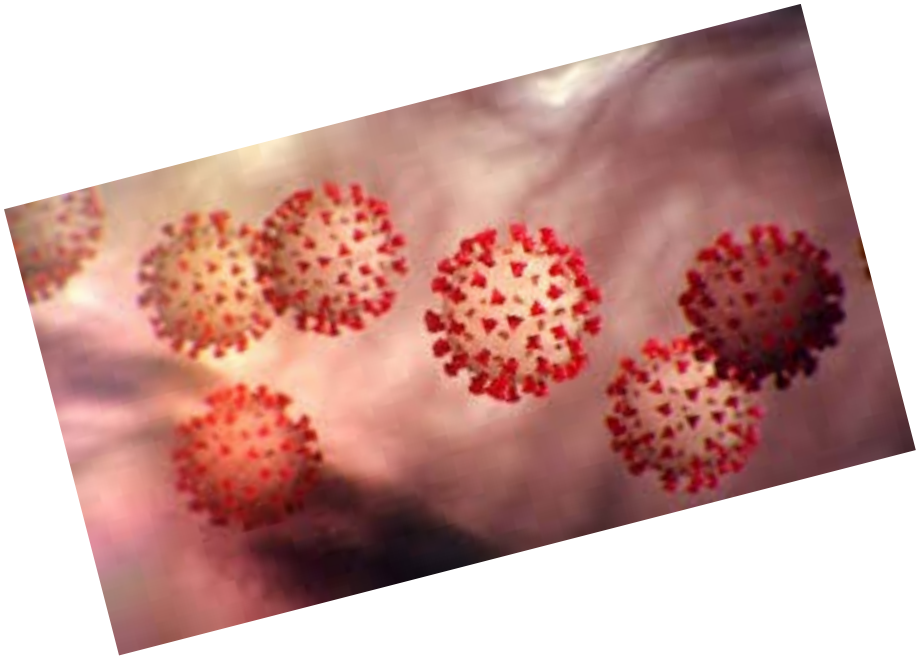
What do we Mean by Higher Risk

- Infection susceptibility versus illness severity

- Question: Are those with chronic disease(s) more at risk of getting COVID-19?
- Question: Are those with chronic disease(s) more at risk of hospitalization, poorer outcomes and mortality if infected with COVID-19?
- What does risk mean for First Nations in Canada?
- Especially considering higher burden of chronic diseases, and significance of social determinants of health (SDOH)??

COVID-19 & Chronic Diseases – What are the Considerations



- Asthma & COPD
- CKD – ESRD
- Hypertension & CVD
- Diabetes

Asthma & COPD

- Review action plan and ensure up-to-date.
- Use action plan if condition changes/warrants activation
- Nebulizer use considered high-risk for spread of COVID-19. Consider switch use to inhaler (MDI) with spacer
- Long term sequelae from COVID-19 infection?
  - Appears to not be an issue for mild-moderate illness
  - For more severe disease manifestation (requiring intubation), it is possible, but not sure yet

CKD - ESRD

- Paucity of information about AKI and COVID-19 (5-15% of SARS and MERS developed AKI, with an associated high mortality rate of 60-90%). Early reports appear to show lower incidence (3-9%) with COVID-19. Some findings in small group:
  - Gross albuminuria
  - Proteinuria
  - Elevated BUN
  - Hematuria
  - Increased serum Creatinine
  - Signs of inflammation and edema of kidneys (CT scan)
- ESRD (those requiring dialysis) likely higher susceptibility for acquiring COVID-19 due to compromised immune status.
- Nature of disease state makes people with ESRD more frail than those with other chronic conditions; and often have comorbidities, of greatest concern being CVD

The Novel Coronavirus 2019 Epidemic and Kidneys
https://doi.org/10.1016/j.kint.2020.03.001

Hypertension & CVD

- Hypertension appears to be common in those hospitalized with COVID-19
- Considering how prevalent HTN is in general population, and increases with age, not surprising
- Those with CVD at risk of poorer outcomes and mortality
- Still a lot not understood.
- Concerns about medications for BP, heart and renal protection
  - ACE inhibitors
  - ARBs

