

My Health eSnapshot

Improving preconception health through
innovation and technology



PublicHealth
WELLINGTON-DUFFERIN-GUELPH
Stay Well.

Agenda

- About preconception health
- Our journey
- Development of *My Health eSnapshot*
- Use of an innovative tablet technology platform
- Study design & implementation
- Key research findings
- Future planning

Preconception Health = PCH
Healthcare provider = HCP

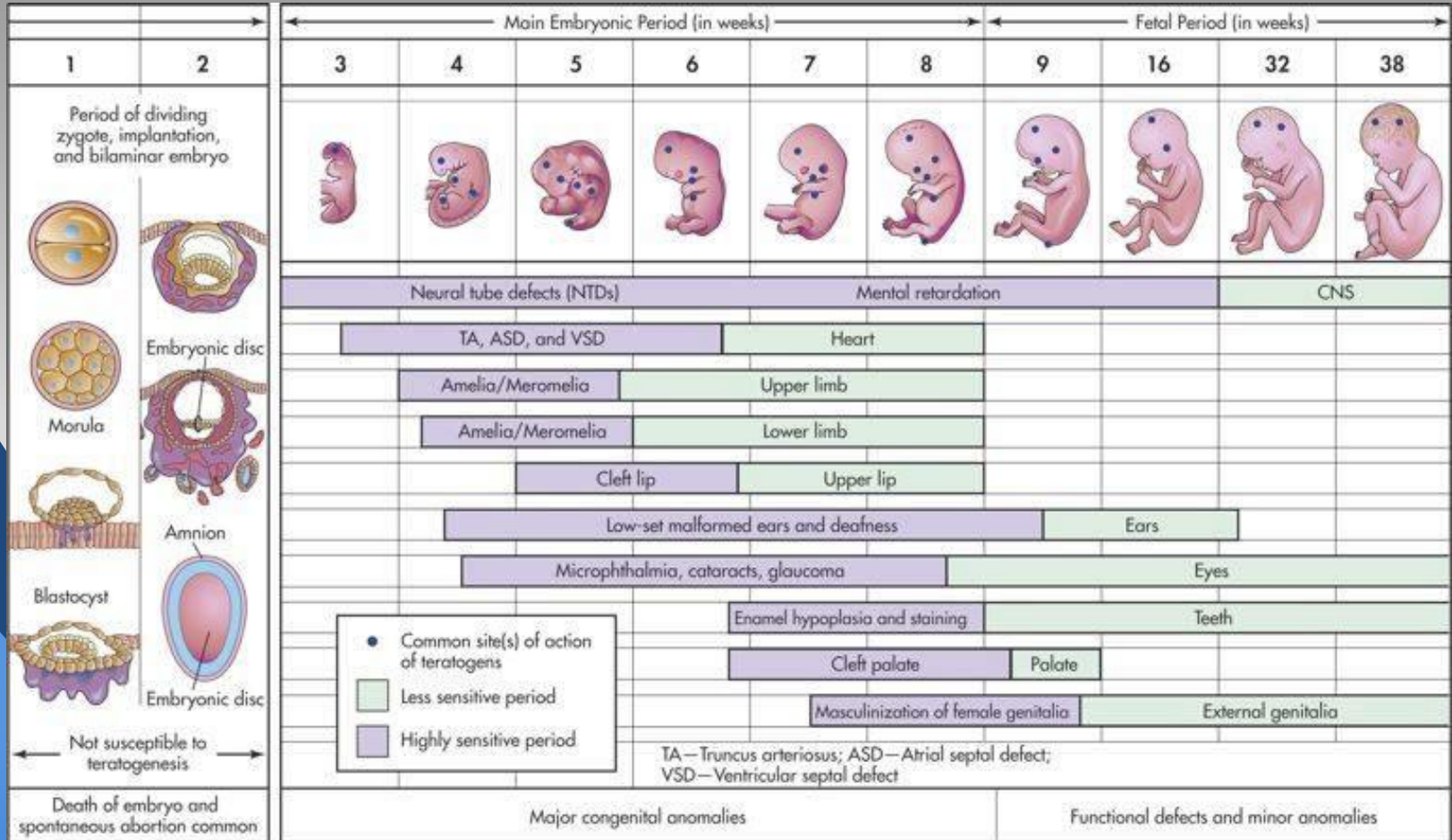


Preconception Health

- Health of **ALL** individuals during their reproductive years, whether or not they plan to have children one day
- Promotes **healthy fertility** and focuses on actions to **reduce risks**, promote **healthy lifestyles** and increase **readiness for pregnancy**



Why is this Important?



Why is this Important?

Reduce/Manage Risk Factors:

Genetics
Poor Nutrition
Obesity/Underweight
Poor Oral Health
Tobacco, Alcohol, Drug Use
Chronic Diseases
Infections/STIs
Mental Health/Stress
Environmental Toxins



Improve Birth Outcomes:

↓ Preterm Birth
↓ Low Birth Weight
↓ Congenital Anomalies
↓ Infant Mortality

Our Journey



Key Findings

Literature Review:

- Public awareness & HCP outreach strategies promising
- Need innovative strategies & more research

Public Health Unit Survey:

- Public awareness strategies with limited evaluation
- Limited strategies for HCPs

WDG Community Survey:

- Prefer HCP as source for health information
- Likely to follow advice if prompted by HCP



Healthcare in Canada

The majority of women have a regular medical doctor



89% Canada

94% Ontario

98% WDG

Statistics Canada, 2014



Healthcare in Canada

The majority of women had contact with a medical doctor in the last 12 months



85% Canada

86% Ontario

86% WDG

Statistics Canada, 2014



Strategy



Innovative technology-based strategy for HCPs

Primary Question



Can a patient-driven electronic PCH risk assessment tool, for use during healthcare provider visits, increase PCH knowledge and behaviour change among women of reproductive age (15-49 years)?



Secondary Questions



- To identify the prevalence of PCH risk factors
- To evaluate the process
- To evaluate the user-friendliness



Conception of Tool

- Reached out to researchers at Boston University Medical Centre about **The Gabby Preconception Care System**
- Adapted the Gabby System to reflect Canadian best practices and deliver model in a healthcare setting



Development of Tool



Preconception Health Risk Assessment
& Customized Patient Handout



Patient Handout



My Health eSnapshot Results

What is going well:

You do not have any chronic medical problems.

