



Closing the Gap: Using EMRs to improve health equity

Dr. Tara Kiran

Family physician, St. Michael's Academic Family Health Team

Scientist, Centre for Urban Health Solutions, St. Michael's Hospital

Assistant Professor and Clinician Scientist, Dept. of Family & Community Medicine, U of T

Adjunct Scientist, Institute for Clinical Evaluative Sciences

Embedded Clinician Researcher, Health Quality Ontario



@tara_kiran

##OMDESC18

Faculty/Presenter Disclosure

- **Faculty:** Tara Kiran
- **Relationships with commercial interests:**
 - **Grants/Research Support:** St. Michael's Family Medicine Associates, St. Michael's Hospital, University of Toronto, Health Quality Ontario, Canadian Institutes for Health Research, Toronto Central Local Health Integration Network, St. Michael's Foundation, St. Michael's AFP Innovation Fund
 - **Speakers Bureau/Honoraria:** none
 - **Consulting Fees:** none
 - **Other:**

Disclosure of Commercial Support

- No Commercial Support
- Potential for conflict(s) of interest:
 - Tara Kiran has received research salary support from St. Michael's Family Medicine Associates, St. Michael's Hospital, University of Toronto, Health Quality Ontario, Canadian Institutes for Health Research. These institutions all support improving quality of care and reducing health equity.
 - Tara Kiran has received research grant funding from Toronto Central Local Health Integration Network, St. Michael's Foundation and St. Michael's AFP Innovation Fund for research discussed in this program



Mitigating Potential Bias

- Funders were not involved in data analysis/interpretation. Funders did not review this presentation

What do you see?





WHAT MAKES CANADIANS SICK?

50%

YOUR LIFE

- INCOME
- EARLY CHILDHOOD DEVELOPMENT
- DISABILITY
- EDUCATION
- SOCIAL EXCLUSION
- SOCIAL SAFETY NET
- GENDER
- EMPLOYMENT/WORKING CONDITIONS
- RACE
- ABORIGINAL STATUS
- SAFE AND NUTRITIOUS FOOD
- HOUSING/HOMELESSNESS
- COMMUNITY BELONGING