Impact of COVID-19 on those with pre-existing cardiovascular disease

- Pre-existing cardiovascular disease is common in COVID-19 patients. Hypertension is the most common cardiovascular comorbidity among patients hospitalized with COVID-19.
- Prevalent underlying cardiovascular disease is associated with an increased rate of ICU admission, increased disease severity, and mortality
- Prevalent cardiovascular disease may represent a degree of immunologic dysregulation, and along with aging may lead to an increased risk of infection susceptibility and severity

https://www.ccs.ca/images/Images_2020/COVID_and_Cardiovascular_Disease_22Mar2020.pdf

Hypertension Canada's Statement on: Hypertension, ACE-Inhibitors and Angiotensin Receptor Blockers and COVID-19

Our expert network is examining reports emerging from the COVID-19 outbreak in China which provided preliminary evidence that hypertension may be associated with an increased risk of mortality in hospitalized COVID-19 patients, and growing reports that treatment with specific antihypertensive therapy, ACE inhibitors and angiotensin receptor blockers may also increase risk. Based on evidence available as of the date of this release:

• A high proportion of patients hospitalized with COVID-19 have high blood pressure (hypertension).

• However, there is no evidence that patients with hypertension or those treated with ARB or ACE inhibitor antihypertensive therapy are at higher risk of adverse outcomes from COVID19 infection.

• We endorse patients with hypertension to continue with their current blood pressure treatment.

https://hypertension.ca/wp-content/uploads/2020/03/2020-30-15-Hypertension-Canada-Statement-on-COVID-19-ACEi-ARB.pdf

Canadian Cardiovascular Society

GUIDANCE FROM THE CCS COVID-19 RAPID RESPONSE TEAM

March 20, 2020

UPDATED - COVID-19 and concerns regarding use of cardiovascular medications, including ACEi/ARB/ARNi, low-dose ASA and non-steroidal anti-inflammatory drugs (NSAIDS)

(French version to follow)

The Canadian Cardiovascular Society and the Canadian Heart Failure Society make the following recommendations:

1. Patients taking an angiotensin-converting enzyme inhibitor (ACEi), angiotensin receptor blocker (ARB) or angiotensin receptor-neprilysin inhibitor (ARNi) for heart failure or hypertension should continue taking it unless otherwise advised by their physician.

2. NEW March 20th Patients with confirmed or suspected COVID-19 infection should not stop taking an ACEi/ARB/ARNi unless there is a compelling reason to do so (such as symptomatic hypotension or shock, acute kidney injury, or hyperkalemia).

3. NEW March 20th Patients taking low-dose acetylsalicylic acid (ASA, Aspirin™) for heart disease should continue taking it unless otherwise advised by their physician. This applies to children, adolescents and adults.

4. NEW March 20th Confirmed or suspected COVID-19 infection is **not** an indication to stop low-dose ASA.

5. NEW March 20th There is no clinical evidence regarding non-steroidal anti-inflammatory drugs (NSAIDs) use in patients with or at risk of COVID-19 infection; however, patients with heart failure or hypertension should preferentially choose acetaminophen over NSAIDs for fever or pain to avoid decompensation of these cardiovascular conditions.

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https://www.ccs.ca/images/Images_2020/CCS_CHFS_Update_COVID__CV_medications_Mar20.pdf

Diabetes

- People with DM at higher risk for more severe disease and death than those without any chronic disease; however, not as high as those with CVD.
- Keep in mind though that many with DM *also* have CVD!
- Unclear what if any role glycemic control has in relation to COVID-19; however based on evidence with other infectious respiratory conditions such as pneumonia and flu:
  - Higher glycemia associated with poorer outcomes
- So, until we have definitive evidence, good glycemic control should still be strived for.
- There are reassurances that the insulin supply is stable and there is not anticipated to be a shortage. However, because of the threat of stockpiling, pharmacists will only be issuing 30-day supplies (not sure if different in North)
- Sick day management is important if PWD becomes ill. DO NOT stop insulin; in fact, many need more insulin during acute illness
- Temporary guideline issued by DC regarding GDM screening during pandemic

How should I prepare?

