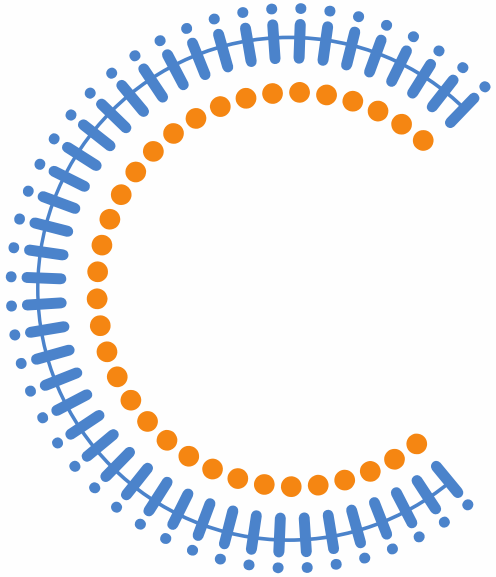

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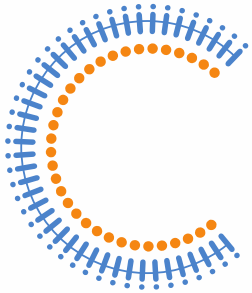

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# The Complex Patient Case Module 4:

# Management of Elderly Patients with Multiple Morbidities

# Case Development & Disclosures

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# Faculty/Presenter Disclosure

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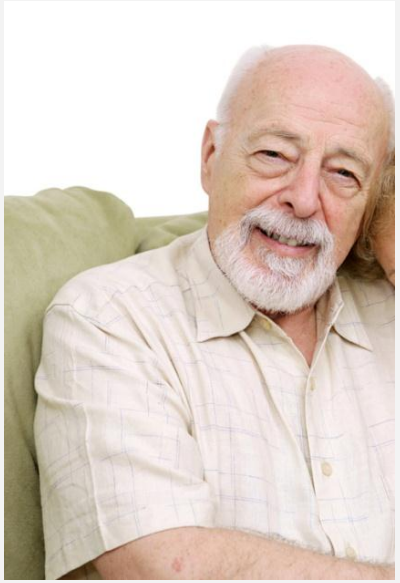
# Mitigating Potential Bias

- Altering control over content:  information and recommendations given in the program are evidence based and sourced from multiple clinical practice guidelines/scientific professional associations.
- Program material is peer reviewed by a committee with members representative of the target audience.

# Case 4

Management of Elderly Patients with Multiple Morbidities



**Martin**

An 86 year old patient comes into your office to renew his blood pressure medication.

# Outline of Today's Activity

- Introduction
- Case Presentation
- Key Learnings & Questions
- Wrap Up

# Statement of Need

*"My greatest challenge as a health care professional in the management of patients with* ***multiple morbidities*** *is*