You are getting a healthy amount of physical activity.

What to think about:

Immunizations: You are not up-to-date with your immunizations

Why does it matter now?

Immunizations or vaccines can help protect your body against many diseases. Some of these diseases can be very serious, such as measles, mumps, rubella, chicken pox, and the flu. The good news is that these diseases can be prevented. Talk to your healthcare provider on a regular basis to find out what routine immunizations (shots) you need. Some immunizations protect you from a disease for your whole life, but others need to be given again (boosted) to keep up protection. You may also need more immunizations depending on your lifestyle, work or travel. It is important to keep a record of all vaccines that you receive.

Why does it matter for pregnancy?

Many infectious diseases can cause harm to you and your baby during pregnancy and birth. For example, rubella and chickenpox can cause serious birth defects to your baby during pregnancy. To help protect you and your future baby, talk to your healthcare provider to find out what immunizations you need. For example, it is very important to be screened for rubella, chickenpox and hepatitis B before getting pregnant. Your healthcare provider can also give you advice about when it is safe to get immunizations, and if you need to avoid pregnancy for a period of time. For example, if you get the rubella immunization you should wait 4 weeks before trying to get pregnant.

For more information about immunizations, visit Immunize Canada's website: www.immunize.ca



Technology

- Ocean by CognisantMD
- Integrates results into patient's EMR
- Generates a patient handout
- Cloud-based platform
- Securely shares encrypted health information for clinical use and research
- Benefits patients & HCPs



Sneak Peak



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Welcome to the My Health eSnapshot questionnaire

Please select all of the following boxes that apply to you.

- I am a woman between the ages of 15 and 49 years
- I am not pregnant, and I have not had a hysterectomy
- I can read and write in English
- I have an email address
- I currently live in the Wellington, Dufferin, Guelph area
- I am comfortable using a tablet to complete this questionnaire
- I agree to create a private code to protect my identity

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Emotional Health

Over the past 2 weeks, how often have you been bothered by any of the following problems?

Feeling nervous, anxious or on edge

Not at all	Several days
More than half the days	Nearly every day

Not being able to stop or control worrying

Not at all	Several days
More than half the days	Nearly every day

Little interest or pleasure in doing things

Not at all	Several days
More than half the days	Nearly every day

Feeling down, depressed or hopeless

Not at all	Several days
More than half the days	Nearly every day

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Sneak Peak



A screenshot of a medical software interface titled "QDSS Hope Latam - PSS". The interface displays various patient data fields. A red circle highlights the "Reproductive Life Plan" section, which includes details about pregnancy intentions, sexual activity, and contraceptive use. A red arrow points from the right side of the screen towards this circled section. Other visible sections include "Allergies", "Medications", "Immunizations", and "Family & Genetic History". The interface also shows a navigation menu with options like "Home", "PET", "Workshops", and "Ocean".



Study Phases



Phase 1

Data Collection



Study Sites

- Seven primary care research sites
- Family Health Teams
- Urban and rural representation



Study Participants

- Random recruitment by each study site
- Each target sample: 120 participants (10/week)
- Study period: 3 months
- Patient incentive: \$10.00 grocery gift card



Eligibility Criteria

- Female
- Age 15-49 years
- Not pregnant
- No history of hysterectomy
- Can read and write English
- Have email address
- Comfortable using a tablet
- Live in Wellington-Dufferin-Guelph



Model

Risk
Assessment

HCP
Discussion

Patient
Handout



Risk Assessment



- PCH risk assessment on Ocean tablet
- In waiting room or exam room
- Before HCP appointment (~10 minutes)



Discussion



- Results are uploaded into the EMR
- HCP reviews results with patient
- Follow-up appointment booked if needed



Patient Handout



- Customized patient handout
- Printed from EMR
- Take-home resource



Study Evaluation

1-Week
Participant
Online Survey

2-Month
Participant
Online Survey

PCP Key
Informant
Interviews



Participant Survey



To evaluate the tool and patient handout, and ask about their experience discussing results with their HCP.



Participant Survey



To evaluate changes in participant's knowledge and behaviour related to PCH risk factors identified



Key Informant Interviews Primary Care



To identify the benefits, challenges and sustainability of implementing a patient-driven PCH risk assessment tool via tablet technology in primary health care settings.



