Population Health Management & Applying Population Segmentation

HSPN OHT Webinar

February 23, 2021

Welcome & thank you for joining us!

Please let us know who you are by introducing yourself (name & OHT or other org) to all panelists and attendees in the chat box

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Tap the screen to make the the controls appear. ***Tap Chat*** *!*

To all panelists and attendees

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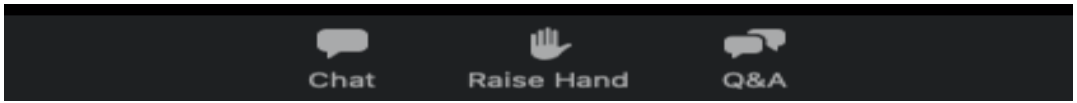
To all panelists and attendees



Land acknowledgement

We wish to acknowledge this land on which the University of Toronto operates. For thousands of years it has been the traditional land of many nations including the Mississaugas of the Credit, the Anishnabeg, the Chippewa, the Haudenosaunee and the Wendat peoples and is now home to many diverse First Nations, Inuit and Métis peoples. Today, this meeting place is still the home to many Indigenous people from across Turtle Island and we are grateful to have the opportunity to work on this land.

We acknowledge that Canada is home to many diverse First Nations, Inuit and Métis peoples, and that many of you are joining us from one of those many traditional and treaty territories.

Poll 1

Have you joined us for an HSPN webinar previously?

- Yes
- No. This is my first event.

Today's event

Host

Dr. Walter Wodchis
Principal Investigator
HSPN

Presenters

Lauren Tessier
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PhD Student
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Behind the Scene

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Webinar

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Agenda February 23, 2021

1. Overview & Key Takeaways
2. Study 1: Population Health Management
3. Study 2: Review of Population Segmentation Tools
4. Study 3: Real World Applications
5. Application: Implementation of Population Health Management for selected priority populations (segmented groups)

Population Health Management

Defining Population Health Management:

The concept of gathering data and insights about population health and well-being across multiple care and service settings, with a view to identifying the main health and social needs of the community and adapting services accordingly.

(Deloitte Centre for Health Solutions, 2019)

Population Health Management

A comprehensive model for evaluating PM, conveys core elements of the concept of PM in six steps (Population Health Alliance, 2012):

1. Population identification
2. Health assessment / Quadruple Aim Assessment
3. Risk stratification / Population Segmentation
4. Patient-centered interventions
5. Impact evaluation
6. Quality improvement process

Population Health Management

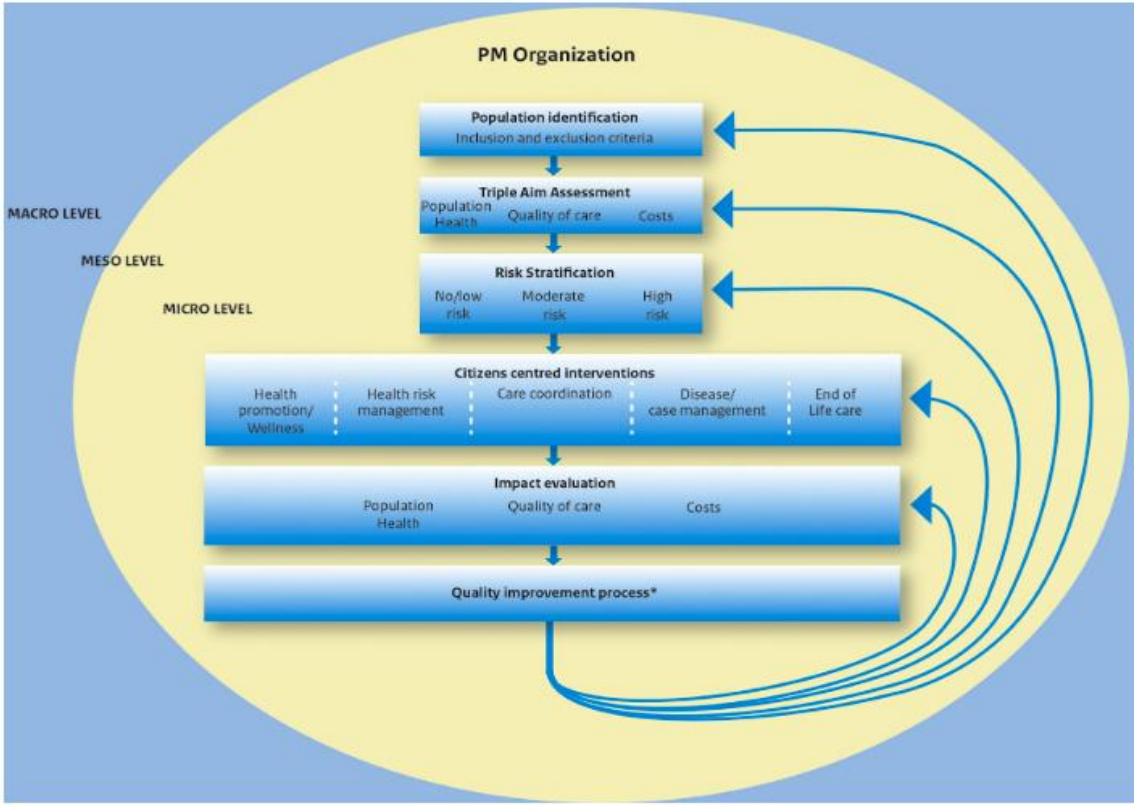


Fig. 2. Schematic overview of the analytical framework for population management.

Population Health Management

- OHTs have an attributed population.
- HSPN is undertaking Quadruple Aim Assessment.
- Next…Population Segmentation…