25%

YOUR HEALTH CARE

- ACCESS TO HEALTH CARE
- HEALTH CARE SYSTEM
- WAIT TIMES

15%

YOUR BIOLOGY

- BIOLOGY
- GENETICS

10%

YOUR ENVIRONMENT

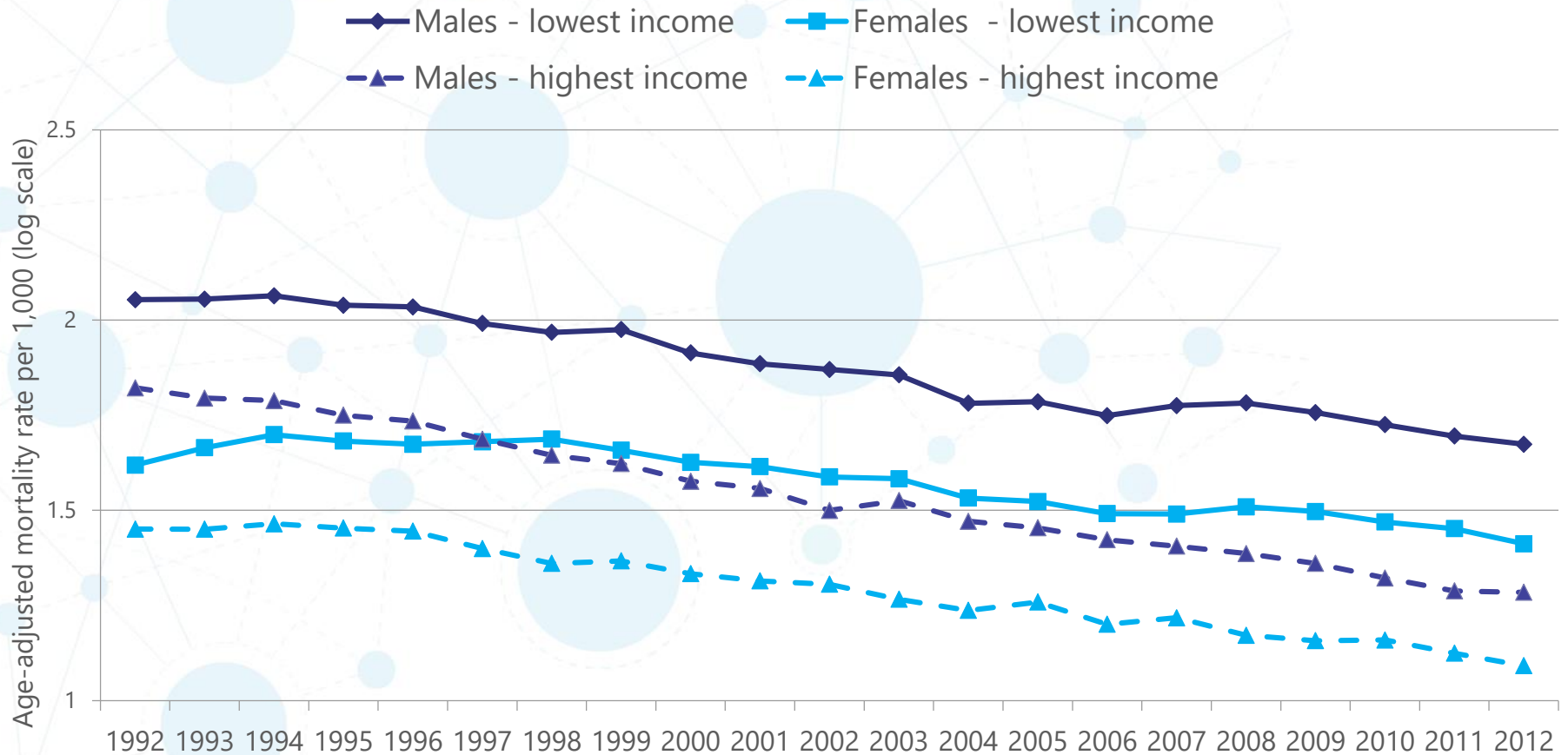
- AIR QUALITY
- CIVIC INFRASTRUCTURE



THESE ARE CANADA'S SOCIAL DETERMINANTS OF HEALTH #SDOH

<https://www.cma.ca/En/Pages/health-equity.aspx>

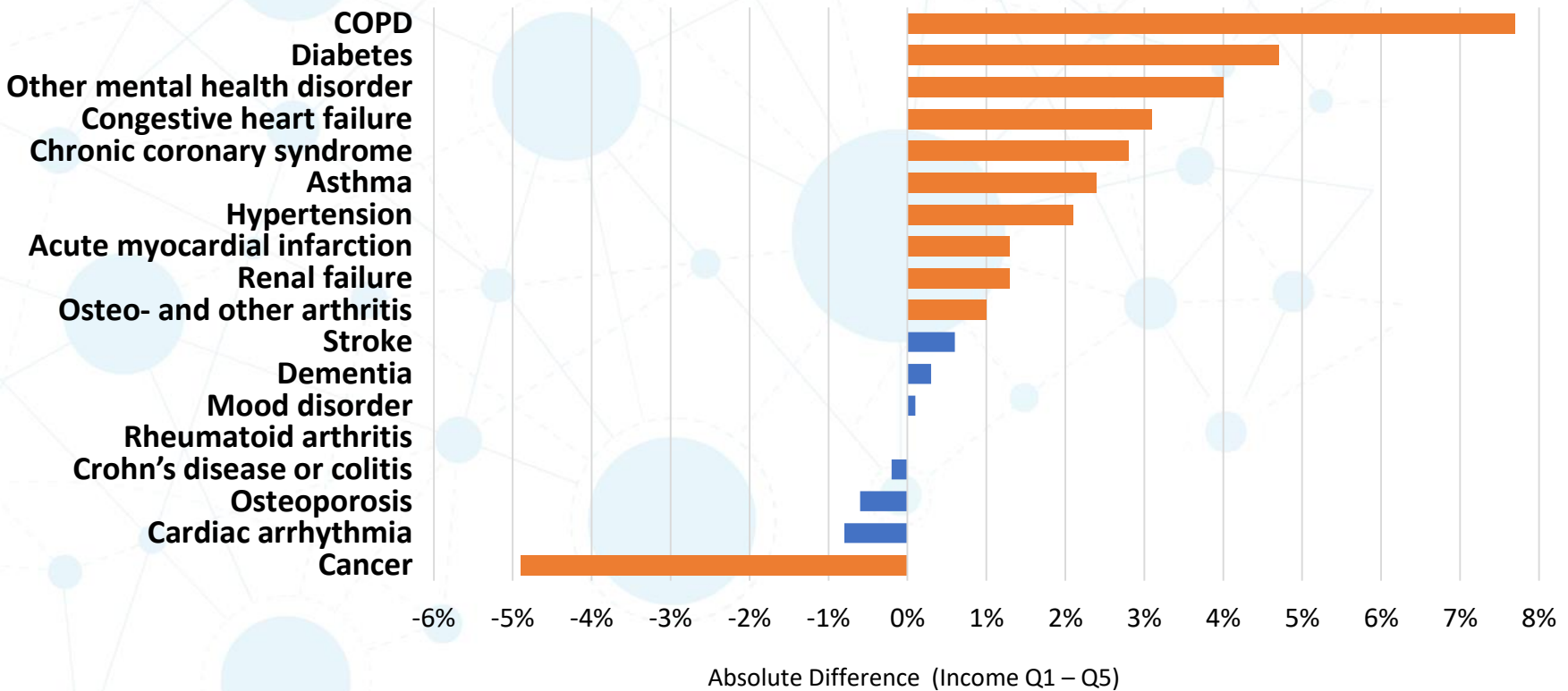
Age-adjusted mortality and SES



Rosella et al. Narrowing mortality gap between men and women over two decades: A registry-based study in Ontario, Canada. *BMJ Open*. 2016; 6(11): 1-9.

Socioeconomic Gradients in Chronic Conditions at Time of Death

AGE ADJUSTED ABSOLUTE PERCENTAGE DIFFERENCE in Chronic Condition At Time of Death
Between Area Income Quintile 1 (lowest) and 5 (highest) (1994-2013)



Larger burden in ...

High Income neighbourhoods ←



→ Low Income neighbourhoods

Rosella et al. Accumulation Of Chronic Conditions At The Time Of Death Increased In Ontario From 1994 To 2013. Health Affairs, Vol. 37, No. 3



WHAT MAKES CANADIANS SICK?

50%

YOUR LIFE

- INCOME
- EARLY CHILDHOOD DEVELOPMENT
- DISABILITY
- EDUCATION
- SOCIAL EXCLUSION
- SOCIAL SAFETY NET
- GENDER
- EMPLOYMENT/WORKING CONDITIONS
- RACE
- ABORIGINAL STATUS
- SAFE AND NUTRITIOUS FOOD
- HOUSING/HOMELESSNESS
- COMMUNITY BELONGING

25%

YOUR HEALTH CARE

- ACCESS TO HEALTH CARE
- HEALTH CARE SYSTEM
- WAIT TIMES

15%

YOUR BIOLOGY

- BIOLOGY
- GENETICS

10%

YOUR ENVIRONMENT

- AIR QUALITY
- CIVIC INFRASTRUCTURE



THESE ARE CANADA'S SOCIAL DETERMINANTS OF HEALTH #SDOH

<https://www.cma.ca/En/Pages/health-equity.aspx>



MAP OF CANADA

If you live in Toronto.