Gather the contact information for your doctors, clinic, pharmacy and your insurance.

Write down the names and doses of your medications.

Have enough medication for one-two weeks in case you cannot get to the pharmacy to refill your prescriptions.

Ensure you have enough device supplies as well (i.e. pump supplies, pen supplies, monitor supplies, etc.)

Have extra supplies like rubbing alcohol, hand sanitizers and soap to wash your hands.

Keep simple sugars (i.e. glucose tablets) on-hand in case you need to treat low blood sugar which may occur more frequently with illness due to changes to eating patterns.

Have glucagon available in case of a significant low blood sugar (if taking insulin or medications that can cause low blood sugar).

Have ketone strips available in case of illness (if you have type 1 diabetes).

Should I stop taking certain blood pressure medications because I've heard that these drugs may affect my risk of COVID-19 infection?

Blood pressure control is an essential part of managing diabetes. In addition, certain blood pressure lowering medications [a class of medications known as angiotensin converting enzyme inhibitors (ACE-i) or Angiotensin Receptor Blockers (ARBs)] are often recommended for people living with diabetes to protect them from kidney and heart-related complications, even in the absence of high blood pressure.

At the present time, there is no confirmed scientific link between these blood pressure medications and the risk of COVID-19 infection or its complications.

Please do NOT stop or change any of your medications without discussing with your healthcare team.

Sick Day Management

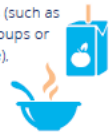
Stay Safe When You Have Diabetes and Are Sick or at Risk of Dehydration

You are at risk of dehydration if you have any of any of the following:

- Vomiting
- Diarrhea
- Fever
- Excessive exposure to heat and/or humidity without drinking enough

DRINK plenty of fluids, with minimal sugar (unless you have been told to limit fluids)

- Consider electrolyte replacement solutions (such as Gastrolyte®, Hydralyte®, Pedialyte®), clear soups or broths, water, diet soda (e.g. diet ginger-ale), watered down apple juice
- Limit caffeine (from coffee, tea and soda drinks) which makes dehydration worse



PREVENT low blood sugar (hypoglycemia).
If you cannot eat your usual foods, try any of the following foods, each containing about 15g of carbohydrates.

- 1 cup milk*
- ⅔ cup juice
- ½ cup applesauce
- ½ cup regular Jell-O
- ½ cup flavoured yogurt*
- ½ cup ice cream* or sherbet
- ⅔ cup regular soft drink (avoid caffeinated drinks)
- ¼ cup pudding or ½ cup sugar-free pudding
- 1 twin popsicle

* Consider avoiding these foods if vomiting or diarrhea

IF YOU ARE USING INSULIN, you need to check your blood sugar more often and you might need to adjust the amount of insulin you inject

IF YOU ARE EATING LESS THAN NORMAL, and the symptoms last more than 24 hours, you should TEMPORARILY STOP:

Certain Diabetes Pills

- Secretagogues: e.g. Gliclazide (Diamicron®), Glyburide (Diabeta®), Repaglinide (GlucoNorm®)

If the symptoms last more than 24 hours and you continue to be dehydrated, or at risk of dehydration, you should also TEMPORARILY STOP:

Certain Blood Pressure / Heart Medications

- ACE Inhibitors: e.g. Enalapril (Vasotec®), Fosinopril (Monopril™), Lisinopril (Prinivil®/Zestril®), Perindopril (Coversyl®), Quinapril (Accupril™), Ramipril (Altace®), Trandolapril (Mavik®)
- ARBs: e.g. Candesartan (Atacand®), Eprosartan (Teveten®), Irbesartan (Avapro®), Losartan (Cozaar®), Olmesartan (Olmetec®), Telmisartan (Micardis®), Valsartan (Diovan®)

All Water Pills

- e.g. Chlorthalidone (Hygroton), Furosemide (Lasix®), Hydrochlorothiazide, Indapamide (Lozide®), Metolazone (Zaroxolyn®), Spironolactone (Aldactone®)