Today is about Risk Stratification / Population Segmentation

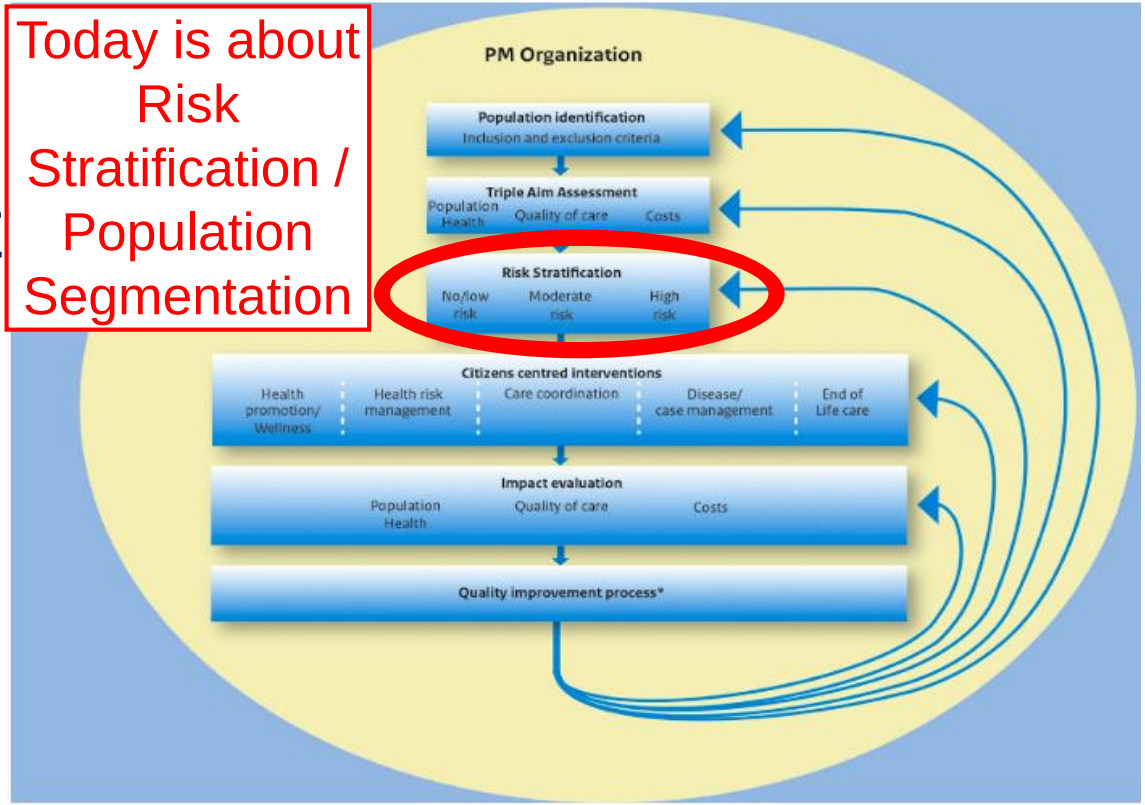
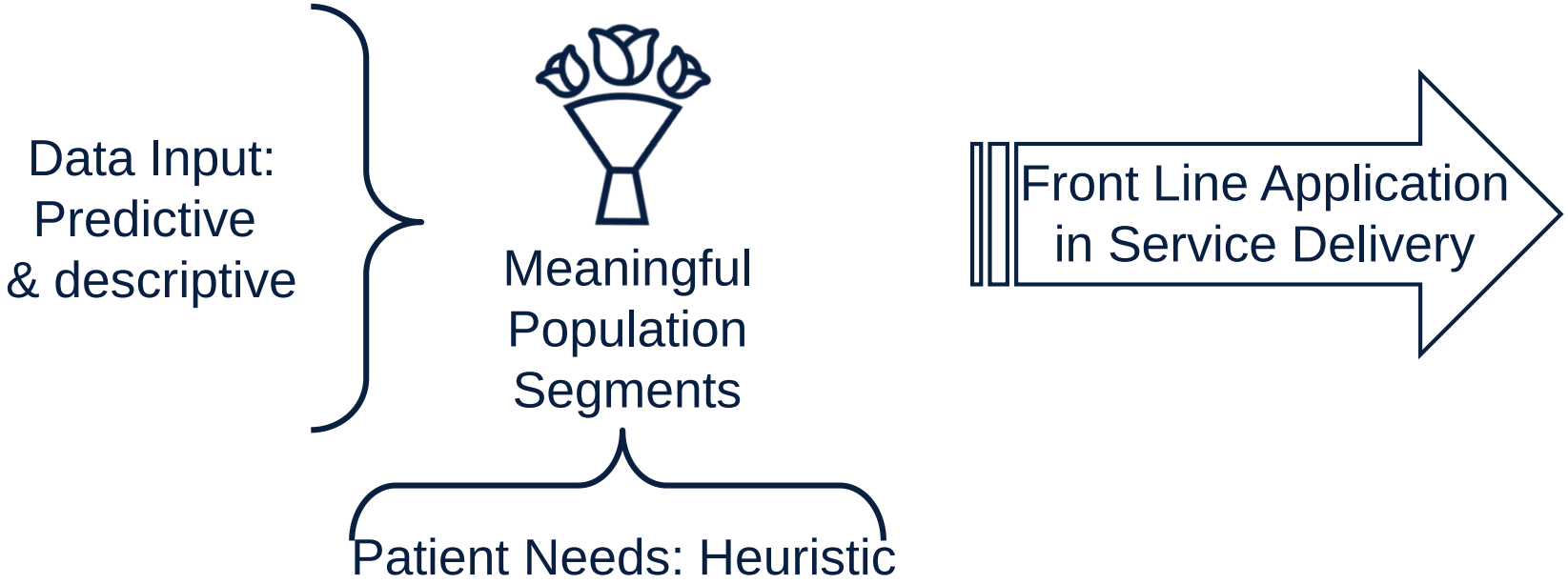


Fig. 2. Schematic overview of the analytical framework for population management.

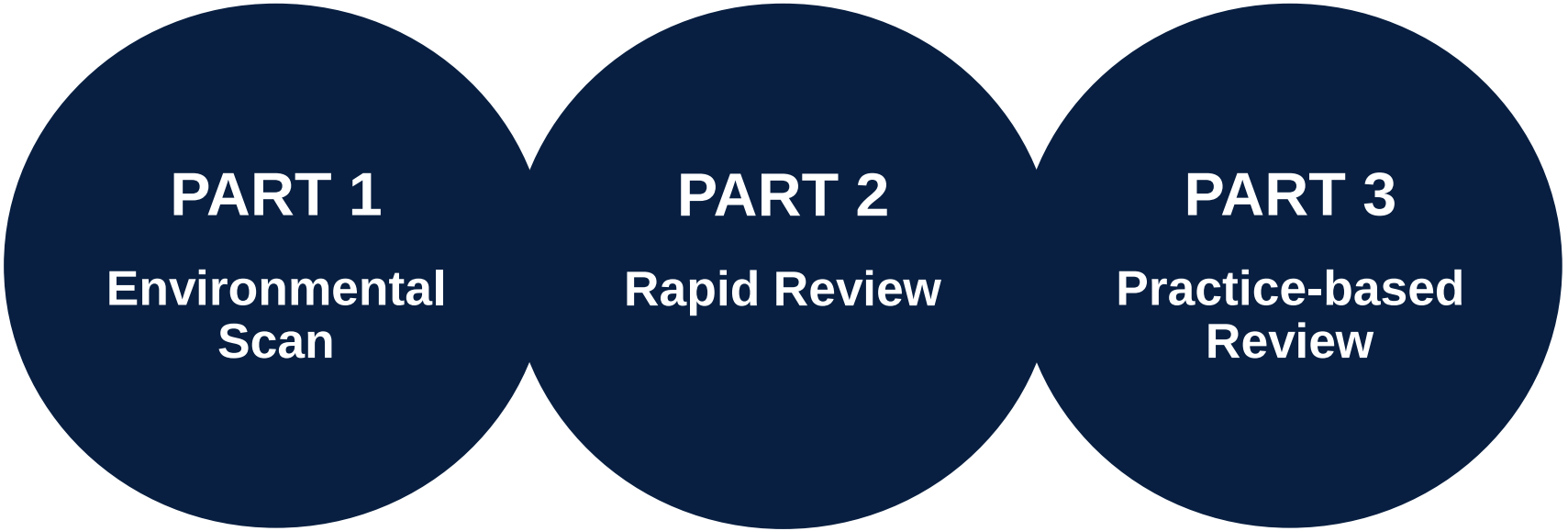
How is segmentation realized ?



Key Takeaways

- Population health management is a multifaceted and complex undertaking that requires a very abstract macro view of the **health** needs of an entire (geographically) defined population AND a very micro precision implementation of appropriate interventions to meet the needs of specific segments of the population with common health needs and risks.
- There are excellent examples of population health management around the world but everyone is still working on this.
- Population health assessment and segmentation is an essential tool to enable population health management.
- OHTs build population health management capabilities that, over time, will be applied to different segments & subpopulations.

Population Health Management: 3 parts



Population Health Management & Population Segmentation

PART 1

Environmental Scan

To understand approaches to population health management

Approaches to Population Health Management

Informing Ontario's Health System Transformation

Shawna Cronin
Lauren Tessier
Kadesha A James
Walter P Wodchis

February 2021

Purpose

Guiding Questions:

1. What are the descriptive and contextual characteristics of existing international PHM systems?
2. How have international PHM systems operationalized the core elements of PHM?
3. Which elements from international PHM systems can be applied to local integrated care systems?

Approach

Series of five descriptive case examples of international examples of systems using PHM.