\o/ MotivatedPhotos.com

St. Michael's Academic Family Health Team



Health Centre at 80 Bond



Family Practice Unit, 61 Queen



St. Lawrence Health Centre



Health Centre at 410 & St. James Town Health Centre



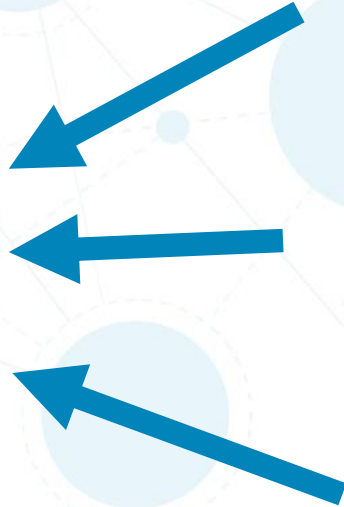
Sumac Creek Health Centre



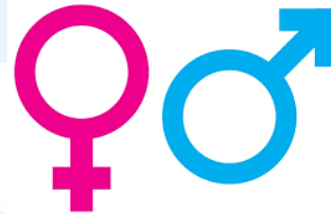


1. Use existing data to understand differences in care

Routinely collected data



Age

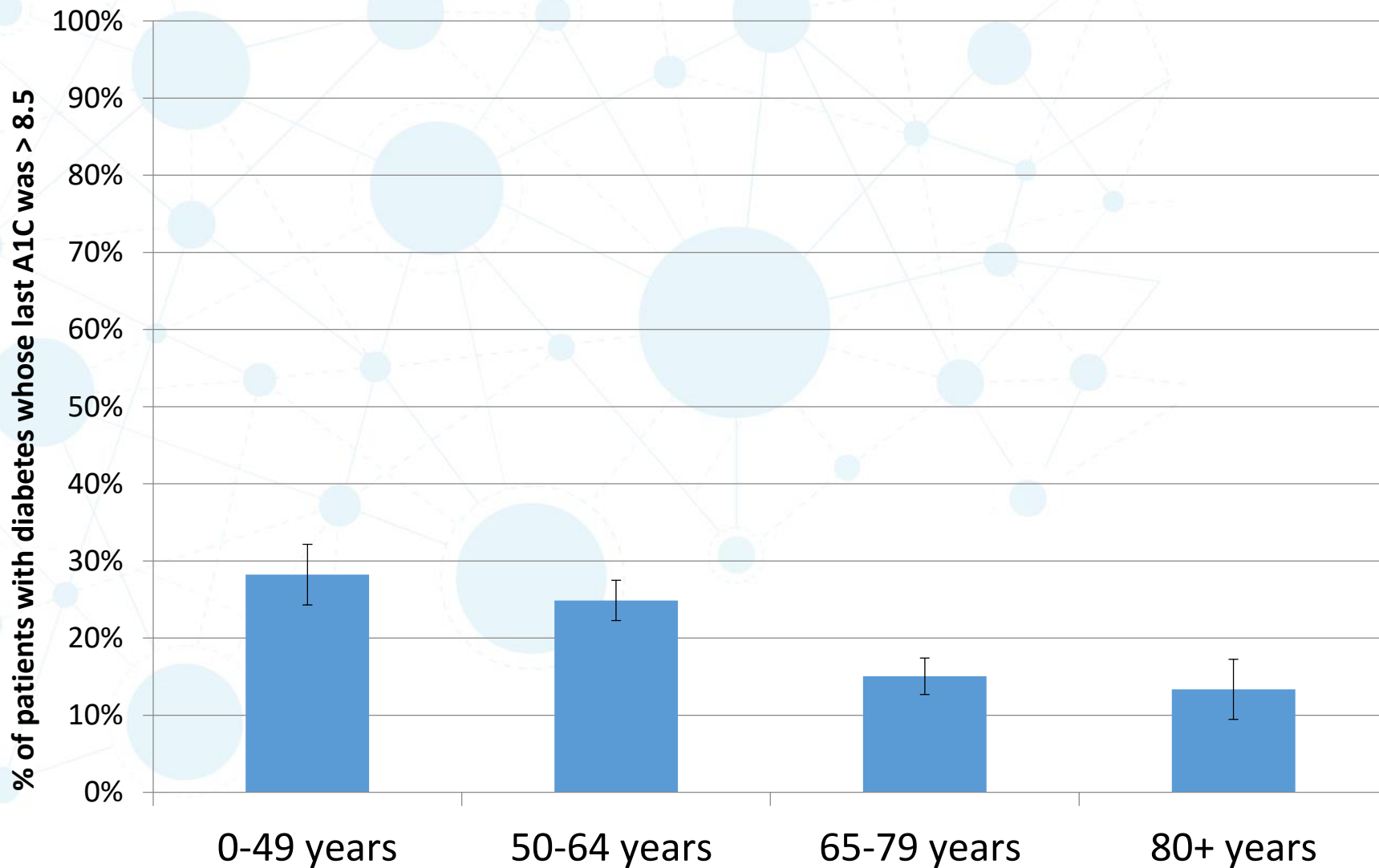


Sex

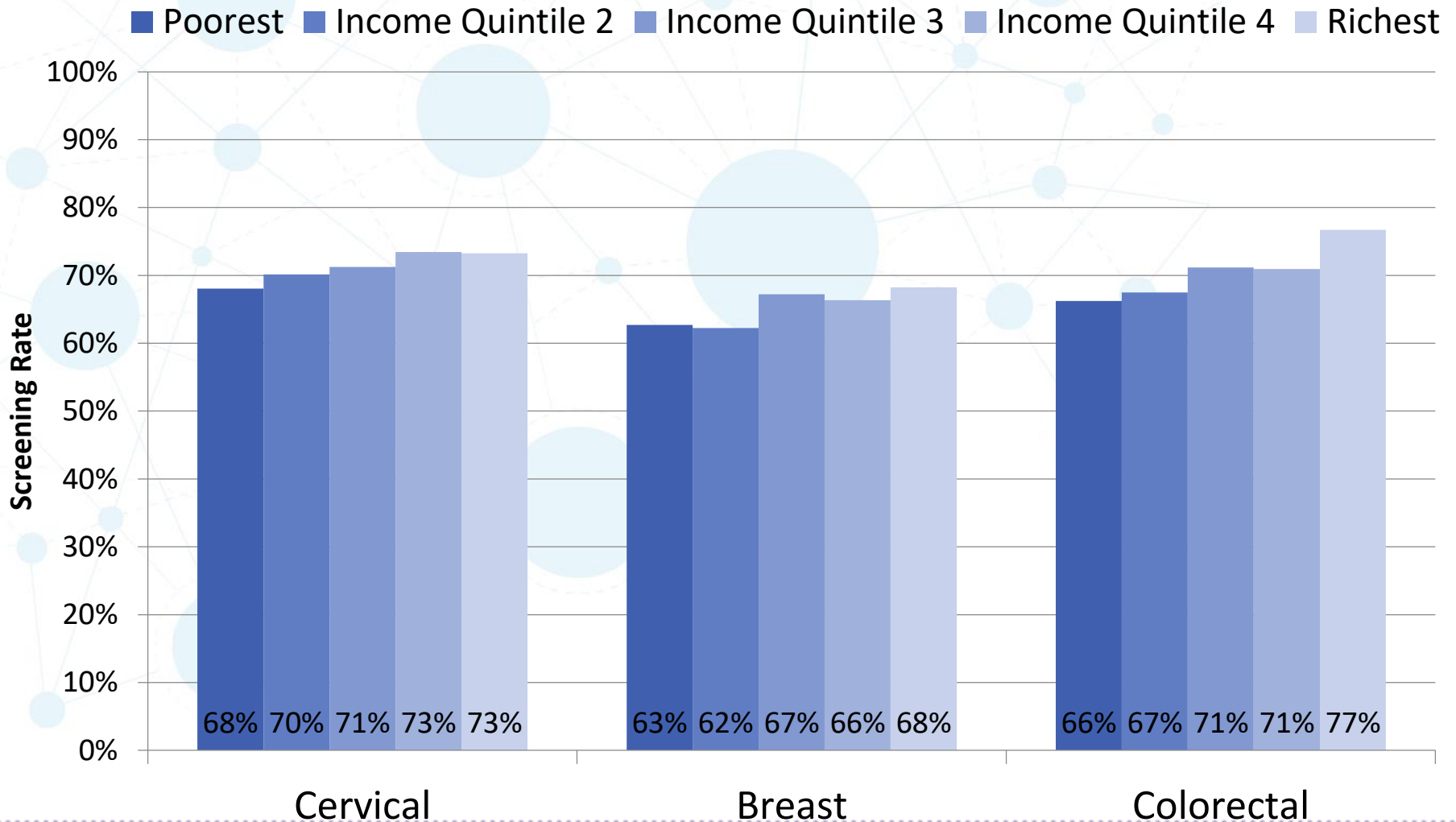


Postal Code

High A1C by age, June 2017



Cancer Screening Rates by Neighbourhood Income Quintile - Dec 31, 2016





2. Collect **new** data to understand differences in care

We ask because we care

The Tri-Hospital + TPH Health Equity Data Collection Research Project Report



Sociodemographic questions:

- Language
- Immigration
- Race/ethnicity
- Disabilities
- Gender identity
- Sexual orientation
- Income
- Housing
- Religion

Toronto Public Health

St. Michael's
Inspired Care.
Inspiring Science.

camh
Centre for Addiction and Mental Health

MOUNT SINAI HOSPITAL
Joseph and Wolf Lebovic Health Complex
Bright Minds. Big Hearts. The Best Medicine.