Certain Diabetes Pills

- Metformin (Glucophage® or Glumetza®)
- SGLT2 Inhibitors: e.g. Canagliflozin (Invokana®), Dapagliflozin (Forxiga®), Empagliflozin (Jardiance™)

Anti-Inflammatory Pain Medications

- e.g. Ibuprofen (Advil®/Motrin®), Celecoxib (Celebrex®), Diclofenac (Voltaren®), Ketorolac (Toradol®), Napoxen (Aleve®/Naprosyn®)

Note: The list above does not include the names of medications that come in combination (2 medications in one tablet).

Ask your pharmacist to tell you:

The medications I need to TEMPORARILY STOP are:
When I am eating less than normal:

When I am dehydrated:

This personalized list last reviewed (date):

Note: RESTART these medications when you are eating and drinking normally.

Call your health-care team (Pharmacist, Doctor, Nurse Practitioner, Nurse, Dietitian) and/or go the Emergency Department

- If you cannot drink enough fluids
- If you don't know which medications to stop
- If you don't know how to adjust your insulin
- If you have been told to check your ketones and they are moderate to high
- If you have any of the following that are not getting better: vomiting, diarrhea, stomach pain, frequent urination, extreme thirst, weakness, difficulty breathing or fever

diabetes.ca
1-800-BANTING (226-8464)
info@diabetes.ca

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Keeping patients safe when they are at risk of dehydration (vomiting/diarrhea)

Hold SADMANS meds. **Restart** once able to eat/drink normally.

- **S** sulfonylureas, other secretagogues
- **A** ACE-inhibitors
- **D** diuretics, direct renin inhibitors
- **M** metformin
- **A** angiotensin receptor blockers
- **N** non-steroidal anti-inflammatory drugs
- **S** SGLT2 inhibitors

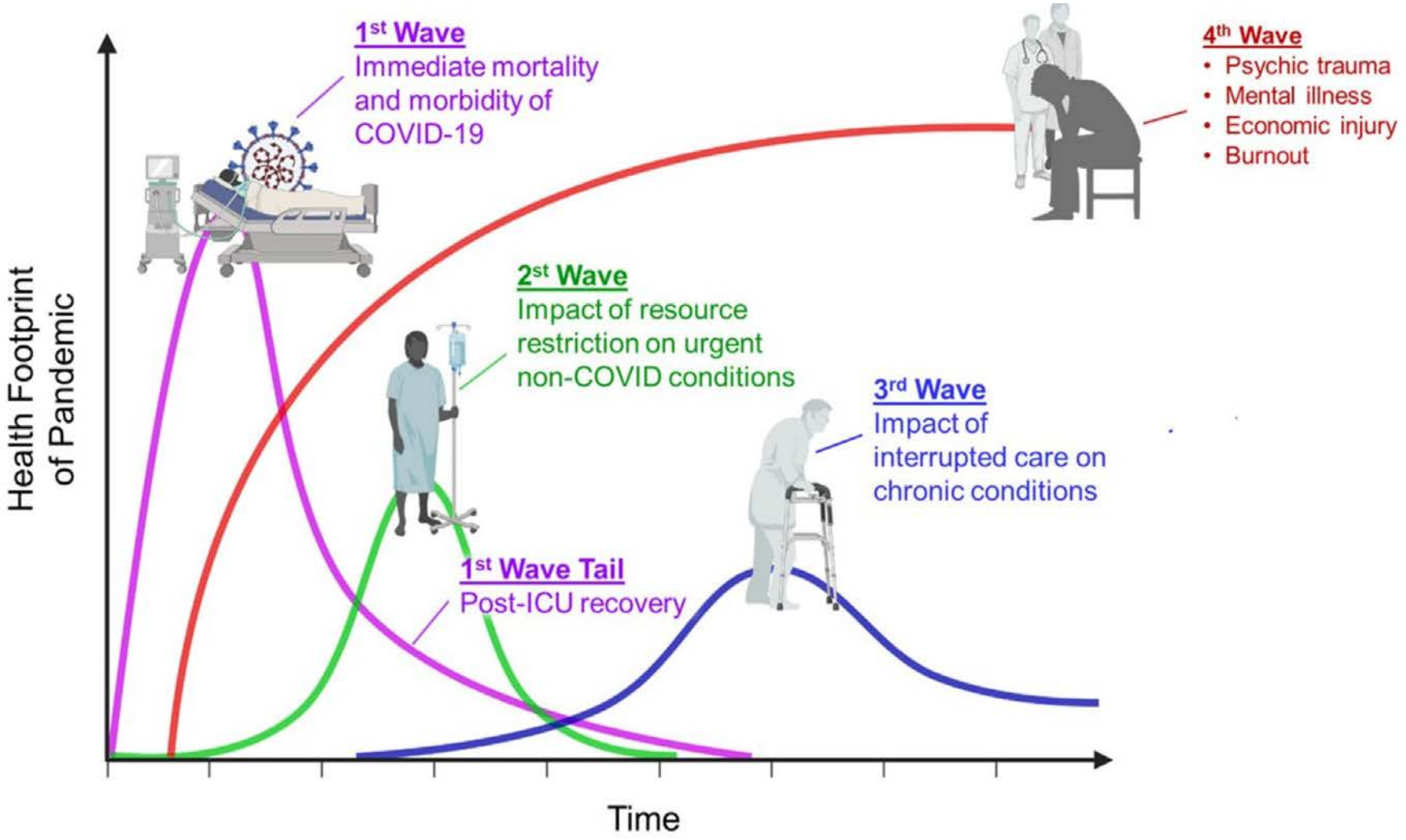
Common Key Messages for Those with Chronic Disease