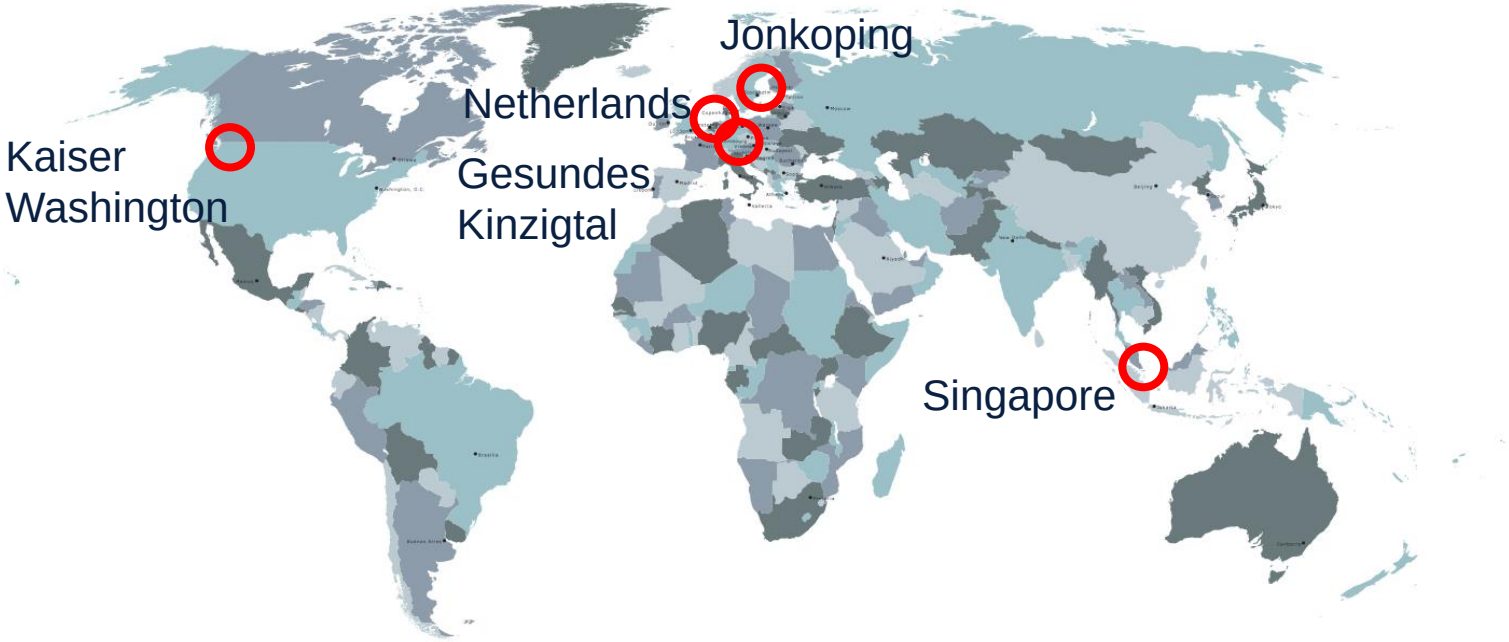
Describe examples using evaluation framework for PHM systems (Struijs et al. 2015).

Synthesize case descriptions, distill relevant considerations for Ontario context.

- capture context and organizational structure of each
- highlight key insights based on strengths of each system

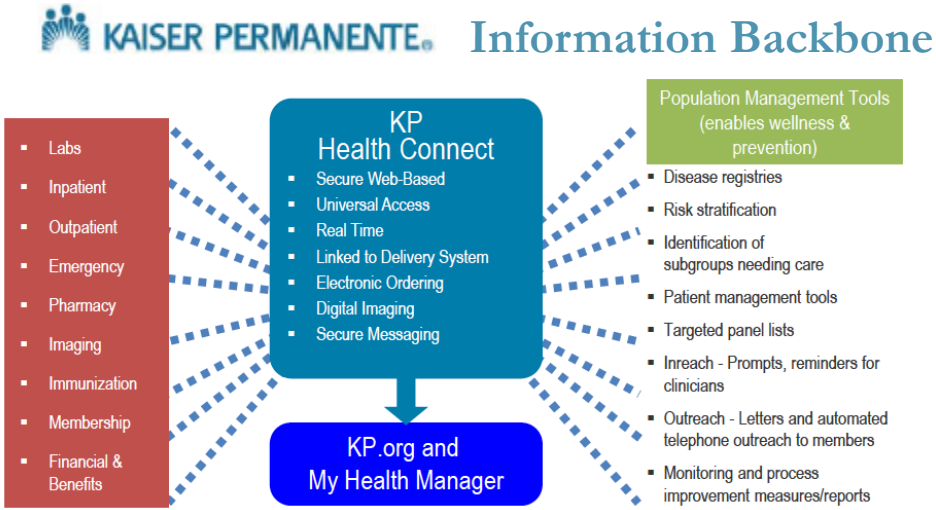
Cases

Selected for variation in geographical area, health context, and stage of implementation.



Learning from Kaiser Permanente Washington, USA

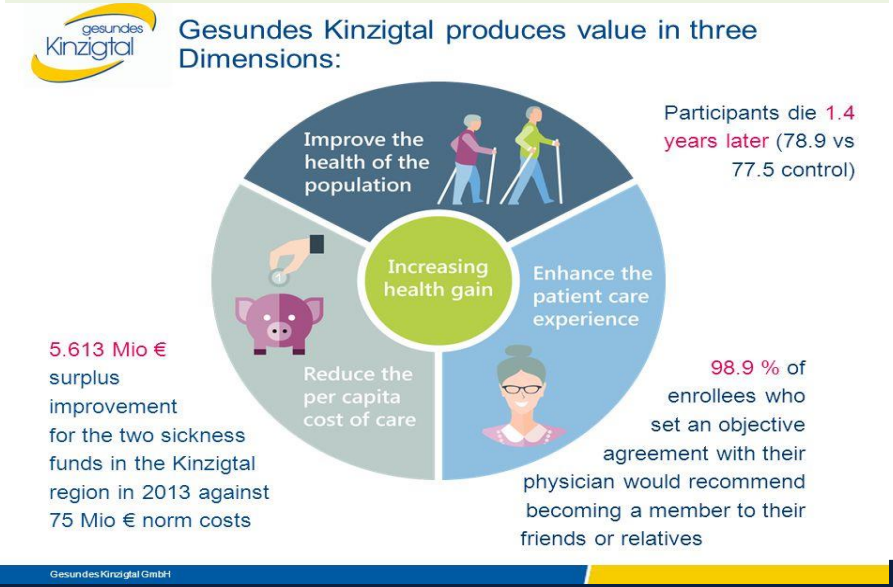
Single instance EHR supports system-wide population health maintenance including team-based interactions with patients and community improvement initiatives.



- KPWA's Population Health Program (PHP) is built on decades of experience of integrating population-based strategies into the health systems that serve its member population.
- Population segmentation plays a critical role in both the organization and delivery of KPWA's PHP.
- Estimated $4 billion electronic health record (EHR) system deployment over 10 years

Learning from Gesundes Kinzigtal, Germany

Rigorous evaluation using the triple-aim framework was essential for the sustainment of the GK model.

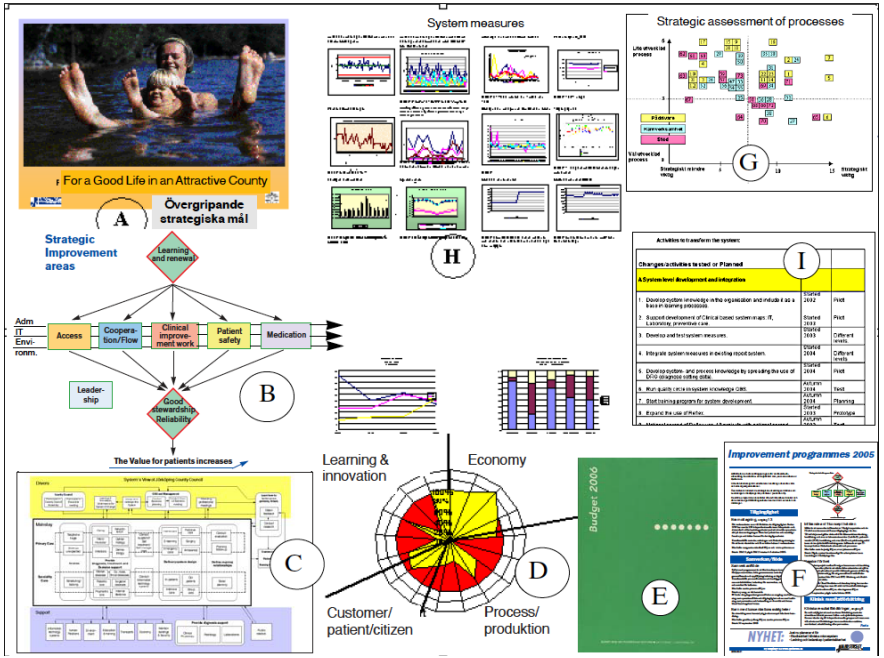


- Germany's mandatory health insurance model, combined with legislation to allow contracts with physician associations, allowed for integrated system.
- Shared savings contracts and provider shareholder agreements.
- "Start-up funding" needed to invest in implementation teams and in information technology infrastructure at the outset.