Phase 2

Data Analysis



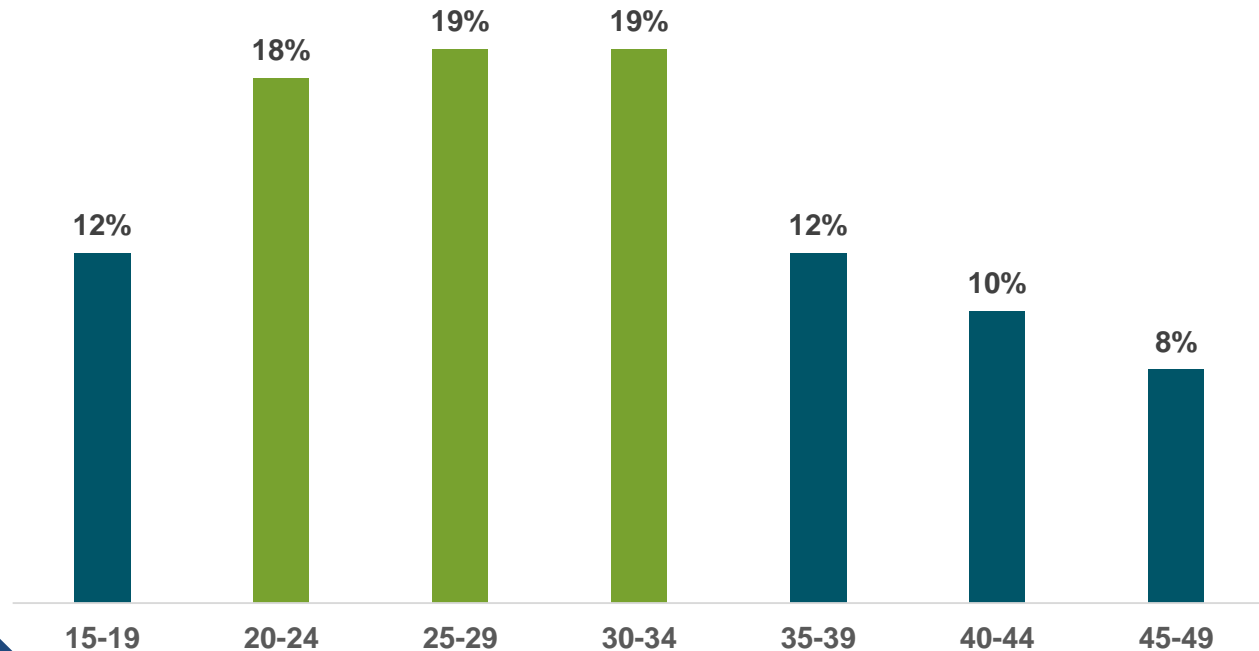
Data Analysis

- Data analysis ongoing
- Risk assessment: non-identifying patient data accessed through Ocean Studies
 - Primary care sites have exclusive patient data ownership
- Follow-up surveys: patient data accessed through FluidSurveys
- Data from risk assessment and follow-up online surveys were linked using patient's private code



