

## Developing an AI Tool to Derive Social Determinants of Health for Primary Care Patients: Qualitative Findings From a Codesign Workshop

Stephanie Garies, PhD<sup>1,2</sup> Simon Liang, MD<sup>1</sup> Karen Weyman, MD, MEd<sup>1</sup> Noor Ramji, MD, MSc<sup>1</sup> Mo Alhaj, MD, MPH<sup>1</sup> Andrew D. Pinto, MD, MSc<sup>1,2</sup>

<sup>1</sup>Department of Family & Community Medicine, St Michael's Hospital, Unity Health Toronto, Toronto, Ontario, Canada

<sup>2</sup>The Upstream Lab, MAP Centre for Urban Health Solutions, Li Ka Shing Knowledge Institute, Unity Health Toronto, Ontario, Canada

### Supplemental Appendix: Workshop Guide Audience: physicians & clinical team members

1. Welcome & introductions
2. Obtain written consent
3. Provide info about the demographic survey at end of workshop
4. Introduction to topic (*facilitators to present slides*)
  - a. What are the social determinants of health?
  - b. How could AI be used to derive social data from the EMR?
5. Understanding the current context (*ask participants to write down or verbalize responses to the following*)
  - a. What SDoH information do you currently have access to about your patients for clinical care and/or healthcare organization?
  - b. How do you access or view that information?
  - c. How do you currently use SDoH information?
6. Presentation of example of how the AI tool might be used in practice (*facilitators to present slides & demo the animation*)
7. Brainwriting Exercise (*participants will write down or verbalize as many responses as possible under the following categories*)
  - a. PEOPLE: who should be able to see or have access to the AI-derived SDoH data? If possible, who should take responsibility to act on it or direct care/resources? Who should be able to use the data for other purposes? (*Example probes: QI, management, resource allocation, etc.*)
  - b. PROCESS: where does this fit into your workflow? How can we optimize the use of SDoH info? What would have maximum vs low impact on patients? How best could we optimize the use of SDoH data (e.g. alerts, nudges, triggers) for action? What resources should be allocated for this (e.g. paper resource guide, certain staff, website, etc.)?
  - c. TECHNOLOGY: what would the interface look like? What data would be useful to see (SDOH, accuracy metrics, confidence estimates, etc.)?
8. Understanding barriers & facilitators (*participants will be asked to describe their thoughts on the following*)
  - a. ISSUES & BARRIERS: what are the needs or concerns that this solution overlooks for either patients, clinicians or decision-makers? What are some possible roadblocks or challenges to achieving this?
  - b. FACILITATORS: what would make this work possible? (people, resources, data, etc.)
9. Conclusion & reminder for demographic survey & gift card distribution process