*"*

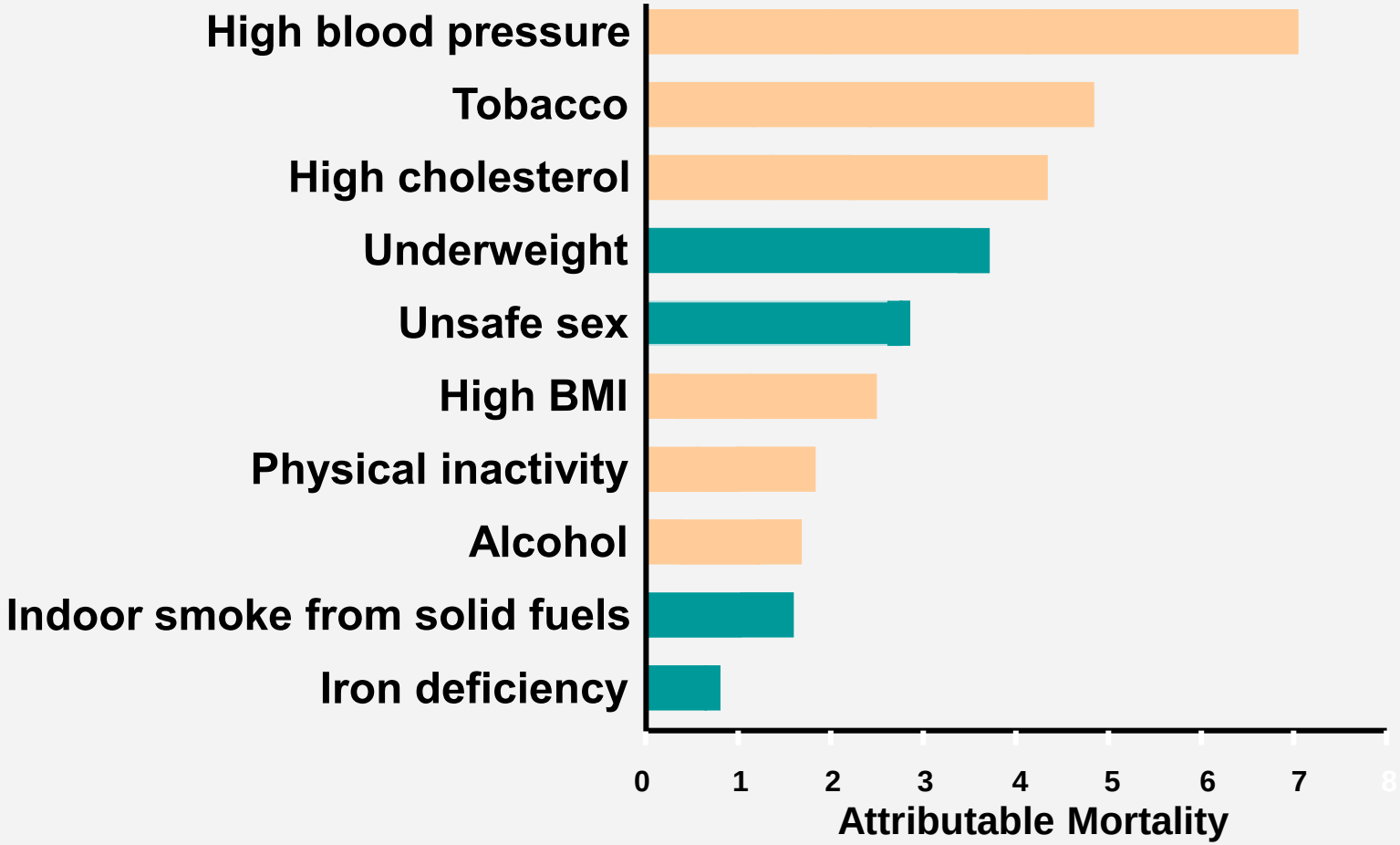
_____

# Learning Objectives

Upon completion of this activity, participants will be able to:

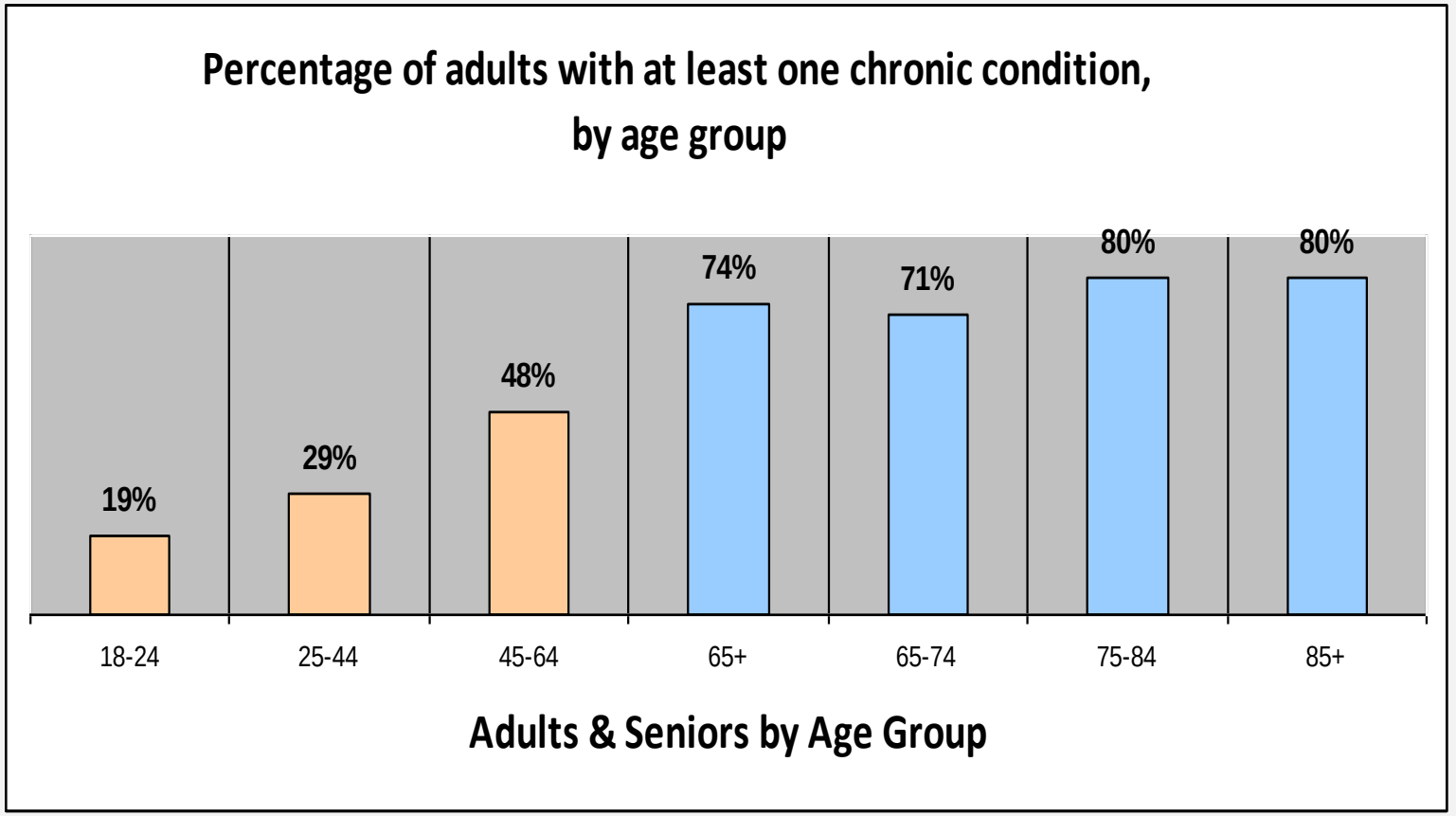
1. Identify recommendations for multiple morbidities from the C-CHANGE guidelines
2. Implement recommendations for multiple morbidities in a single patient
3. Use the C-CHANGE recommendations to help keep the elderly living at home longer and healthier