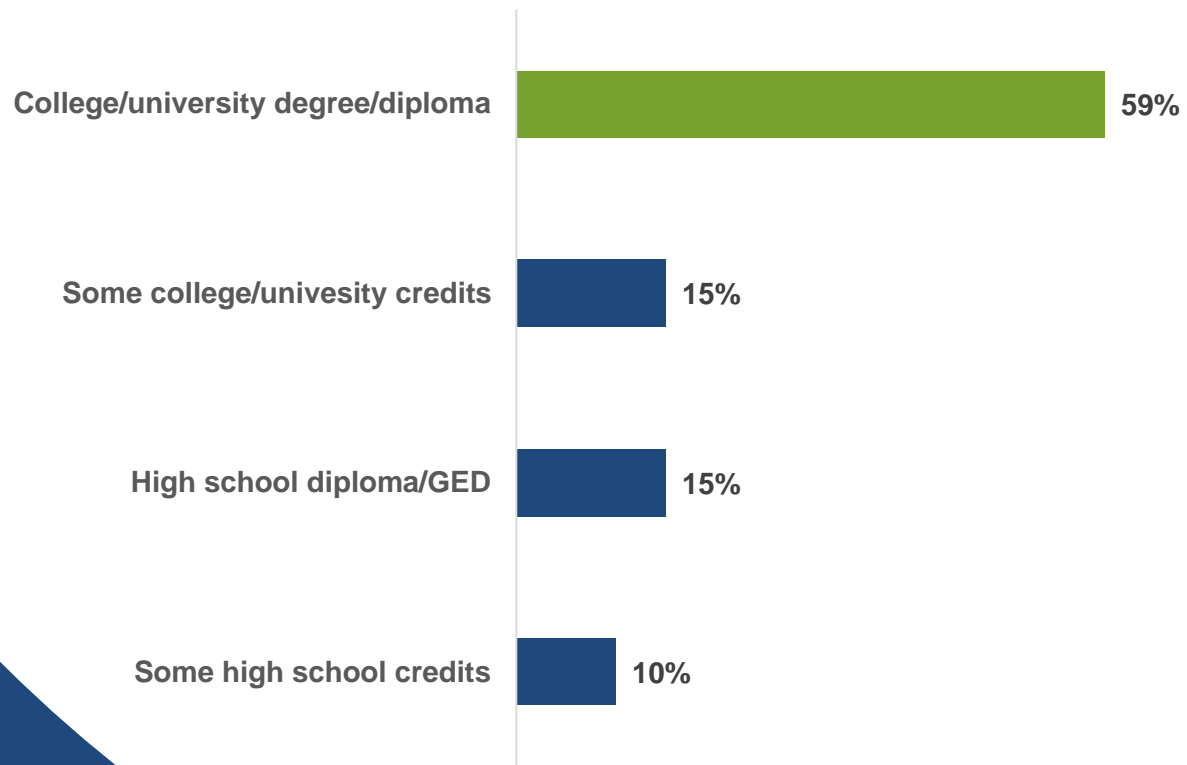
Demographics - Age

The **majority** of respondents were age **20-34 years**



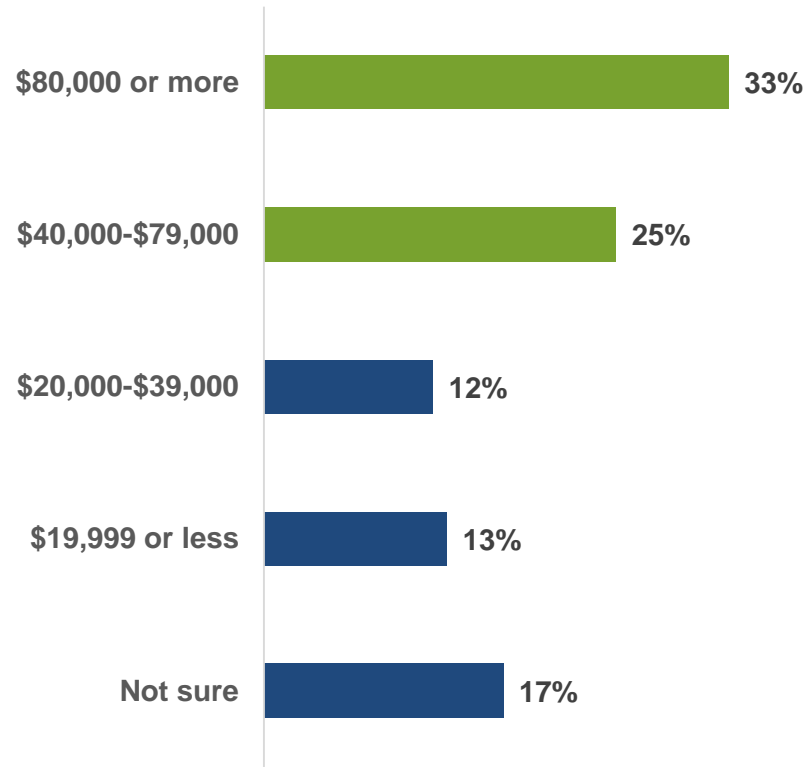
Demographics - Education

The **majority** of respondents had **high level** of **education**



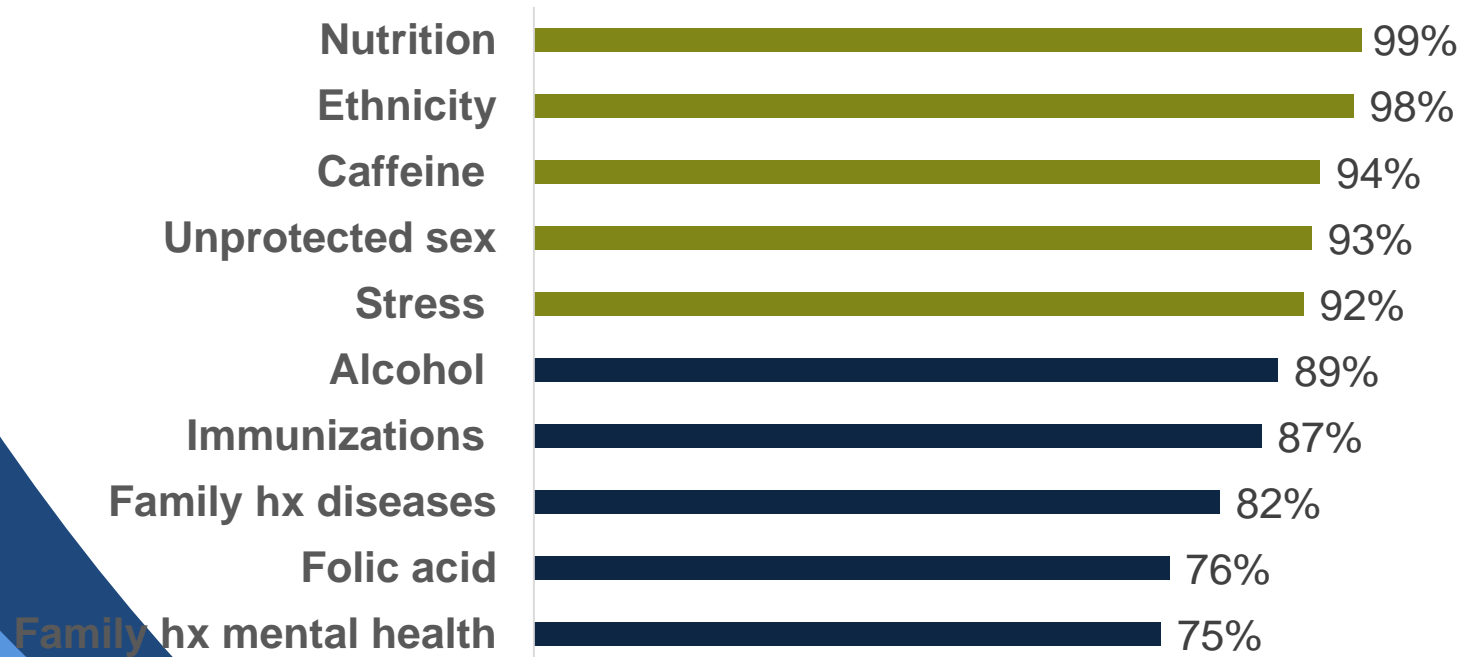
Demographics - Income

The **majority** of respondents had an annual household **income** level **above \$40,000**