<http://torontohealthequity.ca/>



St. Michael's

Inspired Care. Inspiring Science.

Measuring Health Equity

Please tell us about yourself.

We want to ask you 11 brief questions as part of our ongoing work to improve access, quality of care for all patients and identify health inequities. It should take approximately 2-5 minutes to complete.

Your participation is VOLUNTARY and you can stop at any time.

You do not have to complete the survey if you don't want to. You can skip questions.

The information you share with us will be safely kept with your medical file.

1. What language would you feel most comfortable speaking in with your healthcare provider?

2. Were you born in Canada?

3. Which of the following best describes your racial or ethnic group?

4. Do you have any of the following? (check ALL that apply)

- None Chronic illness Developmental disability Learning disability Mental illness
 Physical disability Sensory disability (i.e. hearing or vision loss)
 Drug or alcohol dependence Other Prefer not to answer Do not know

5. What is your gender? (check ALL that apply)

- Female Male Trans - Female to Male Trans - Male to Female Intersex
 Prefer not to answer Do not know Other

6. What is your sexual orientation?

7. What was your total family income before taxes last year?

8. How many people does your income support? Yourself included. Choose ONE.

9. In what language would you prefer to read healthcare information? Check ONE only.

10. What is your religious or spiritual affiliation? Check ONE only.

11. What type of housing do you live in?

Thank you for participating in this survey.

Finish

Raccoon, Rocket R (Test Patient)

next visit: Oct 20, 2016

240 Forest Friends Way
Great Outdoors ON A1A 1A1
This is a Test Patient

Birthdate: Jan 6, 1975 Sex: M
Health #: unknown; Not Rostered
Last Billed: Never
MD: Anne Browne

DM
hypertension
Mother: Breast CA
cancer
adwfasdf...

Major Depression
Schizophrenia
oste
acamprostate 666 mg 3 times daily for 30 days
Ciprexal 10 mg 2 times daily
lansoprazole 15 mg 1 tablet 1 time daily
Tylenol 1 tablet 1 time daily for 30 days Use as directed

No known allergies Sep 12, 2016

Boostrix Tdap (2) latest: Sep 12, 2016
MMR-V (2) latest: Sep 12, 2016

SDM at Main and Danforth: Tel:416-123-4567
text
Measuring Health Survey: Completed
Pharmacy: name of pharmacy

This patient may be from a Hepatitis B endemic region. Screening is recommended for people born in regi...

rare alcohol consumption
current recreational drug use: THC ...
Vegetarianism



Spoken Language: amharic Born in Canada: no Ethnicity: middle Preferred Language for health info: amharic Religion prefer Disability: physical
Gender: male Sexual orientation: gay Family Income: \$30,000 People supported by income: 2 Housing: supportive

cean Import Lab Req SOAP BP Wt Ht NO DM GSB Meds Allergies Guidelines Google Images Map

Custom Subset of Notes

Oct 7, 2016 CLM/Ocn (07/10/16 11:36)
Measuring Health Equity
@SpokenLanguage: Amharic. @BornInCanada: No
What year did you arrive in Canada? 1997
@Ethnicity: Middle Eastern (e.g., Egyptian, Iranian, Lebanese). @Disabilities: Physical disability. @Gender: Male. @SexualOrientation: Gay. @FamilyIncome: \$30,000 to \$59,999. @PeopleSup
@PreferredLanguageToReadHCI: Amharic. @Religion: Prefer not to answer. @HousingType: Supportive Housing

Using self-reported data on the social determinants of health in primary care to identify cancer screening disparities: opportunities and challenges

A.K. Lofters  , A. Schuler, M. Slater, N.N. Baxter, N. Persaud, A.D. Pinto, E. Kucharski, S. Davie, R. Nisenbaum and T. Kiran

- 5766 patients i) eligible for at least one of cervical, breast, and colorectal cancer screening and ii) answered health equity questions
- Patients less likely to be screened if living below the low income cut off or did not own a home

Opportunities & Challenges

JABFM

JOURNAL OF THE AMERICAN BOARD OF FAMILY MEDICINE

HOME | CURRENT ISSUE | ARCHIVES | CONTACT | SUBSCRIBE | ALERTS | HELP

Building a Foundation to Reduce Health Inequities: Routine Collection of Sociodemographic Data in Primary Care

Andrew D. Pinto, MD, CCFP, MSc, Gabriela Glattstein-Young, MD, MPH, Anthony Mohamed, MES, Gary Bloch, MD, CCFP, Fok-Han Leung, MD, CCFP and Richard H. Glazier, MD, CCFP, MPH

COMMENTARY

HEALTH AFFAIRS > VOL. 37, NO. 4 : CULTURE OF HEALTH, THE ACA & MORE

Integrating Data On Social Determinants Of Health Into Electronic Health Records

Michael N. Cantor¹ and Lorna Thorpe²

But:

- Response bias
- Missing data
- Lots of categories make analysis hard
- Community engagement
- The right questions?

The Upstream Lab: SPARK Study



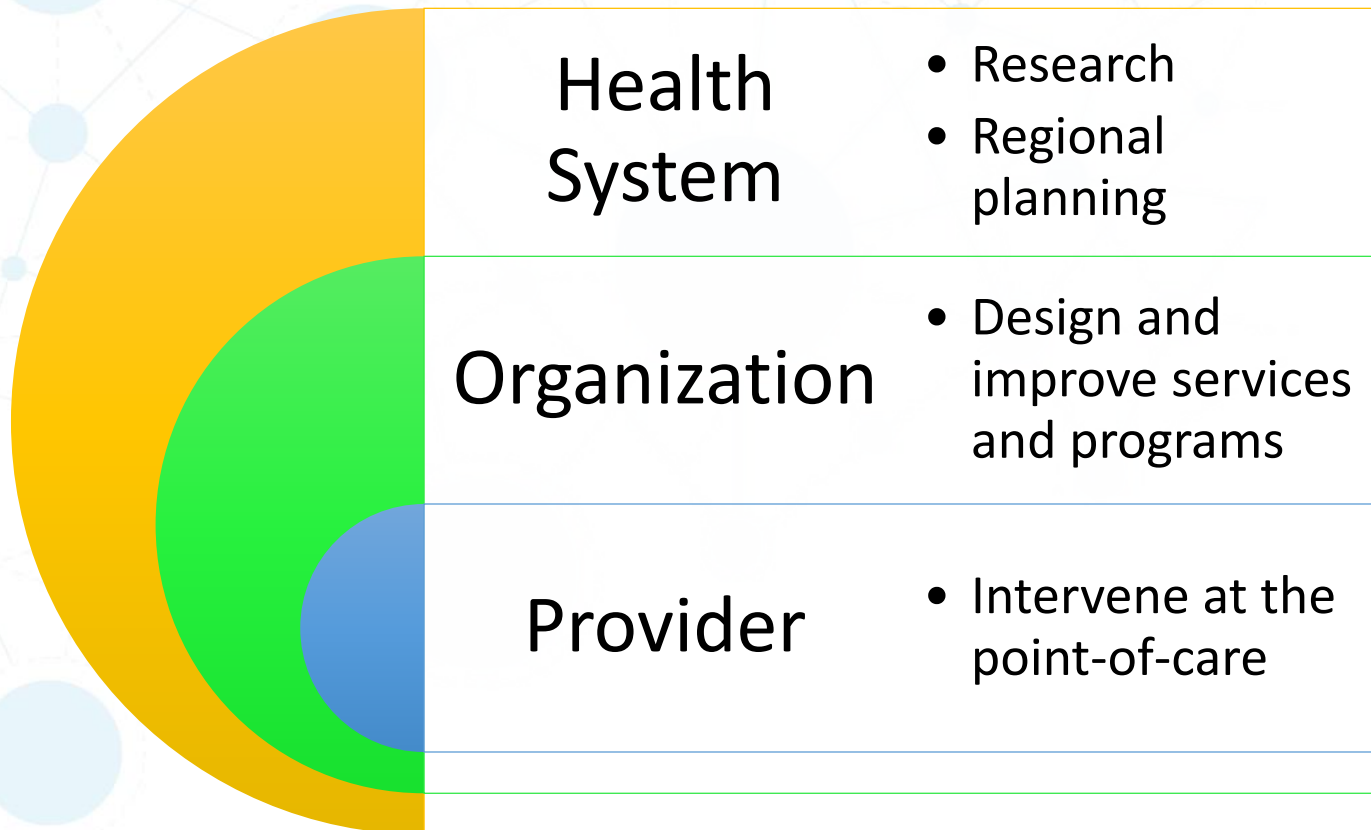
Brings together lessons learned from two areas:

1. Is routine sociodemographic data collection in primary care feasible, acceptable and useful?
2. If a patient screens positive for poverty, is a modest or robust intervention most effective?



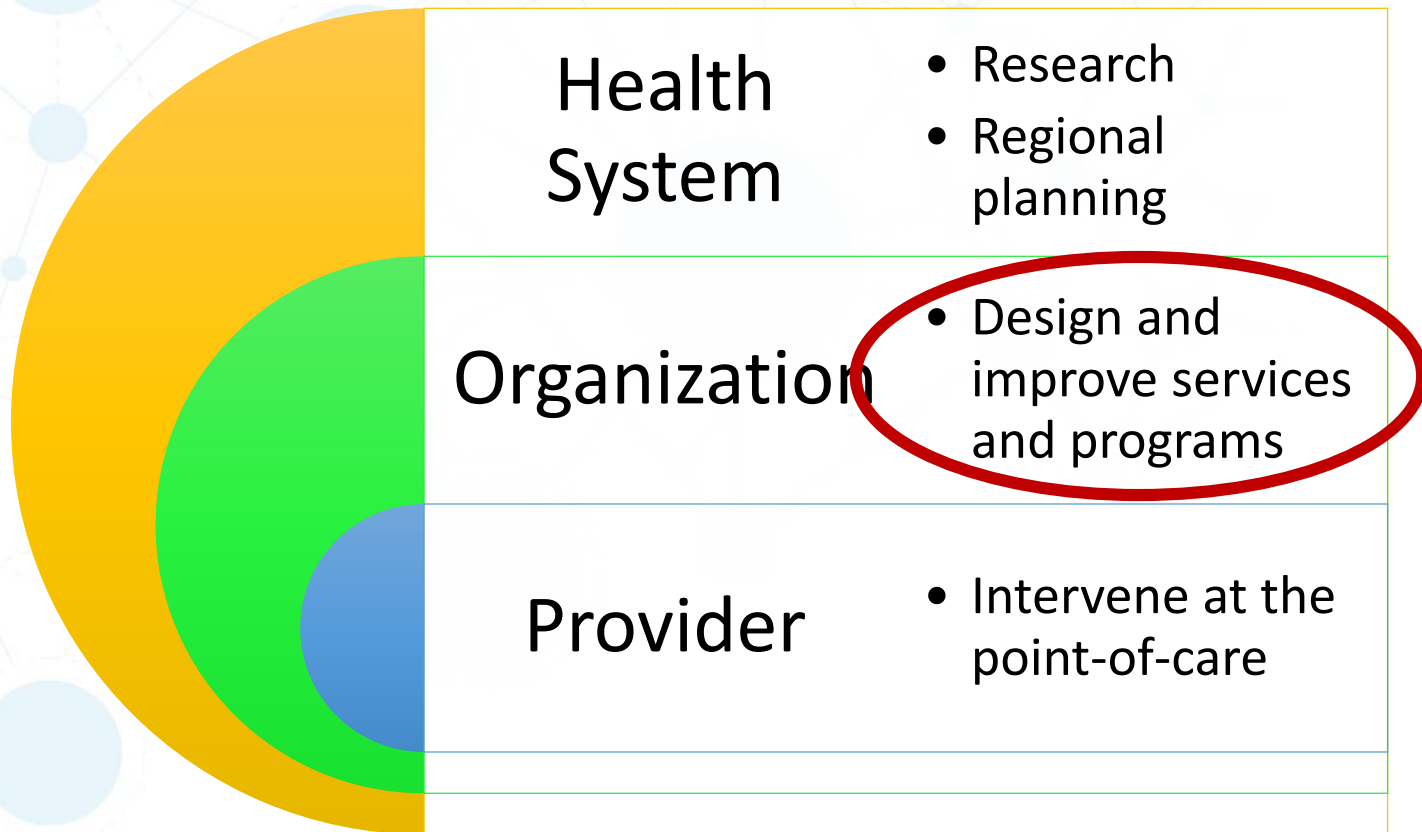
3. Act on the data to address health equity

How to use data to address health equity?



*Advocacy can occur at any level

How to use data to address health equity?