# Proportion of Deaths Attributable to Leading Risk Factors Worldwide (2000)




WHO 2000 Report. *Lancet.* 2002;360:1347-1360.

# Chronic Conditions More than Age Drive Health System Use in Canadian Seniors




Source: Canadian Survey of Experiences with Primary Health Care, 2008, Statistics Canada, Canadian Institute for Health Information.

# History of Present Illness

- Martin is an 86 year old patient with a history of previous stroke, hypertension, atrial fibrillation and coronary artery disease
- He comes to your office to renew his medications
- He is active, walking 15 minutes, 4 days a week
- He lives alone with support from the Home and Community Care nurse
- He has meals delivered to him through a diet delivery program most nights; otherwise eats at restaurants

# Past History

- Left parietal **stroke**
- Mild dementia
- Benign prostatic hypertrophy
- Hypertension
- Cholesystectomy
- Gastroesophageal reflux disease
- Atrial fibrillation
- Coronary artery disease, coronary artery bypass graft 1995
- Congestive heart failure
- Basal cell carinoma of the skin

# Family History

- Father
  - History of hypertension
- Mother
  - History of hypertension, mild dementia
- Sister
  - History of hypertension
  - Died of a stroke

# Current Medications

- Digoxin 0.125 mg OD
- Dabigatran 110 mg BID
- Furosemide 60 mg OD
- Rabeprazole 20 mg OD
- Tamsulosin 0.4 mg OD
- Perindopril 8 mg OD
- Rosuvastatin 10 md OD

- No known drug allergies

# Recent Medical History

- Was seen at a walk in clinic last weekend for a persistent cough
- Started on levoquin
- Is feeling a little better
- Comes to see you for follow-up
- Also wants to have his medications reviewed

# Question 1)
# What is your management plan for this patient?

# Question 1)
# What is your treatment plan for this patient?

C•CHANGE

a) Review the patient and refill his medications and counsel him to call you if his cough worsens.

b) Review the C-CHANGE recommendations for management of the patient with multiple comorbidities

**a) Review the patient and refill his medications and council him to call you if his cough worsens**

- He seems well
- On examination he has only a few crackles on inspiration
- You refill his medications after reviewing them in depth with him
- He is quite pleased and thanks you before going

## a) Refill his medications and counsel him to call you if his cough worsens

- Three nights later he calls the emergency medical services for dyspnoea
- He is taken to the hospital and found to have CHF
- He has a 14 day admission complicated by a GI bleed, C diff and delirium
- On discharge he comes back to see you again for further management advice

## b) Review the C-CHANGE recommendations for management of the patients with multiple morbidities

- You review the C-CHANGE recommendations that apply to him as follows…

# Previous Stroke

- Persons at risk of stroke and patients who have had a stroke should be assessed for vascular disease risk factors and lifestyle management issues (diet, sodium intake, exercise, weight, and alcohol intake, and use of oral contraceptives and hormone replacement therapy).
- They should receive information and counseling about possible strategies to modify their lifestyle and risk factors.
- Referrals to appropriate specialists should be made where required to provide more comprehensive assessments and structured programs to manage risk factors.

# Additional History

- Martin's son has just come back to live with him after a marital issue
- The son drinks heavily and has brought beer, pizza, potato chips, nachos and pickles into the house
- They enjoy Chinese food frequently as they used to when his son was young
- He did not want to take the levoquin and wanted your advice first

# Hypertension

- For prevention and treatment of hypertension, a dietary sodium intake of < 2000 mg per day is recommended for adults

- Antihypertensive therapy should be strongly considered if systolic blood pressure readings average 140 mm Hg or higher in the presence of macrovascular target organ damage.