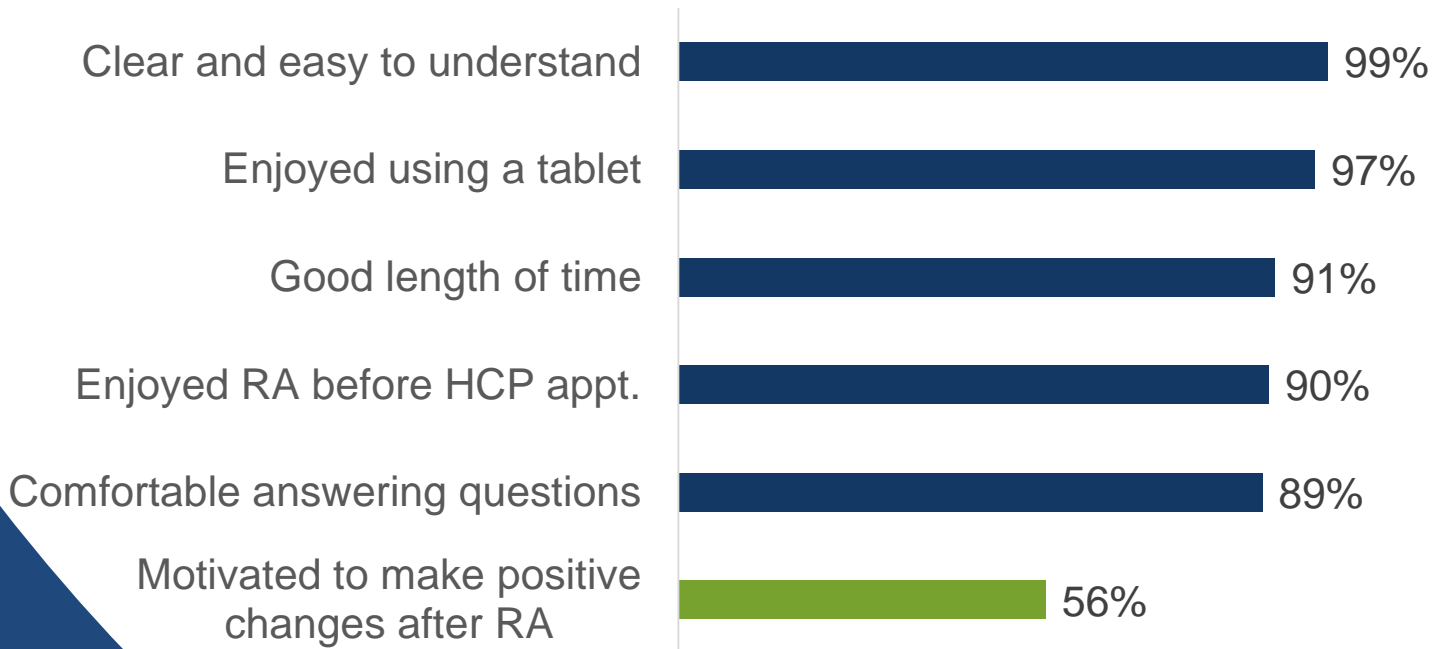
Risk Assessment n=300

The most prevalent **risk factors** identified in WDG

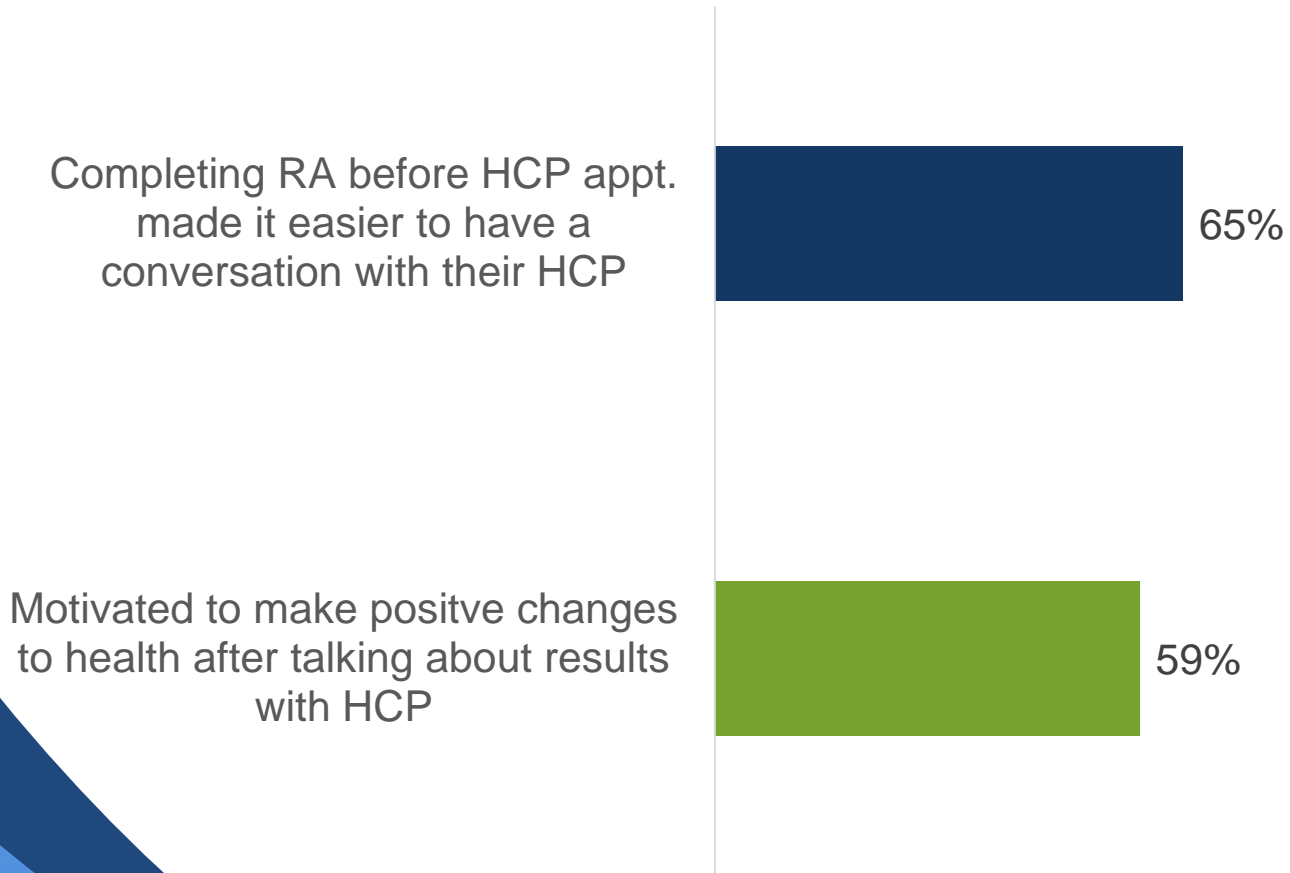


One-Week Survey n=188

The **majority** of patients reported having a **positive experience** using the **risk assessment**