- Having a chronic disease or comorbidities does not increase risk of becoming infected with COVID-19, but it does increase the risk for hospitalization and poorer outcomes, including death
- Follow public health recommendations as per general public
- Have an adequate supply (30-days) of medications and other supplies on hand, but do not stockpile/hoard.
- Continue taking medications as prescribed.
- Continue with healthy behaviour interventions
- For those with an action plan for exacerbations or guidelines for sick day management, review those plans and follow them if condition warrants
- Do not delay seeking care if encounter a health crisis/emergency

Resources

- Asthma Canada and the Lung Association of Canada
- Canadian Society of Nephrology and the Ontario Renal Network
- Hypertension Canada
- Canadian Cardiovascular Society
- Diabetes Canada
- Public Health Ontario
- Public Health Agency of Canada
- Covidcriticalcare.ca

Chronic Disease and Pandemic Wave(s)



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Supporting Those At Risk for or Living With Chronic Disease

Indigenous Services Canada
Services aux Autochtones Canada

Canada

Healthy Eating

What constitutes healthy eating?

What is a healthy diet?

What do we tell our clients/the community?

Healthy Eating

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Healthy Eating - Diabetes

- Plate Method

- Handy Portion Guide

Handy portion guide

Your hands can be very useful in estimating appropriate portions. When planning a meal, use the following portion sizes as a guide:

FRUITS*/GRAINS & STARCHES*:
Choose an amount the size of your fist for each of Grains & Starches, and Fruit.

VEGETABLES*:
Choose as much as you can hold in both hands.

MEAT & ALTERNATIVES*:
Choose an amount up to the size of the palm of your hand and the thickness of your little finger.

FATS*:
Limit fat to an amount the size of the tip of your thumb.

MILK & ALTERNATIVES*: Drink up to 250 mL (8 oz) of low-fat milk with a meal.