Learning from Jönköping, Sweden

A built-in quality improvement culture, structures, and processes are critical to long-term success. Coaches for implementation drawn from front line providers and trained to implement quality improvement.

- 4 priority populations within which many essential components of PHM are exemplified, e.g. the “Esther project”.
- Quality and effectiveness indicators for specific long- and short-term goals.
- Indicators hosted on platforms that promote transparency.



Learning from the Netherlands

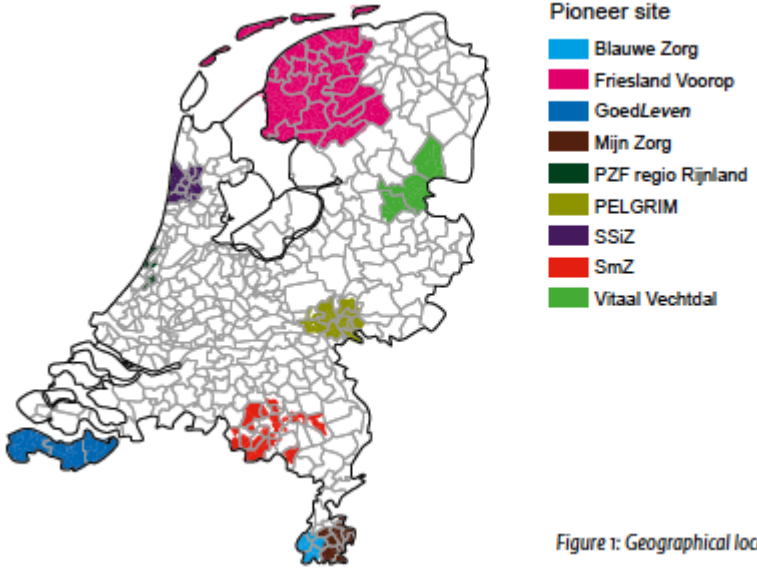


Figure 1: Geographical locations of pioneer sites

An early focus on building trust between organizations to facilitate building these relationships. Starting with small initiatives can help with this.

- Netherlands introduced 9 pioneer population health management sites.
- Sites engaged citizens of the community can help to address equity in the specific needs of certain groups in geographic areas.
- Updates to privacy legislation and new models of financing used to enhance community-based care while mitigating financial risks.

Learning from Singapore

Innovations in funding and remuneration, such as bundled payments are important to support integration across sectors and providers.

- Singapore undertook national reorganization of health care delivery models to achieve new strategic aims for health.
- Geographical team-based approach: Singapore created integrated clusters of all providers in 3 geographic regions.
- Increased investment in primary and community care to ensure infrastructure and leadership to support collaboration.

Key Recommendations

- An early focus on building relationships and trust between organizations, starting with small initiatives can help facilitate this. (Netherlands)

- Population segmentation plays a critical role in both the organization and delivery of population health management (Kaiser).

- A built-in quality improvement culture, structures, and processes are critical to long-term success. Coaches for implementation are drawn from front line providers and trained to implement quality improvement. (Jonkoping)

Key Recommendations

- Increased investment in primary and community care was necessary to ensure infrastructure and leadership were there to support collaboration. (Singapore)

- Financial risks and benefits must be regionalized to support accountability; ensuring certainty in payment for providers (e.g. hospitals) during transition to community-based care provides important stability. (Netherlands)

- Shared savings contracts and provider shareholder agreements allow for shared accountability for outcomes, as well as reinvestment in the integrated care system. (Gesundes Kinzigtal)

Discussion

What elements did you find most interesting among the programs introduced here ?

What do you think is hardest to replicate?

What do you think sounds interesting and you want to learn more ?

Population Health Management & Population Segmentation

PART 2

Rapid Review

To synthesize the literature on population segmentation tools used for population management

A Review of Population Segmentation Tools for Population Health Management: Applicability for Ontario Health Teams

Mudathira Kadu
Xiaomeng Ma
Lief Pagalan
Laura C Rosella
Walter P Wodchis

February 2021

Population Segmentation Rapid Review

Purpose

1. Describe the different approaches to segmentation and the contexts in which segmentation has been applied,
2. Capture the data sources, features and methodologies used to develop population segments,
3. Assess the actionability, and target audience for each segmentation approach.

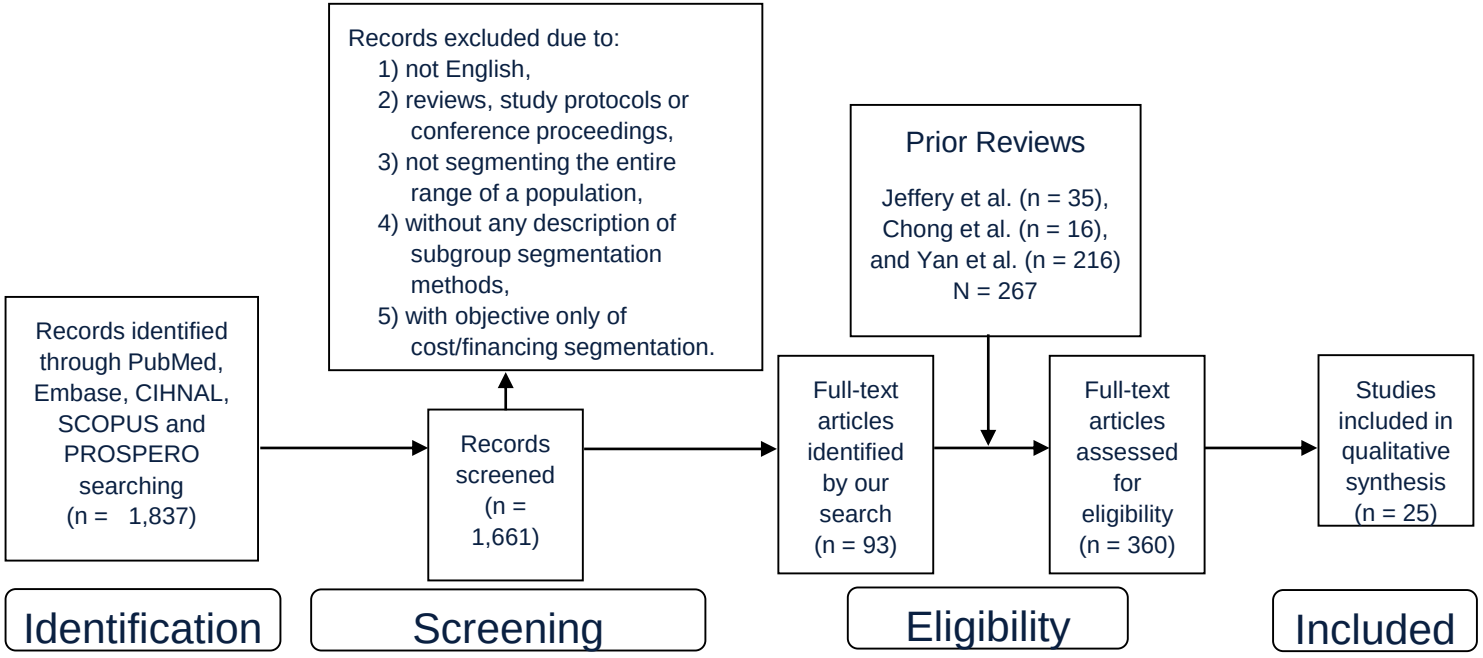
Population Segmentation Rapid Review

Methods

- We searched PubMed, CINAHL, EMBASE, SCOPUS and PROSPERO databases from November 2015 to November 2019. Key terms: concepts of “population”, “segmentation”, “tools” and “population management”.
- Applied key exclusion criteria.
- Captured raw information about segmentation approaches.