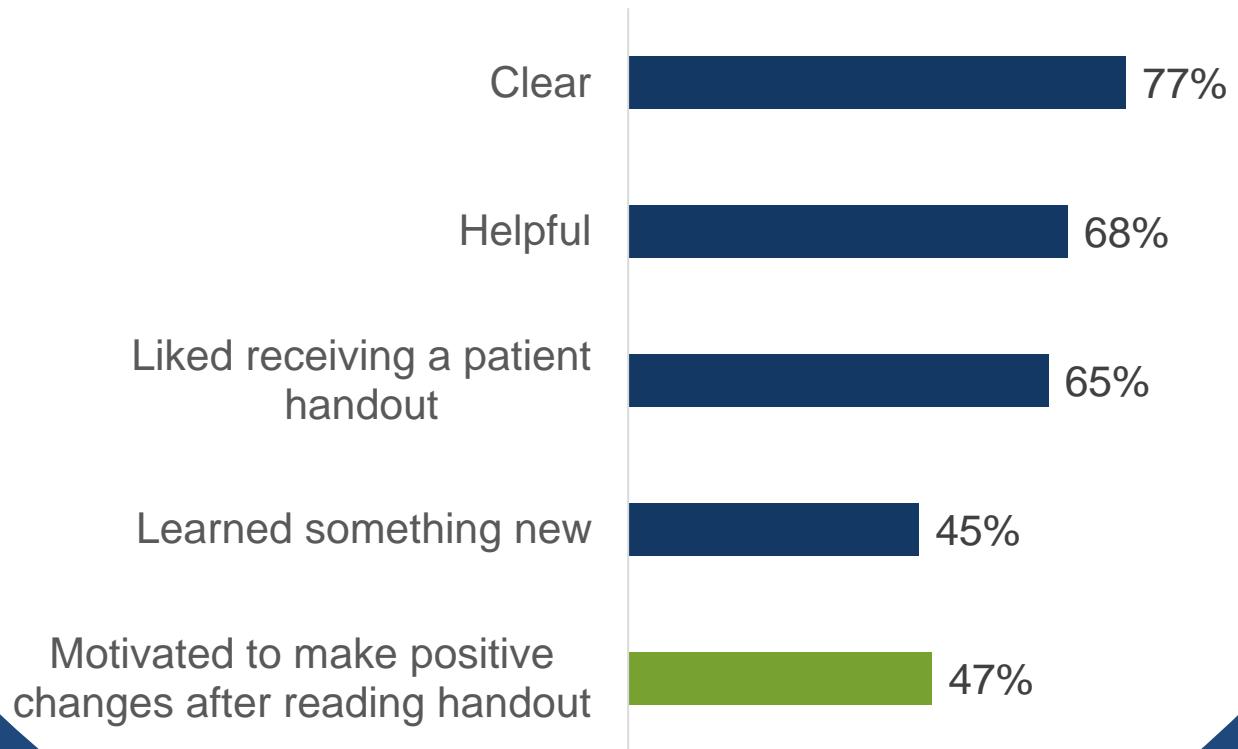


One-Week Survey n=86



One-Week Survey n=164

The **majority** of patients reported having a **positive experience** about the **patient handout**