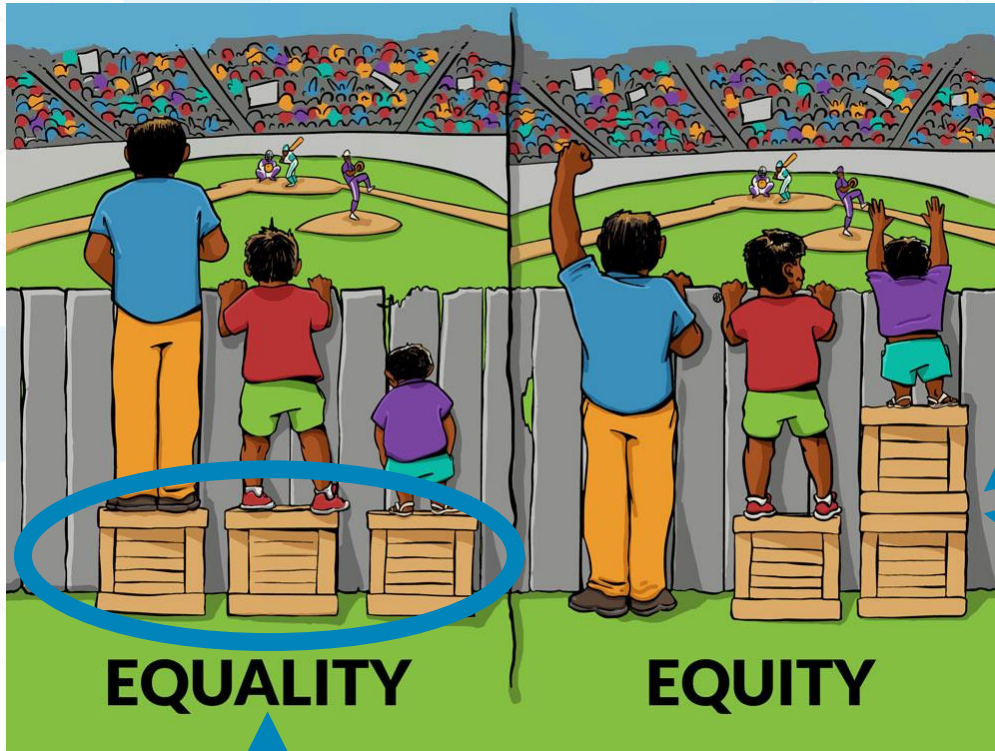


*Advocacy can occur at any level

Equity vs. Equality



Equity vs. Equality

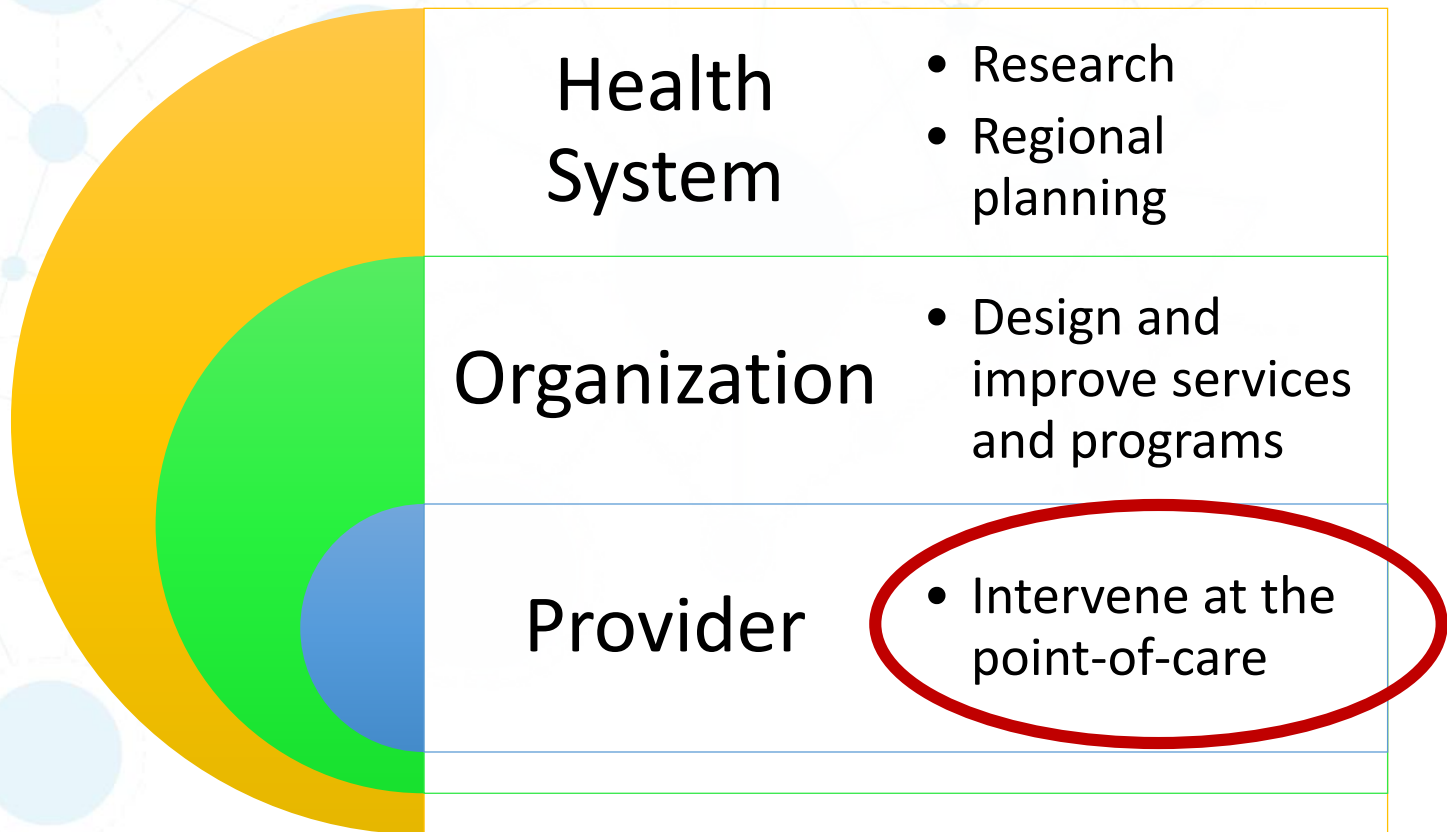


Reminder letters

Phone calls

Co-designed solutions

How to use data to address health equity?



*Advocacy can occur at any level

Addressing Social Determinants of Health at Well Child Care Visits: A Cluster RCT

Garg et al. *Pediatrics* 2015

abstract

OBJECTIVE: To evaluate the effect of a clinic-based screening and referral system (Well Child Care, Evaluation, Community Resources, Advocacy, Referral, Education [WE CARE]) on families' receipt of community-based resources for unmet basic needs.

METHODS: We conducted a cluster randomized controlled trial at 8 urban community health centers, recruiting mothers of healthy infants. In the 4 WE CARE clinics, mothers completed a self-report screening instrument that assessed needs for child care, education, employment, food security, household heat, and housing. Providers made referrals for families; staff provided requisite applications and telephoned referred mothers within 1 month. Families at the 4 control community health centers received the usual care. We analyzed the results with generalized mixed-effect models.

RESULTS: Three hundred thirty-six mothers were enrolled in the study (168 per arm). The majority of families had household incomes <\$20 000 (57%), and 68% had ≥ 2 unmet basic needs. More WE CARE mothers received ≥ 1 referral at the index visit (70% vs 8%; adjusted odds ratio [aOR] = 29.6; 95% confidence interval [CI], 14.7–59.6). At the 12-month visit, more WE CARE mothers had enrolled in a new community resource (39% vs 24%; aOR = 2.1; 95% CI, 1.2–3.7). WE CARE mothers had greater odds of being employed (aOR = 44.4; 95% CI, 9.8–201.4). WE CARE children had greater odds of being in child care (aOR = 6.3; 95% CI, 1.5–26.0). WE CARE families had greater odds of receiving fuel assistance (aOR = 11.9; 95% CI, 1.7–82.9) and lower odds of being in a homeless shelter (aOR = 0.2; 95% CI, 0.1–0.9).

CONCLUSIONS: Systematically screening and referring for social determinants during well child care can lead to the receipt of more community resources for families.

1. Do you have a high school degree?

YES

NO

If NO, would you like help to get a GED?



YES

NO

MAYBE
LATER

2. Do you have a job?

YES

NO

If NO, would you like help with finding employment?



YES

NO

MAYBE
LATER

3. Do you need daycare for your child?

YES

If YES, would you like help finding it?