Population Segmentation Rapid Review

Study Selection



Population Segmentation Rapid Review

Study Characteristics

Year; Country; Study population; Data sources; Name/technique used to derive segments; Purpose of the tool; End-users; Ability capture changes in population

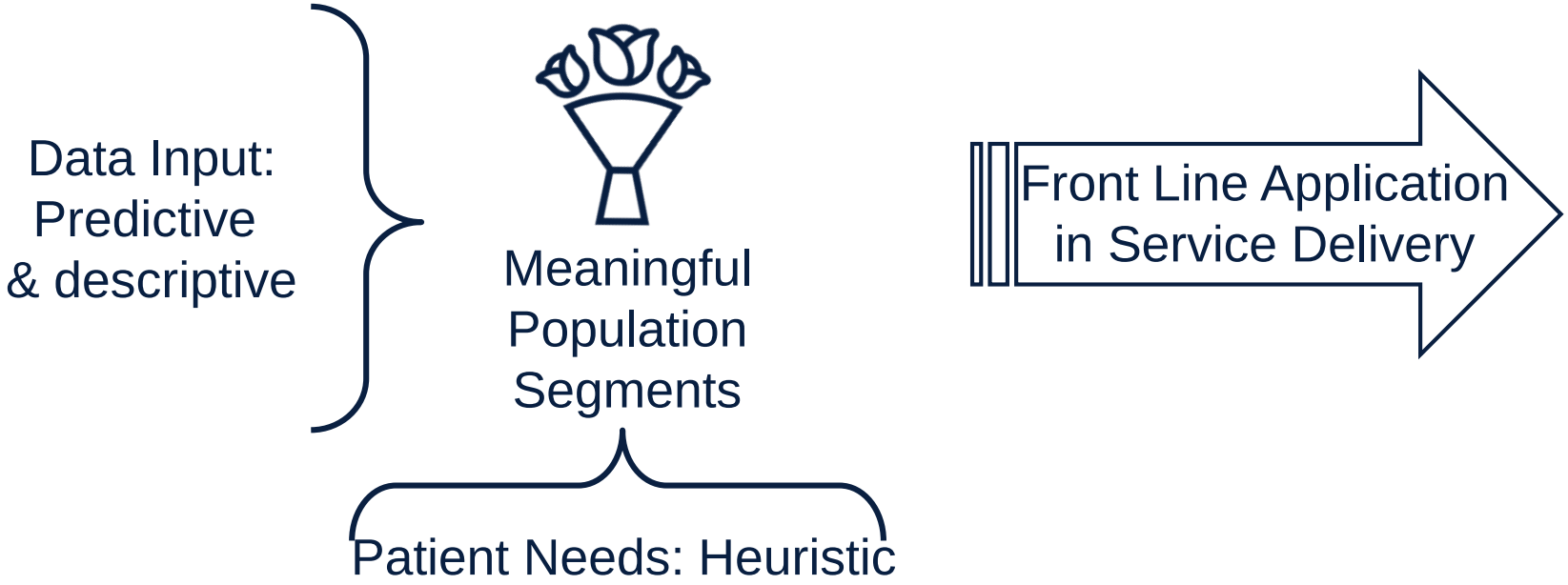
Operational Characteristics

Number of segments; Segment description; Primary outcomes; Purpose for segmentation; Method of delivery of information to users; Actionability of segments

Data Content

Health status; Sociodemographic characteristics; Healthcare utilization; Medications-diagnoses-clinical procedures; Identified risk factors; Health equity adjustment; Other

How is segmentation realized ?



Approaches to Segmentation

- Data-driven
  - Prescribed Algorithms such as Johns Hopkins Ambulatory Care Groups (ACG©) or 3-M Clinical Risk Groups (CRG)
    - Example: Spain (ref 24)
  - Data mining algorithms from cluster analyses, machine-learning, etc.
    - Example (ref)
- Clinically-oriented
  - Clinically meaningful clusters associated with patient care needs
    - Example : Netherlands (ref 23)

Key Recommendations

- Ontario is rich with linked population clinical administrative and claims data.
- OHTs should consider both data-algorithm approach and clinical heuristic approach to assess the relative merits of each and the potential for transition to a needs-based approach to care.
- Future exploration of data-driven approaches with machine learning or related statistical techniques may be considered although these tend to lack the important consideration of the linkage between patient groups and appropriate health care services.
- Ensuring needs-based orientation can facilitate the next stage in Population Health Management -> Alignment with Patient-Centered Interventions

Poll

What were the **primary** sources of information in selecting your priority populations ? (check all that apply)

1. Prior experience
2. Ministry data package
3. Our own data
4. Clinician advice
5. Other (use the chat)

Discussion

Do you think OHTs should be developing their own approaches to population segmentation or do you think it would be best if the Ministry or Ontario Health were to prescribe a segmentation approach ?

Real World Applications

PART 3

Practice-based Review

PURPOSE

To describe how population segmentation is practically applied in health care systems

Real World Applications of Population Segmentation in Population Health Management

Daniala L. Weir
Walter P Wodchis

February 2021

Real World Applications

Approach

Health System Case Studies

- Documented evidence of using population segmentation in population health management
- Description of system and segmentation approach from available documentation
- Key informant interviews for insights into application of population segmentation in practice

Real World Applications

3 Integrated Care Systems

1. Denver Health Integrated System
2. Gesundes Kinzigtal GmbH Integrated Care
3. North West London Whole Systems Integrated Care

Real World Applications

Key Findings

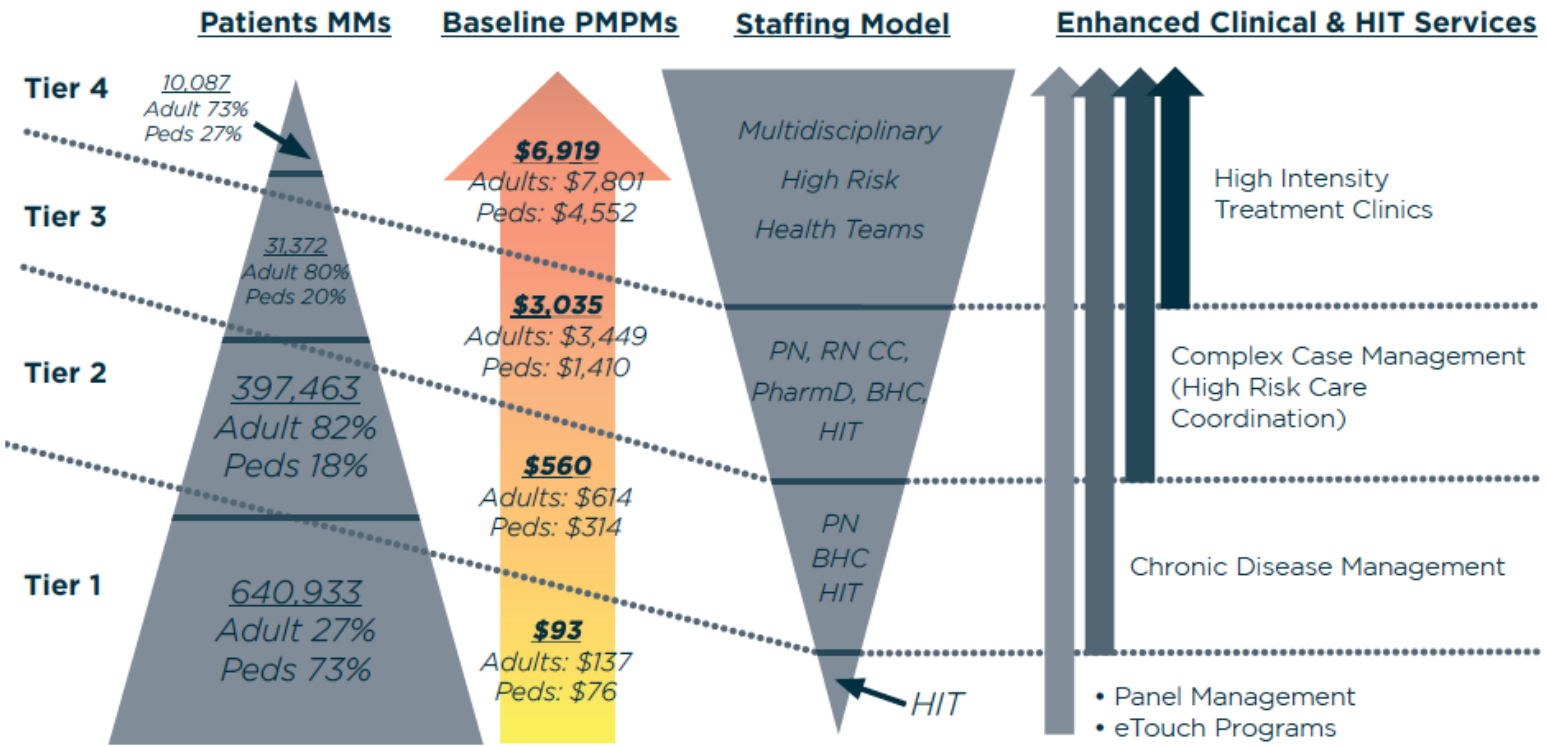
- Leading health systems implementing population segmentation and population health management
- Population segmentation can improve Quadruple Aim Goals by
  - Informing funding levels
  - Enabling health and social services to be targeted to patients according to need
  - Identifying social determinants of health needs and population health promotion activities