# Systolic blood Pressure INtervention Trial SPRINT

- Compares < 120 vs < 140 mmHg
- NHLBI RCT
  - Age 50+
  - **SBP 130-180**
  - High CV risk (other than stroke)
    - CKD (eGFR 20 - <60)
    - 10 Year Framingham risk of 15%+
    - **Age 75+**
- Excludes: DM and **prior stroke**

# Atrial Fibrillation

- For the secondary prevention of stroke , patients with atrial fibrillation who have had a stroke/TIA should be treated with Oral Anticoagulation therapy.

# Physical Examination

- Height: 178 cm
- Weight: 75 kg (up 5 kg from last visit)
- BMI: 24 kg/m$^2$
- BP (left arm, seated):
  - 156/74 mmHg using an automated device
- Pulse: 66 irreg irreg
- Good muscle tone
- Funduscopic: Arteriolar narrowing no AV nicking
- Heart: JVP ASA + 4, no gallops, no murmurs
- Lungs: bilateral basal crackles
- Abdomen: normal
- Arteries: reduced peripheral pulses
- Leg edema: 2+ ½ way to knees
- Neuro: Gait is normal, mild hyper-reflexia bilaterally

# You send him for a CXR

- Increased pulmonary vascularity
- Kerley B lines
- Bat wing distribution
- Consistent with CHF

# Discussion Question 2)

How do you manage this patient?

# Question 2) How do you manage this patient?

a) What lifestyle counseling does he need?

b) What change of medication do you recommend?

c) What follow up do you recommend?

## A) What lifestyle counseling does Martin need?

- Sodium
- Alcohol
- Drug adherence
- Physical Activity

# Recommendations not addressed

- Patients who have had a stroke should be assessed for vascular disease risk factors and lifestyle management issues (diet, sodium intake, exercise, weight, and alcohol intake). They should receive information and counseling about possible strategies to modify their lifestyle and risk factors.

- To decrease blood pressure, consider reducing sodium intake towards 2000 mg per day (5g of salt).

# Impact of Lifestyle Therapies on Blood Pressure in Hypertensive Adults

| Intervention | Intervention | SBP/DBP |
|---|---|---|
| Reduce sodium intake | -2000 mg/day sodium<br>Hypertensive | -5.1 / -2.7 |
| Weight loss | per kg lost | -1.1 / -0.9 |
| Alcohol intake | -3.6 drinks/day | -3.9 / -2.4 |
| Aerobic exercise | 120-150 min/week | -4.9 / -3.7 |
| Dietary patterns | DASH diet<br>Hypertensive | -11.4 / -5.5 |

Padwal R et al. *CMAJ* 2005;173;(7);749-751

# B) What change of medications do you recommend?

- Digoxin 0.125 mg OD
- Dabigatran 110 mg BID
- Furosemide 60 mg OD
- Rabeprazole 20 mg OD
- Tamsulosin 0.4 mg OD
- Perindopril 8 mg OD
- Rosuvastatin 10 md OD

- No known drug allergies

# Medication Change

- Increase furosemide to 80 mg (am) and 40 mg (pm)
- Daily weight measurements
- Goal is .5 kg/day loss until he is back to baseline

# C) What follow up do you recommend?

- Call Home and Community Care nurse to follow weights, confirm medication adherence and follow up on lifestyle changes, including possible consultation with dietitian for advise on dietary sodium

# Ongoing History

- Martin is seen in clinic in one week.
- His weight is down 3 kg
- He feels much better
- His blood work is normal
- His son has stopped bringing in junk food and he has gone back to healthier food choices

# Discussion & Reflection

1. Do you need to change your current practice to implement any of these recommendations?
2. How do you engage patients and their families in therapy and manage expectations?
3. What are some other adherence strategies that were discussed or not discussed that could work for your practice?
4. Who are some agents of change who can help you implement the recs?

# Impact of SPRINT on this Case

(remembering that Martin would have been excluded from SPRINT)

- Benefits of BP lowering to < 120 with NNT of 61 for primary outcome and 90 to prevent one death (3.26 years)
- Equal impact for those > 75 years old
- But:
  - With eGFR 60+ there was more loss of GFR by 30% or more to < 60
  - More hypotension, syncope, AKI, hyponatremia, and hypokalemia

## Key Learnings:

- Antihypertensive therapy should be strongly considered if systolic blood pressure readings average 140 mm Hg or higher in the presence of macrovascular target organ damage. (< 150 systolic for age 80+)
- Patients who have had a stroke should be assessed for vascular disease risk factors and lifestyle management issues.
- To decrease blood pressure, consider reducing sodium intake towards 2000 mg per day.