**Discussion Guide for:  Conditionally positive: a qualitative study of public perceptions about using health data for artificial intelligence research**

Melissa D McCradden PhD, Tasmie Sarker, P Alison Paprica PhD

### WAIT ROOM ACTIVITY (15 MIN BEFORE THE GROUPS BEGINS)

Review and sign provided informed consent form when checking in

Welcome!

While you're waiting for the group to begin, take a moment to think about how you feel about the idea of Artificial Intelligence (AI) in the world today.

- Choose pictures from the magazines that represent how you feel and paste them in the space below.
    o Fill in the blanks to explain each picture.

        My feelings towards AI are like _____ because _____

- Take some time with this and really try to capture how you feel.

### DISCUSSION

A) INTRODUCTION (5 MIN)

- Moderator Introduction:
    o Thanks for coming, general topic (AI), agenda (review and discuss scenarios related to the topic)
    o Role as objective facilitator for the group, listen to all points of view, no wrong answers, build off each other
    o Guidelines: Talk one at a time, as loud as my voice, avoid side conversations, equal air time, don't be shy to say what you believe whether or not everyone agrees with you
    o Food/permissions: Ok to get up for food, go to washroom, but one person at a time
    o General disclosures: Microphones, video recording, info for research only, one-way mirror
    o If you feel uncomfortable and want to stop participating, you are welcome to leave at any time.

- Participant Introduction:
    o First name, who do you live with, what's a word your family/friends would use to describe you?

B) INITIAL ATTITUDES TOWARDS AI (5 MIN)

- Before we get to your waiting room activity, what first comes to mind when you think of AI?

- Tell me about the image/s that you chose and explain how they represent how you feel about AI
    - Probe/listen for positive and negative feelings, feelings around a lack of understanding or confusion

C) VECTOR AI INTRODUCTION (5 MIN)

This focus group is being conducted for the Vector Institute which is an independent research institute focused on AI. Vector is home to many world-class AI scientists. When people from Vector explain AI they describe it like this:

AI is the field of computer science that focuses on training computers to perform tasks which would usually require human intelligence.

Using AI, computers can self-adapt and learn based on data and observations. A computer that is trained on large amounts of data can find patterns in data and make predictions and decisions with human-like intelligence.
For example, using AI a computer might:
- learn how to predict new songs that you'll probably like based on what you listen to on Spotify
- present an advertisement on the internet that is likely to be of interest based on other websites that you have visited
- scan millions of x-ray images in seconds and retrieve 3-4 images to assist a doctor who is making a diagnosis based on a rare or unusual x-ray image
- process large amounts of real-time data and predict when a baby in the intensive care unit is going to have cardiac arrest 5 minutes earlier than most doctors or nurses could

For the rest of this session I'm going to present some health AI scenarios for you to discuss.
They are all fictional scenarios that resemble actual health AI activities that are happening somewhere in the world now.

They all contain some scientific information, but the goal isn't to have you learn the details.

The Vector Institute would like to know how you feel about the scenarios. For example, whether something stands out in a good or bad way, or if you have important unanswered questions after reading them.

Vector will use what they learn about public perspectives in their future communications and decisions.

At the end of the session, a representative from Vector will come in to answer any questions that you have.

Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance placed on this supplemental material which has been supplied by the author(s)

*BMJ Open*

D) SCENARIO REVIEW (90 MIN) - Order rotate scenarios with handout, 30 minutes of discussion each
(note: the text may be modified in small ways to improve clarity)

Scenario 1: AI-Based Cancer Genetics Test
Scenario 2: AI-Based App to Help Older Adults Aging at Home
Scenario 3: Accessible Lab Test Results Dataset for AI

|  | Sudbury | Mississauga |
|---|---|---|
| Ages 35 – 65, lower income | Scenario 1, 2, 3 | Scenario 3, 1, 2 |
| Ages 25 – 34, mixed income | Scenario 2, 1, 3 | Scenario 3, 2, 1 |
| Ages 35 – 65, higher income | Scenario 2, 3, 1 | Scenario 1, 3, 2 |

- Read the scenario, before we discuss it, I want you to:

  o Mark up the scenario by circling ideas that attract you, crossing out ideas that push you away, and placing question marks beside ideas you don't understand (write legend on flip chart) – we will collect them at the end of the session and share them with our client

  o In the space provided, circle how appropriate you feel it would be for AI to be used in this way

    Very appropriate, Somewhat appropriate, Not so appropriate, Not appropriate at all

- What is the main idea you take away from this scenario?

- With a show of hands, who wrote Very appropriate? Somewhat appropriate? Not so appropriate? Not appropriate at all?

  o What makes you feel this would be an appropriate use of AI?
  o What makes you feel that this wouldn't be appropriate?

- [time permitting] What questions do you have about this scenario?
  o What brings up these questions for you?
  o How would you hope these questions would be addressed?

- [time permitting] Of all the things we've talked about for this scenario, what is the most important thought you have to share?

REPEAT FROM BEGINNING OF SECTION FOR NEXT SCENARIO

Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance placed on this supplemental material which has been supplied by the author(s)

*BMJ Open*

E) ATTITUDES TOWARDS AI RELOOP & WRAP UP (5 MIN)

- Now that we have reviewed these scenarios, what would you say was your biggest take away from what you read or what we discussed today?

- How do you feel about the role of AI as it pertains to health?
    - Are you leaning positively or negatively towards it?
    - What are the reasons for that?

- Check back room for additional questions

F) Q&A WITH VECTOR AI (10 MIN)

- At this point, I'm going to invite Alison Paprica from the Vector Institute, her role is Vice President Health Strategy and Partnerships and she is here to answer any questions that you have.

Supplement: Discussion Guide for McCradden MD, Sarker S, Paprica PA, Conditionally positive: a qualitative study of public perceptions about using health data for artificial intelligence research          4

McCradden MD, *et al. BMJ Open* 2020; 10:e039798. doi: 10.1136/bmjopen-2020-039798