Real World Applications

Denver Health

- Single health record (Epic)
  - Enables real-time, comprehensive cross-system sharing of health information
- Clinical interpretability important for provider acceptance and adoption of segmentation for care delivery
- Identifying patient needs only useful if programs actually exist to meet these needs

Risk Stratification Model for Denver Health



Real World Applications

Gesundes Kinzigtal

- Strong integrated health information system
  - Ability to alert providers regarding patient risk
- Clinical acceptance important for adoption of segmentation in care delivery
- Community-level population health activities important to address social determinants of health

Real World Applications

North West London

- Comprehensive health and social care data in central repository
- Dashboard to visualize practice population and enable selection of patients with particular health needs
- Dashboard separate from patient record
  - Barrier for effective use
  - Practice facilitation coaches use to identify patients for discussion in team case conferencing

Real World Applications

Applying Learnings to Ontario

- Applying population segmentation requires integrated information (health and social) across the continuum of care
- Segmentation approaches with clinical face validity maximize value by ensuring system is actually used in delivery of care and health system planning
- Population segmentation is a tool within a number of equally important tools to help achieve population health management

Poll

Which are your priorities to build PHM capacity in the OHT(s) you are most familiar with:

1. We need to obtain data for population segmentation.
2. We need to focus on clinician engagement.
3. We need to focus on patient/caregiver engagement.
4. We need to build quality improvement supports.
5. We have what we need and just need to apply our capabilities.

Real World Applications

Poll: Extent to which you are adopting segmentation approaches to population health management

- Discuss ! What are you trying to do ? … how are you working … in a few words.
- What are your initial focus populations at this point ?

Discussion

Are you primarily focused on your initial focus populations or have you also identified future populations to focus on ?

Have you thought about how focusing on populations at risk for COVID19 are in fact priority populations for population health management ?

Ontario Applications

PART 4

PURPOSE

To demonstrate what segmentation looks like in Ontario Health Teams…

Stay tuned for early Summer release

RISE
Rapid-Improvement Support and Exchange

Applying a population-health management (PHM) approach to care for OHTs:
Getting from Here to There

Dr. Robert Reid, RISE Co-lead

Chief scientist, Trillium Health Partners

Mike Hindmarsh

Head PHM coach, RISE

McMaster University | HEALTH FORUM | The Ottawa Hospital Centre for Implementation Research | Trillium Health Partners | INSTITUTE FOR BETTER HEALTH

RISE
Rapid-Improvement Support and Exchange

RISE is providing OHTs with 3 main supports to help them apply a PHM approach

1

Webinars

What: foundational PHM concepts and principles

Who: open to all

When: monthly (1hr)

2

Coaching sessions

What: one on one PHM coaching

Who: OHT admin leads/priority population working group lead

When: bi-weekly (1-2 hrs. OHTs decide with coach)

3

Virtual collaborative meetings

What: facilitated discussion by priority population to share learnings and solve problems with other OHTs and coaches

Who: OHT admin leads/priority population leads

When: monthly (1.5 hrs.)

Online collaborative discussions

What: by priority population, share learnings and solve problems together as a group