** Food group names taken from Beyond the Basics: Meal Planning for Healthy Eating. Diabetes Prevention and Management © Canadian Diabetes Association, 2005. Please refer to this resource for more details on meal planning.*

Physical Activity

- Canadian 24-hour Movement Guidelines for:
  - the Early Years (0-4yrs)
  - Children and Youth (5-17yrs)
- Canadian Physical Activity Guidelines
  - For Adults 18-64yrs
  - For Older Adults 65+yrs
- Available at: www.csep.ca/guidelines

Canadian Physical Activity Guidelines For Adults (18-64 years)

- Accumulate at least 150 minutes of **moderate to vigorous-intensity aerobic** physical activity per week; in bouts of 10 minutes or more
- Beneficial to add **muscle and bone strengthening activities** using major muscle groups at least 2 days/week
- More physical activity provides greater health benefits
- For older adults (65+) all of above, plus:
  - Those with poor mobility should perform physical activities to enhance balance and prevent falls

Stress and Mental Wellness

- Living with chronic disease can be challenging at the best of times for some people
- Additional stress, anxiety, worry related to COVID-19 pandemic
- Open the dialogue about mental wellness

Substance Use - Alcohol

- Low-Risk Alcohol Drinking Guidelines (Canadian Centre on Substance Use & Addiction)
  - Available at: www.ccsa.ca
- Drink no more than:
  - 10 drinks/week for women, with no more than 2 drinks/day most days
  - 15 drinks/week for men, with no more than 3 drinks/day most days
  - A Drink = Beer/Cider/Cooler-341mL/12oz;

    Wine-142mL/5oz; Distilled alchohol-43mL/1.5oz (not including mix)

Substance Use - Tobacco

- For many FNs, tobacco is a sacred plant with spiritual and medicinal purposes
- In terms of risk, we are referring to 'non-traditional' or commercial tobacco consumption
- CCO – Indigenous Tobacco Program
  - Available at: www.tobaccowise.com
- RNAO BPG – "*Integrating Tobacco Interventions into Daily Practice*"
  - Available at: www.rnao.ca/bpg

RNAO BPG – Key Recommendations

- Use brief interventions to screen all clients for all forms of tobacco use and initiate intervention as appropriate
- Develop a person-centered tobacco intervention plan with the client
- Provide clients with, or refer them to intensive interventions and counseling on the use of pharmacotherapy, if they use tobacco and express an interest in reducing or quitting
- Treat or refer all pregnant or postpartum women at every encounter for intensive behavioural counseling for tobacco harm reduction, cessation and relapse prevention, in conjunction with nicotine replacement therapy, on a case by case basis

CHRONIC DISEASE MANAGEMENT

Self Management Support

Living with Chronic Disease

- Each day, individuals are faced with numerous decisions related to their chronic disease
- Can be challenging
- Healthcare providers have little time with patients…how can we best utilise that time to maximize the benefit(s)??

Seven Essential Components of Self-Management Support

1. Giving information
2. Teaching disease-specific skills
3. Negotiating healthy behaviour change
4. Providing training in problem-solving skills
5. Assisting with the emotional impact of having a chronic disease
6. Providing regular and sustained follow up
7. Encouraging active participation

1. Giving Information

- Patients need to have information about their condition
- The amount and level of information varies
  - Basic/survival
  - Intermediate
  - Advanced
- Age, literacy level, and culturally appropriate

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2. Teaching Disease-Specific Skills

- Many conditions may have specific skills that clients need for disease management
- Some examples:
  - Self-monitoring of blood sugar for people with diabetes
  - Proper inhaler use for respiratory conditions
  - Range of motion or other routine exercises for those with arthritis

3. Negotiating Healthy Behaviour Change

- Engaging with patient on behaviour change
  - –Setting priorities/deciding what is important
- Determination based on dialogue between patient and healthcare provider

4. Providing Training in Problem-Solving Skills

- Anticipate barriers/challenges
- Strategies to overcome challenges
- Linkages to supports

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5. Assisting with the Emotional Impact of Having a Chronic Disease

- Establishing rapport
- Assess and explore with patient how they are feeling about their chronic disease
- May be experiencing a variety of emotions
- Express empathy
- Address issue(s)
- Peer support

6. Providing Regular & Sustained Follow up

- Clients require scheduled, proactive visits with healthcare team
- Registry/database is helpful
- Some form of patient recall, reminders

7. Encouraging Active Participation

- Participatory relationship between healthcare provider and patient
- Collaborative decision making
- Patient empowerment