YES

NO

MAYBE
LATER

NO

4. Do you think you are at risk of becoming homeless?

YES

If YES, would you like help with this?



YES

NO

MAYBE
LATER

NO

1. Do you have a high school degree?

YES

NO

If NO, would you like help to get a GED?



YES

NO

MAYBE
LATER

2. Do you have a job?

YES

Mothers in WE CARE had greater odds of being employed, having children in child care, receiving fuel assistance, and lower odds of being in a homeless shelter

NO

4. Do you think you are at risk of becoming homeless?

YES

If YES, would you like help with this?



YES

NO

MAYBE
LATER

NO



MAP OF CANADA

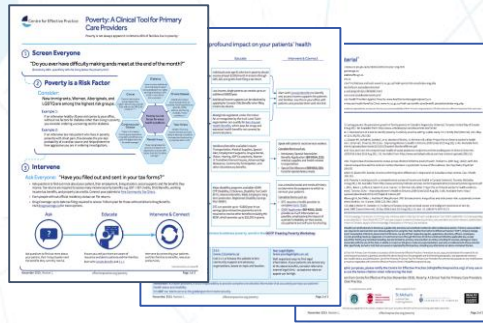
If you live in Toronto.

\o/ MotivatedPhotos.com

Poverty EMR Integration Pilot Project



Funding provided by: the Government of Ontario



Patient Survey in Waiting Room



Provider EMR Integration

Provider Education



Patient Handout: Community Resources Based on Neighborhood



Ontario College of Family Physicians
Education | Leadership | Research | Advocacy
A Chapter of the College of Family Physicians of Canada



There are many types of income benefits available to Canadians, and improving income can help improve health. We are asking all patients at this clinic to complete the following survey. By answering these questions, you can help your provider determine if there are income benefits and supports that you may be eligible for.

Participation is optional and your answers will not impact your usual standard of care.

Do you ever have difficulty making ends meet at the end of the month?

Have you filled out and sent in your income tax forms for the last year?

Are you a parent or legal guardian to children under 18 years of age?

Do you receive the child benefit on the 20th of every month?

Are you a person of Indigenous heritage/descent/ancestry, that is, First Nations, Inuit, or Métis?

Are you a social assistance recipient (e.g. Ontario Disabilities Support Program, Ontario Works, etc.)?

Do you live with a mental or physical disability?

Do you receive Old Age Security (OAS) and Guaranteed Income Supplement (GIS)?

▼ Test, Patient

Family Hx

Problem List

Past Hx

Meds

Allergies

Immunizations

Personal Hx

Reminders

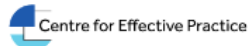
Risk Factors

Email consent: **None** **Deny Grant** Email: Next of Kin: Consent Granted?

970 Email Attach Add Form Favourite Open Portal Import Refer Available notes have been downloaded

Enter T-scores **T-Score Flowsheet** T-score Graphs: **Femoral Neck** || **Lumbar Spine** Insert the Osteoporosis Assessment Tool **ICD-9** **SNOMED**

- Feb 7, 2018** OCN/CEP
@PovertyScreen: 1
This patient was screened for poverty and indicated that they have difficulty making ends meet.
- Feb 7, 2018** Poverty Tool CEP



Poverty: A clinical tool for Primary Care Providers

[Collapse Form](#)

This patient was screened for poverty and indicated that they have difficulty making ends meet.

Intervening can have a profound impact on your patients' health.

1. Connect

Please [click this link](#) and print the resource page for your patient

2. Educate & Intervene

Your patient has not filled out and sent in their income tax forms this year.

Tax returns are required to access many income security benefits and programs.

Intervene: Connect your patients to [Free Community Tax Clinics](#).

Drug Coverage: up-to-date tax filing is required to access Trillium plan for those without Ontario Drug Benefits.

Intervene: To help your patients with prescription drugs cost, [click here](#).

Your patient has a child/children but does not receive Canada Child Benefits.

Intervene: Use [Canada Benefits](#) website with patients to identify and access income supports for patients and families.

Your patient is not a social assistance recipient.

Consider discussing with patient. Social assistance programs include [Ontario Works](#) (OW) and [Ontario Disability Support Program](#) (ODSP). Specific criteria need to be met for patient to be eligible for social assistance.

Patient does not identify as part of the Indigenous peoples population.

Patient responded that they do not have disabilities.

3. Follow-Up

- I would like to be reminded at the next patient's visit to follow-up

Activities Completed by Provider

- I referred my patient to a specific income support/benefit
- I had a discussion with my patient regarding resources and supports
- I connected my patient with (eg. Social Services Worker):

Improving your income can improve your health!

This handout includes key community-based resources near you that can help with making ends meet. For additional help with housing, food, health, child care and other supports, dial 2-1-1 or search for services at 211ontario.ca


Print the Handout!


Sudbury Community Legal Clinic


Services

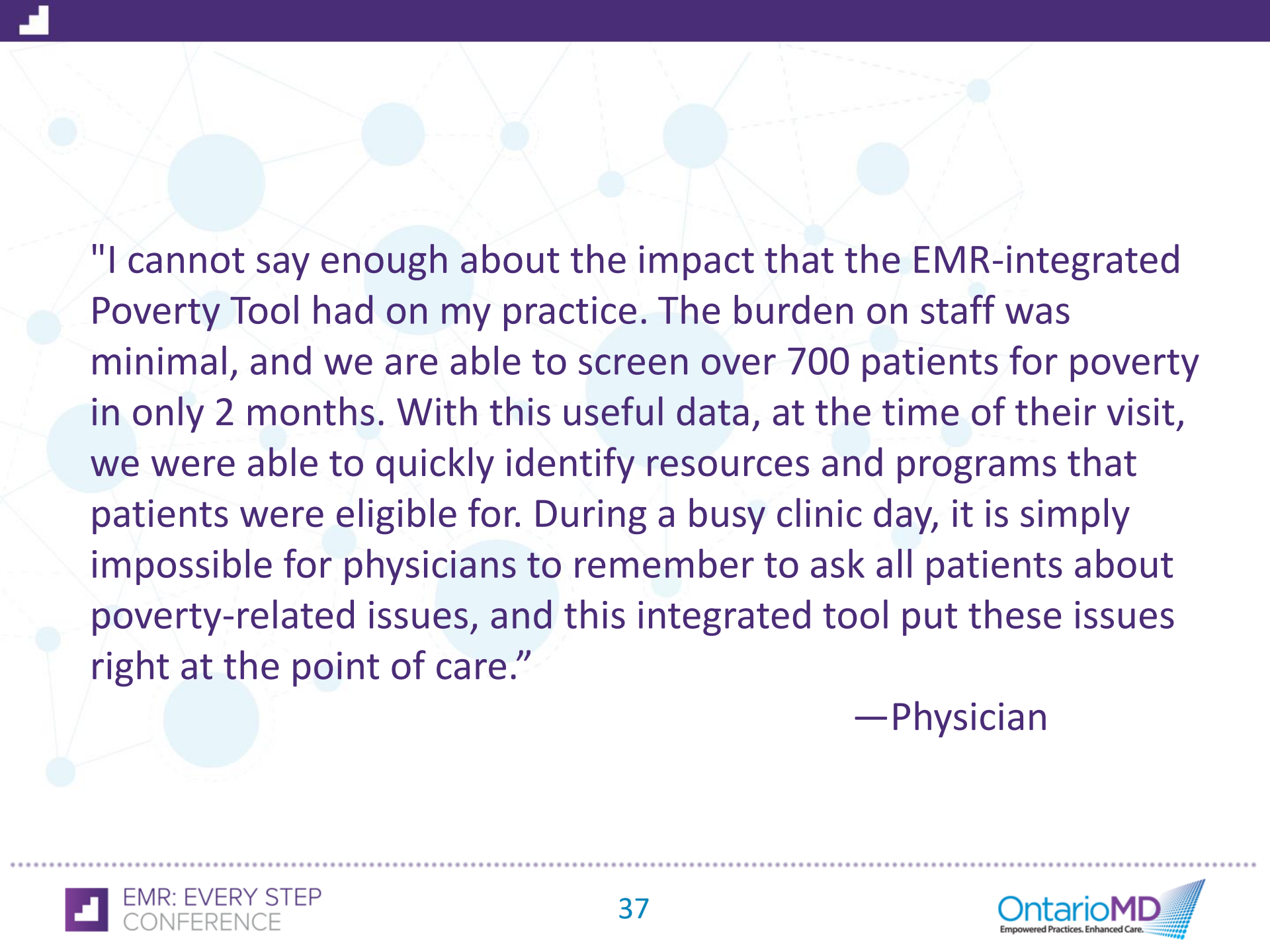
- Offers advocacy and representation on behalf of those with limited income
- Focuses on income related problems such as Ontario Works, Ontario Disability Support Program, Workers Compensation, Employment Insurance and Canada Pension Plan
- Provides assistance with housing and tenancy issues, advice and legal referrals