Who: OHT admin leads and priority population leads

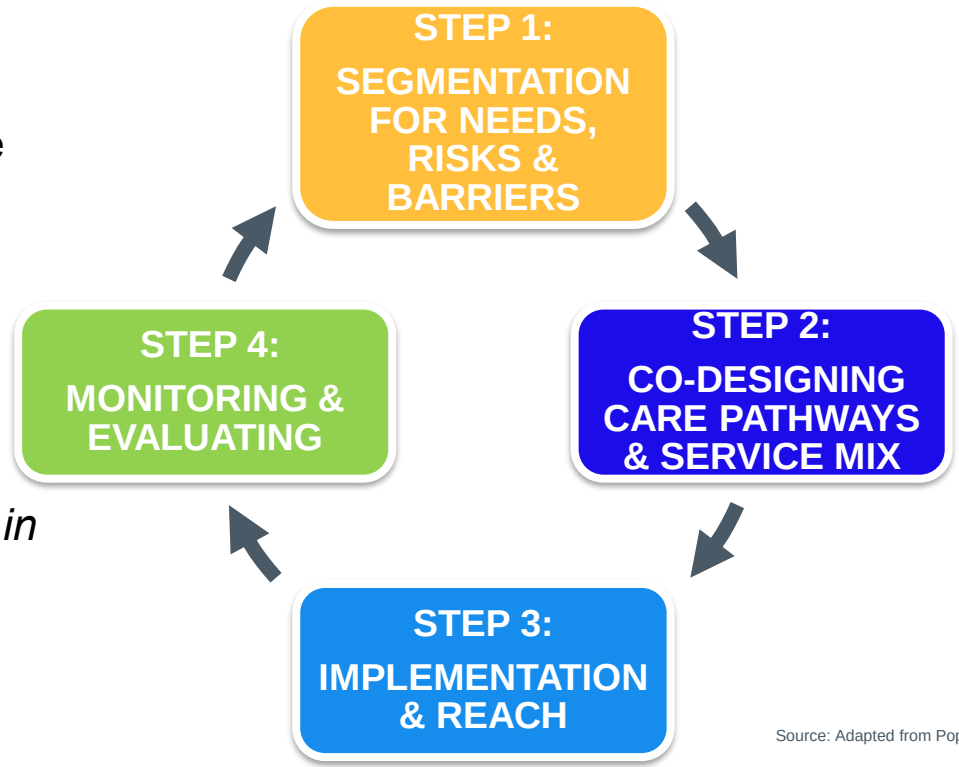
When: anytime

Where: OHT collaborative website https://quorum.hqontario.ca/oht-collaboratives

RISE
Rapid-Improvement Support and Exchange

RISE's Learning Supports are built for the PHM steps

Meet OHTs "where they are" in their journey

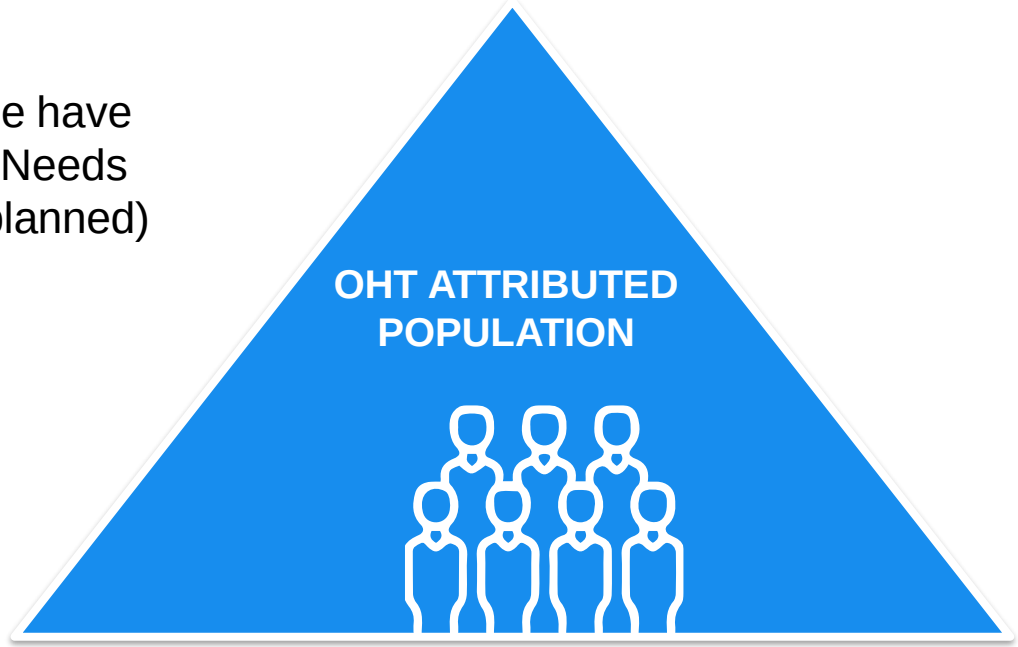


Source: Adapted from Population Health Alliance, 2012

RISE
Rapid-Improvement Support and Exchange

OHT Long Term Goal:
Integrating Care for Full Attributed Population

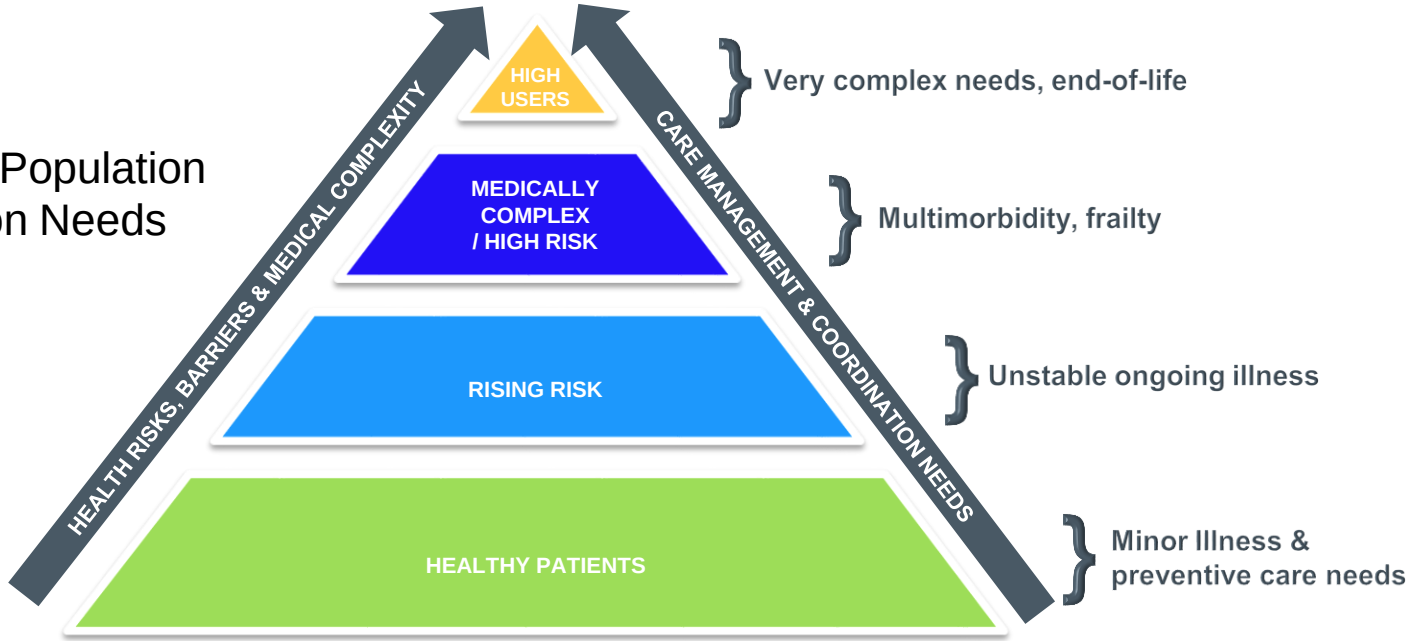
Different People have
Different Care Needs
(Planned & Unplanned)