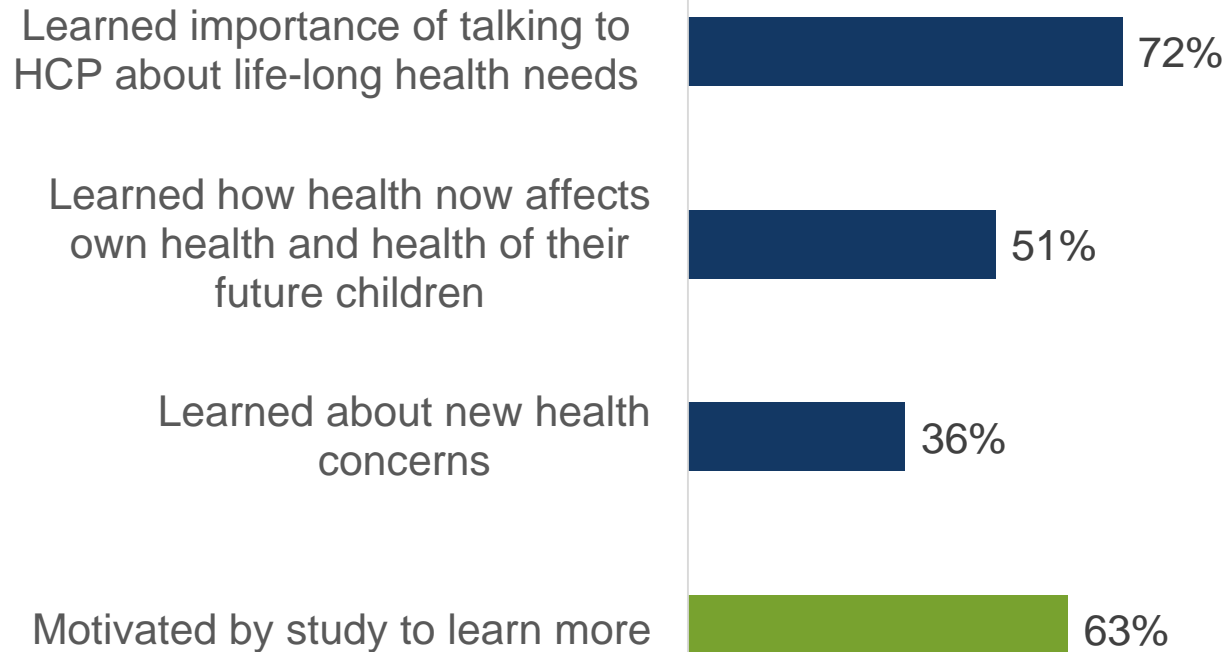




76%

Of patients would
recommend the
experience to a friend

Two-Month Survey n=144

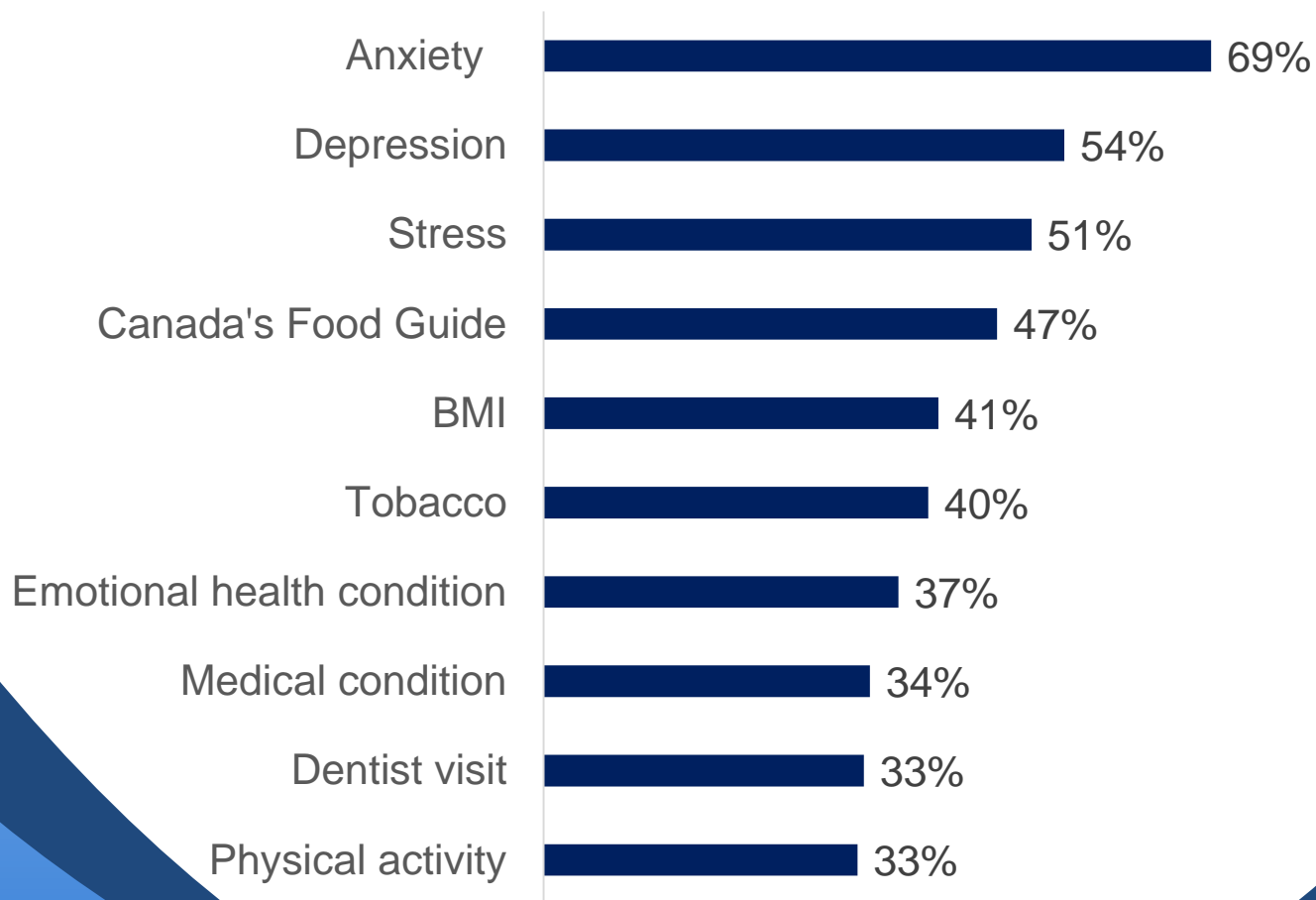




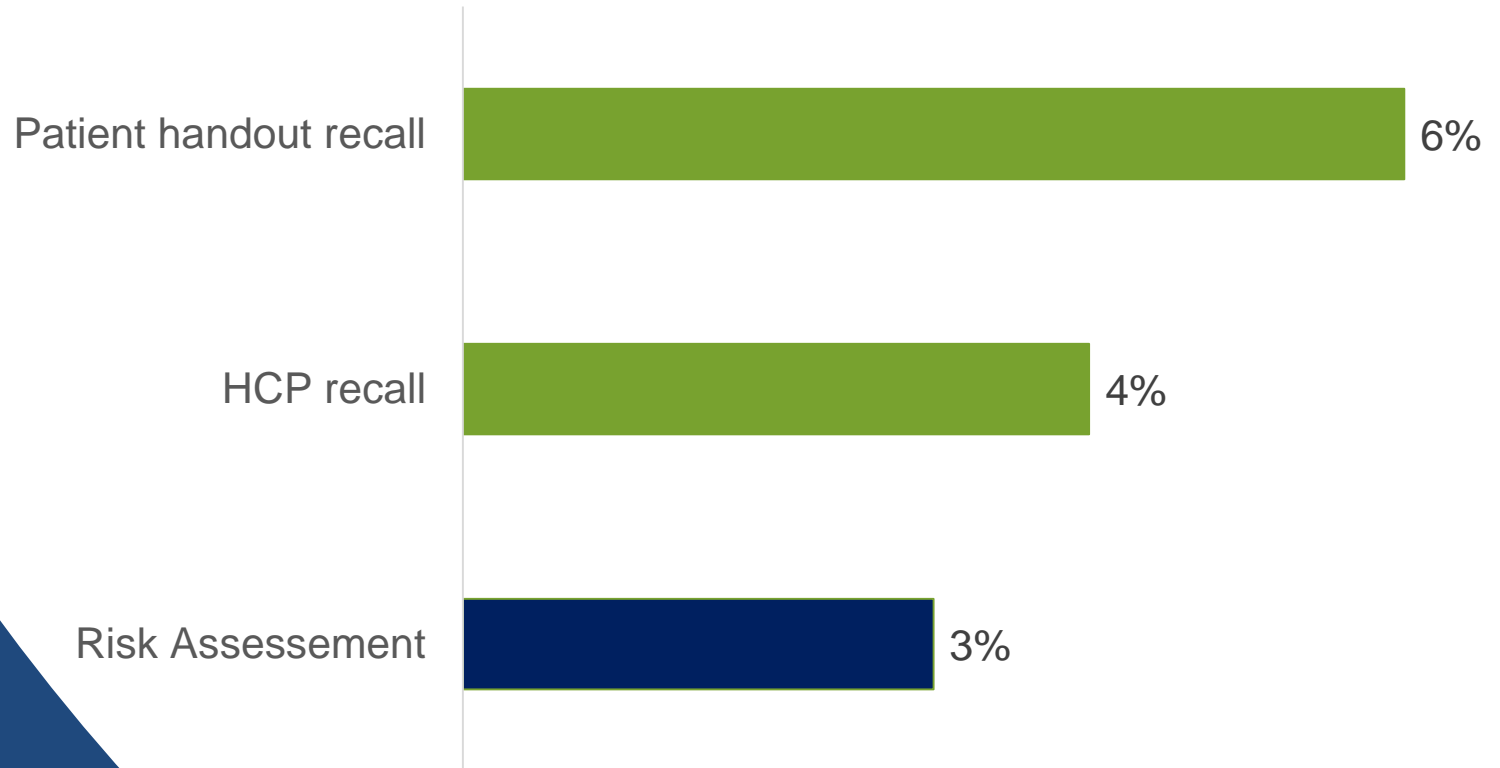
68%

Of patients **followed**
some health **advice**

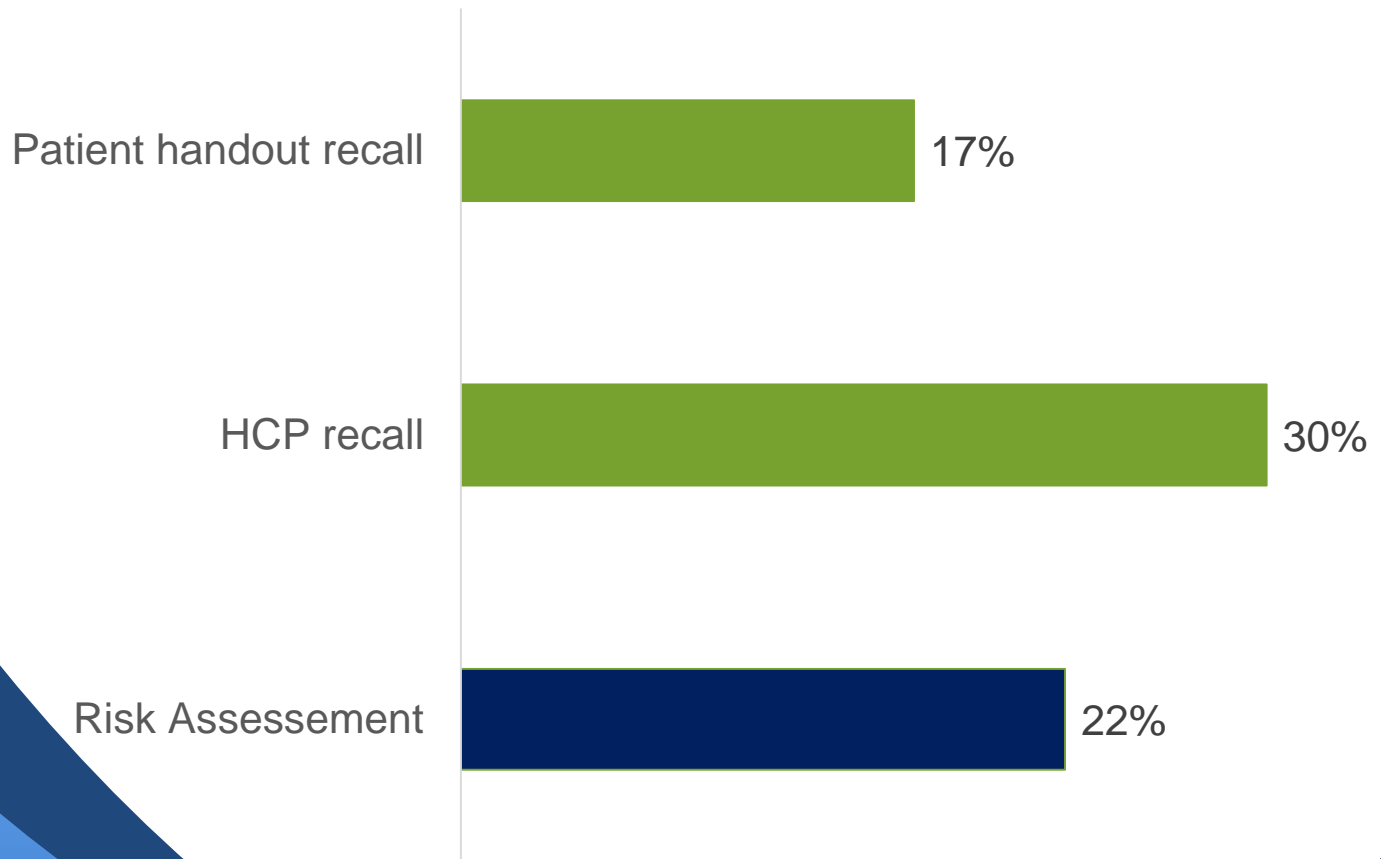
Top 10 risk factors identified by participants as having plans to take action or have already taken action



Learned more about **anxiety** as a Risk Factor



Likely to follow plans or continue changes within the next 30 days related to **Anxiety**



What We Heard...

It helped me to have the courage to speak to my doctor about my mental health

Very easy to complete

Less intimidating and intrusive than talking face to face... about personal subjects

I know I've got health problems. My HCP did not seem concerned with my health issues. I can only do so much on my own

It's informative and puts information in front of you that we sometimes tend to ignore

I didn't learn very much and hardly discussed the results with my doctor

Key Informant Interviews

7 Staff Participants

Successes:

- Ocean platform
- EMR integration
- Tablets
- RA questions
- Patient handout

Challenges:

- Time
- Recruitment
- Physician buy-in
- Internet access
- Technology glitches



Benefits

Clinic

- Using Ocean platform (tablet + EMR integration)
- New opportunity for patient teaching
- Learned new info about patients
- Enhanced medical records
- Easy to assess patient risks
- Increase PCH profile

Patients

- Interest in patient handout
- Learned more about their own health
- Identified new risk factors (e.g., eating disorder)