Contact Information

 40 Elm St Unit 272 Sudbury
Greater Sudbury ON P3C 1S8
Canada

 705-674-3200

 Mon-Fri 8 am-12 Noon, 1:30
pm-4:30 pm

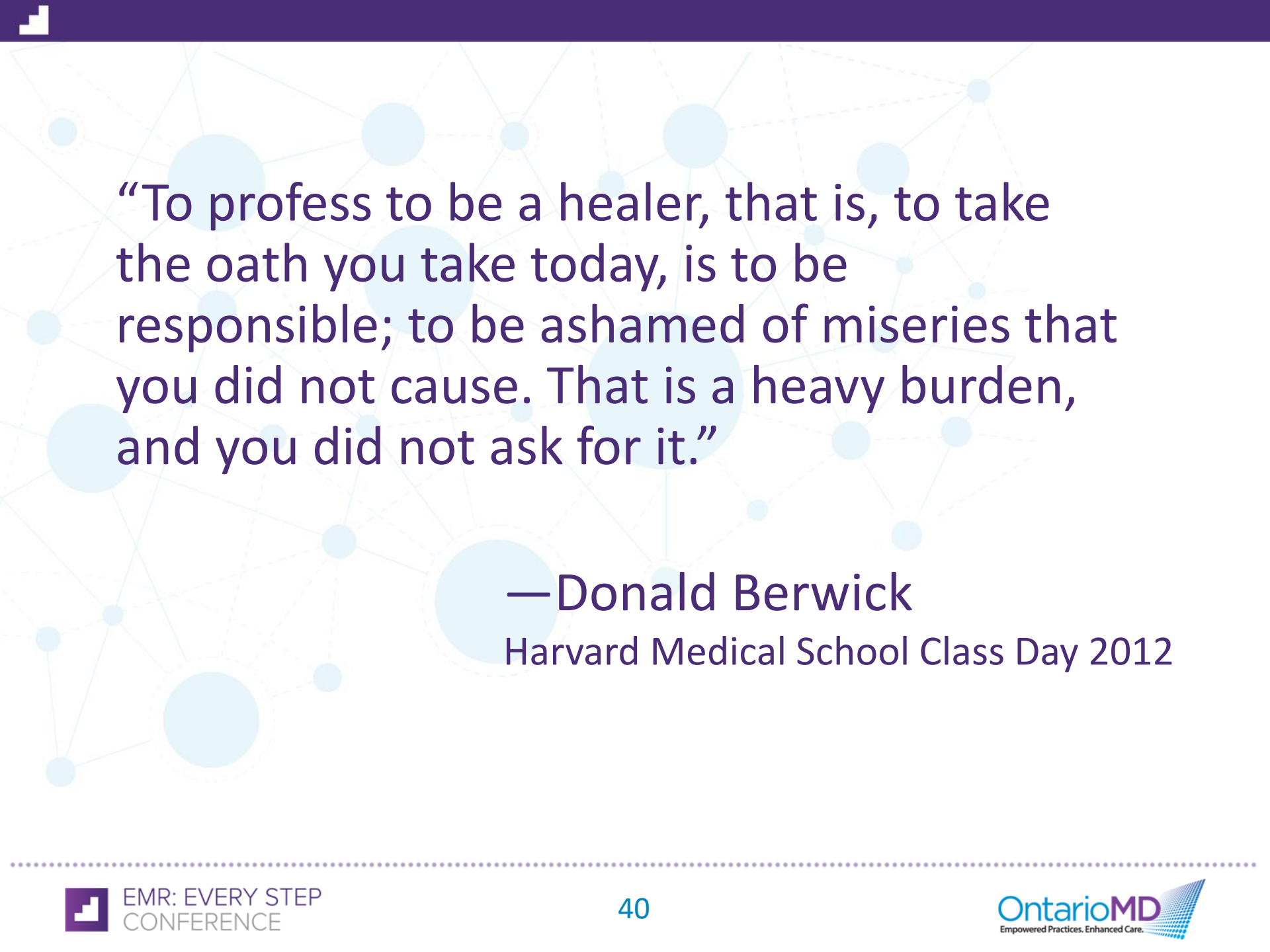


"I cannot say enough about the impact that the EMR-integrated Poverty Tool had on my practice. The burden on staff was minimal, and we are able to screen over 700 patients for poverty in only 2 months. With this useful data, at the time of their visit, we were able to quickly identify resources and programs that patients were eligible for. During a busy clinic day, it is simply impossible for physicians to remember to ask all patients about poverty-related issues, and this integrated tool put these issues right at the point of care."

—Physician







“To profess to be a healer, that is, to take the oath you take today, is to be responsible; to be ashamed of miseries that you did not cause. That is a heavy burden, and you did not ask for it.”

—Donald Berwick

Harvard Medical School Class Day 2012

Thank you!

Tara.kiran@utoronto.ca



@tara_kiran
#OMDESC18

Poverty EMR Integration Pilot

Visit: thewellhealth.ca/poverty

Or contact: katie.hagel@effectivepractice.org

Other resources to help you address health equity:

<http://torontohealthequity.ca/>

<http://ocfp.on.ca/cpd/povertytool>

<https://upstreamlab.org/>

<https://healthleadsusa.org/tools-item/health-leads-screening-toolkit/>