RISE
Rapid-Improvement Support and Exchange

OHT Long Term Goal:
Integrating Care for Full Attributed Population

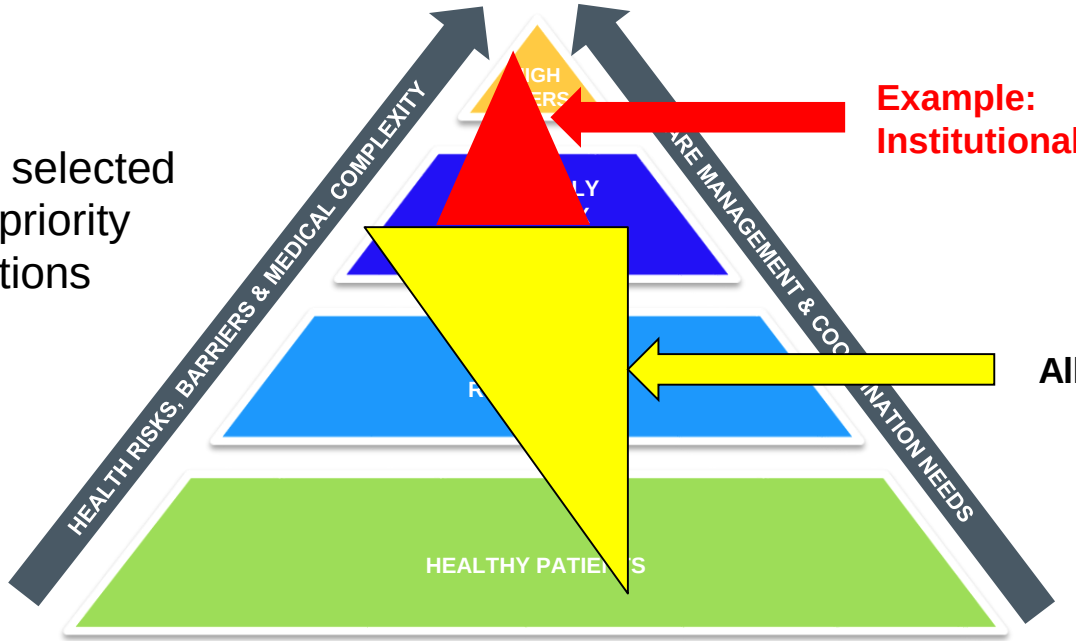
Segmenting Population by Common Needs



RISE
Rapid-Improvement Support and Exchange

OHT Long Term Goal:
Integrating Care for Full Attributed Population

OHTs have selected different priority populations



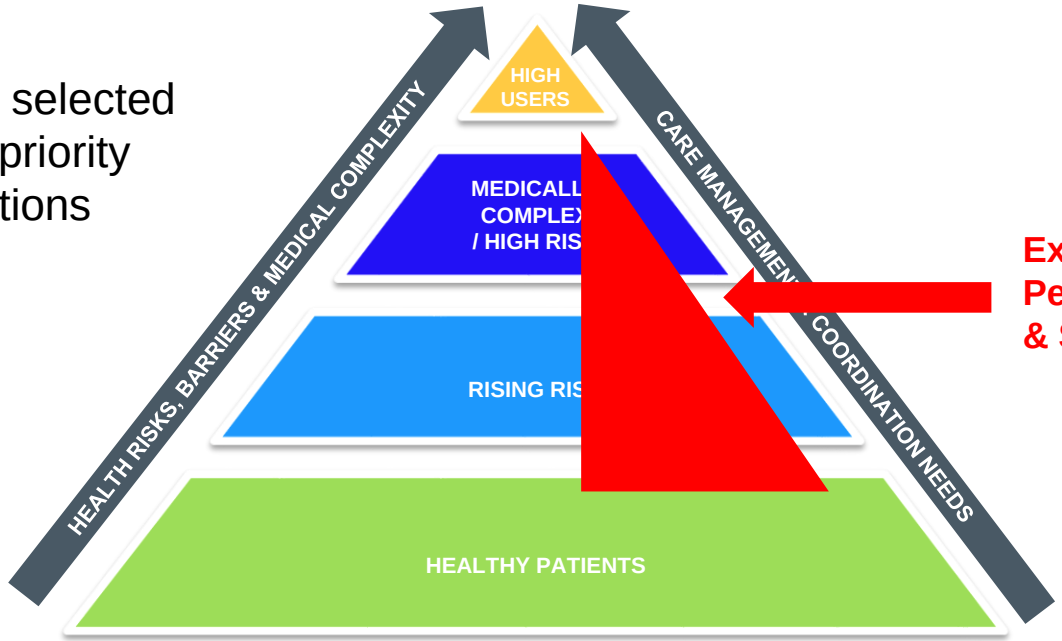
Example: Institutionalized Seniors

All Other Seniors

RISE
Rapid-Improvement Support and Exchange

OHT Long Term Goal:
Integrating Care for Full Attributed Population

OHTs have selected different priority populations



Example:
Persons with Mental Health & Substance Use Disorders

RISE
Rapid-Improvement Support and Exchange

Poll Questions

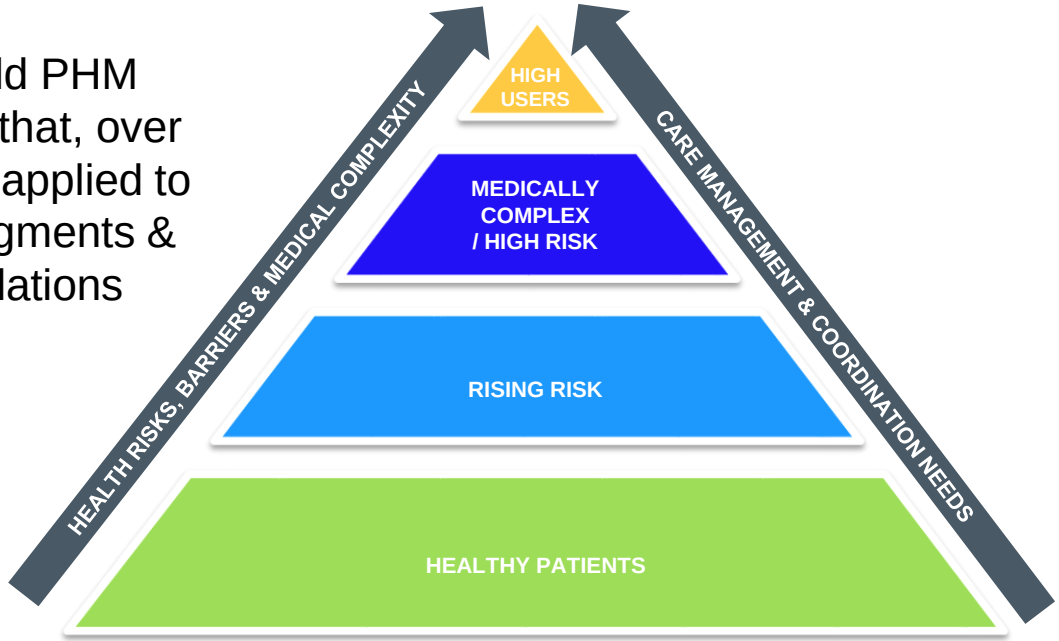
Which best describes the focus of your efforts:

1. working across all segments of your population?
2. working more than one but not all segments?
3. working in a single segment?
4. working in a subgroup of a single segment?

RISE
Rapid-Improvement Support and Exchange

OHT Long Term Goal:
Integrating Care for Full Attributed Population

OHTs build PHM capabilities that, over time, will be applied to different segments & subpopulations



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Rapid-Improvement Support and Exchange

Reiterating some lessons from other jurisdictions

- Population health management (PHM) is a core feature of OHTs. Capabilities must be learned, built and sustained
- All PHM systems are designed to deliver integrated care
- These systems are built over time (commitment to the "long game" is necessary) and rely on primary care as a cornerstone
- They keep users and non-users "in sight" and apply care proactively over time
- Population segmentation is an important first step in applying a PHM approach to care
  - Segments must be clinically and socially meaningful as defined by needs and risk factors – not by who delivers care or where it is received
  - Investments in data and IT capabilities for active clinical management by OHTs are also key

RISE
Rapid-Improvement Support and Exchange

Poll Questions

Of your priority populations, how many are defined by (choose all that apply)

1. Clinical need
2. Social support need
3. Geography
4. Utilization
5. None of the above

RISE
Rapid-Improvement Support and Exchange

Population-health management (PHM) next steps

Upcoming Webinars:

- **RISE PHM core concepts webinar #2 (March 18th, noon-1pm):** developing care models for your segmented priority populations

Upcoming Cohort 1 collaboratives: a forum to exchange ideas with other OHTs, coaches and experts

- **Virtual collaborative session #1 (March 1, noon-1:30pm):**
  - **What will it help me do?** it will help you think about how to segment your priority population into groups with shared needs and understand barriers to care.

- **Virtual collaborative session #2 (late March/early April):**
  - Poll being sent to OHT leads to confirm event date
  - **What will it help me do?** it will help you to think about how to build care models which meet the needs of all segments of your priority population.

Discussion and Q & A:

Do you have other questions of our panel today ?

Are there aspects about today's presentation that you think you will apply in your OHT ?

What are you thinking about population health management and managing your initial focus populations ?

Up Next:

HSPN Webinar Series

- 4th Tuesday of the Month: 12:00 – 1:30pm

Upcoming Topics:

- ✓ HSPN OHT Evaluation Measures
- ✓ Population Health Management
- OHT Improvement Indicator Results
- Population segmentation in Ontario

… and more.

Central OHT Evaluation Team

Co-Leads

Dr. Walter Wodchis

Dr. Ruth Hall

Team Members

Dr. Gaya Embuldeniya

Dr. Shannon Sibbald

Dr. Kaileah McKellar

Jennifer Gutberg

Nusrat S. Nessa

Luke Mondor

Key Resources Available

Teams are encouraged to access the **ministry's central program of supports** for resources and assistance to improve their readiness to implement the Ontario Health Team model wherever they are in the readiness assessment process.

Teams can access this central program through the Ministry of Health website: http://health.gov.on.ca/en/pro/programs/connectedcare/oht/default.aspx

Ontario
Ministry of Health
Ministry of Long-Term Care

Key resources include:

- **Ontario Health Teams: Digital Health Playbook** – playbook to help understand how providers can build a digital health plan for OHTs that supports the delivery of integrated care (available at MOH website above).

- **Rapid-Improvement Support and Exchange (RISE)** – an interactive website (www.ohtrise.org) that provides access to resources, experts and assistance for potential Ontario Health Teams. Rapid learning and supports delivery partner.

RISE
Rapid-Improvement Support and Exchange

- **HSPN – Central OHT Evaluation –** Evaluation resources and reports (www.hspn.ca)

HSPN
Health System Performance Network

HSPN Implementation Resources

https://hspn.ca/evaluation/ontario-health-teams

Practice Guides

Webinars

White Papers

OHT Evaluation Results

Everyone is involved !

Twitter: @infohspn

Email: OHT.Evaluation@utoronto.ca

https://hspn.ca/evaluation/ontario-health-teams

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Thank you!