- Understand HCPs have a role in PCH



Changes for Future Implementation

- Shorten RA Tool & Patient Handout
- Offer at specific appointment types (e.g., physicals, sexual health, family planning)
- Schedule adequate time during appointment
- Ocean to allow patient handout printing anytime
- Have multiple tablets available
- Explore opportunities to increase physician buy-in



All

HCPs interviewed said they would **consider using** My Health eSnapshot in **future** if changes made

What We Heard...

It brought PCH to a bit of a higher level... at least among the staff...

My impression is that Ocean can be a powerful tool

I liked that the tablet connected directly to the EMR

Having the handout was useful to reinforce some of the things we had discussed

It comes down to not enough time. In primary care our appointments are limited...

Patients got to know themselves better

Phase 3



Phase 4

Future Planning



Future Planning

- Create advisory group
- Fine-tune strategy
- Expand the model





My Health eSnapshot

HEALTH. FOR LIFE.



Meet Our Team



Meet Our Team

- Melissa Potwarka, Manager (A)
- Cynthia Montanaro, Public Health Nurse
- Lyn Lacey, Public Health Nurse
- Jennifer MacLeod, Manager
- Patrick Seliske, Epidemiologist
- Mai Miner, Data Analyst
- Amy Estill, Health Promotion Specialist
- Kim Underwood, Program Assistant



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- Sonja Vukovic, MPH student
- WDGPH Research Ethics Committee
- Expert reviewers
- Research sites
- ME, Designer
- Cameron Productions



Thank you



My Health eSnapshot

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