

E-Vulnerability Index

Service Research Division
Employment and Social Development Canada
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E-Vulnerability Index

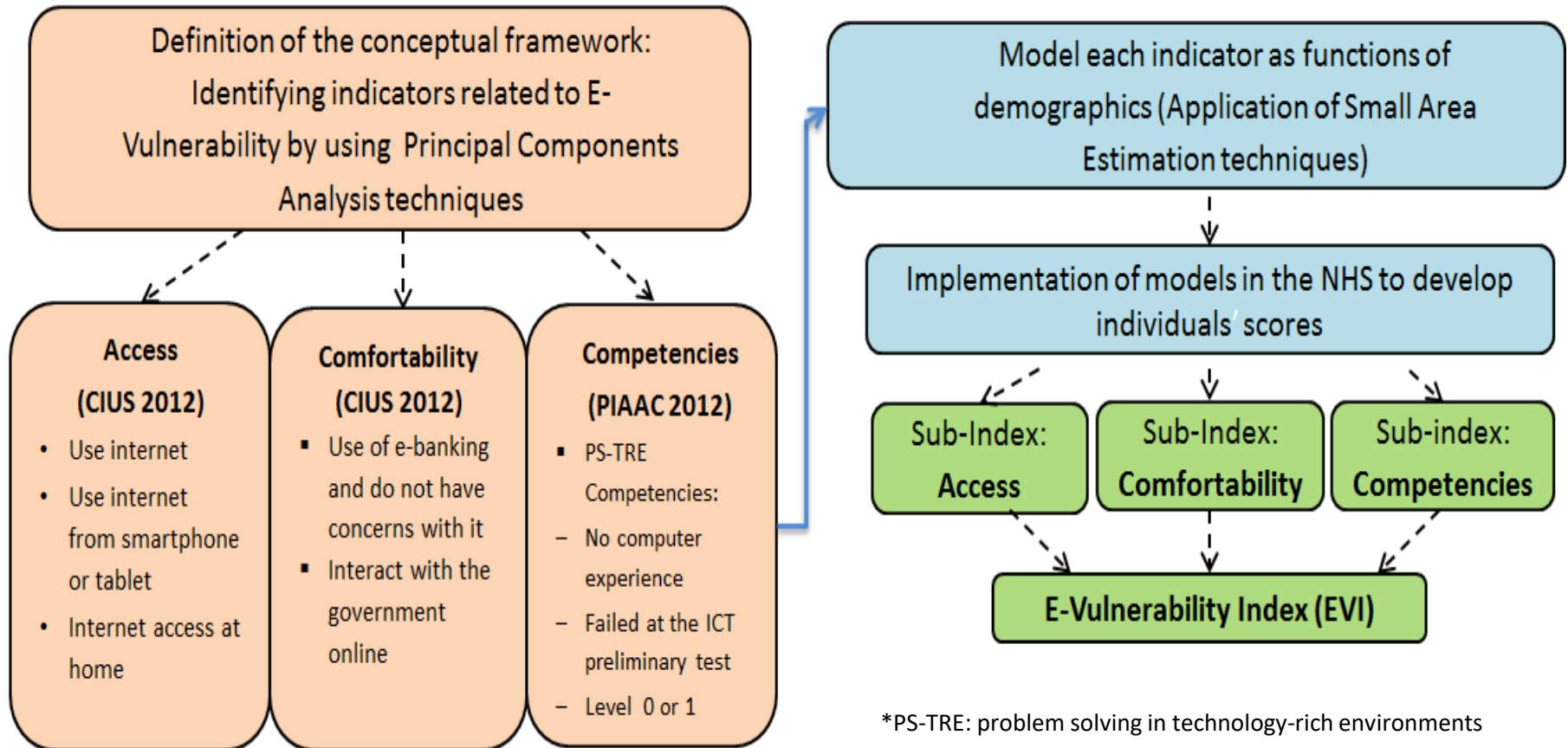
- Project name:
 - E-Vulnerability Index (EVI)
- Project Team:
 - Service Research Division.
- Objective:
 - Developing an index to identify who may be at a service disadvantage and where they are located with the move to digital services.
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Creation of the E-Vulnerability Index

- The E-Vulnerability Index measures the extent to which some individuals will be at a service disadvantage with the digitization of services.
- International best practice from the EU and OECD were used to develop a rigorous methodology to develop the EVI.
- Data sources from Statistics Canada (Canadian Internet Use Survey, Programme for the International Assessment of Adult Competencies, and National Household Survey) were used to measure three dimensions of digital vulnerability:
 - The **access** dimension measures whether or not individuals have the *means* (financial, material) to benefit from digital technologies.
 - The **comfortability** dimension relates to the willingness of individuals to use these digital technologies.
 - The **competencies** dimension captures whether or not individuals have the necessary abilities and knowledge to take advantage of the technologies.

Creation of the E-Vulnerability Index

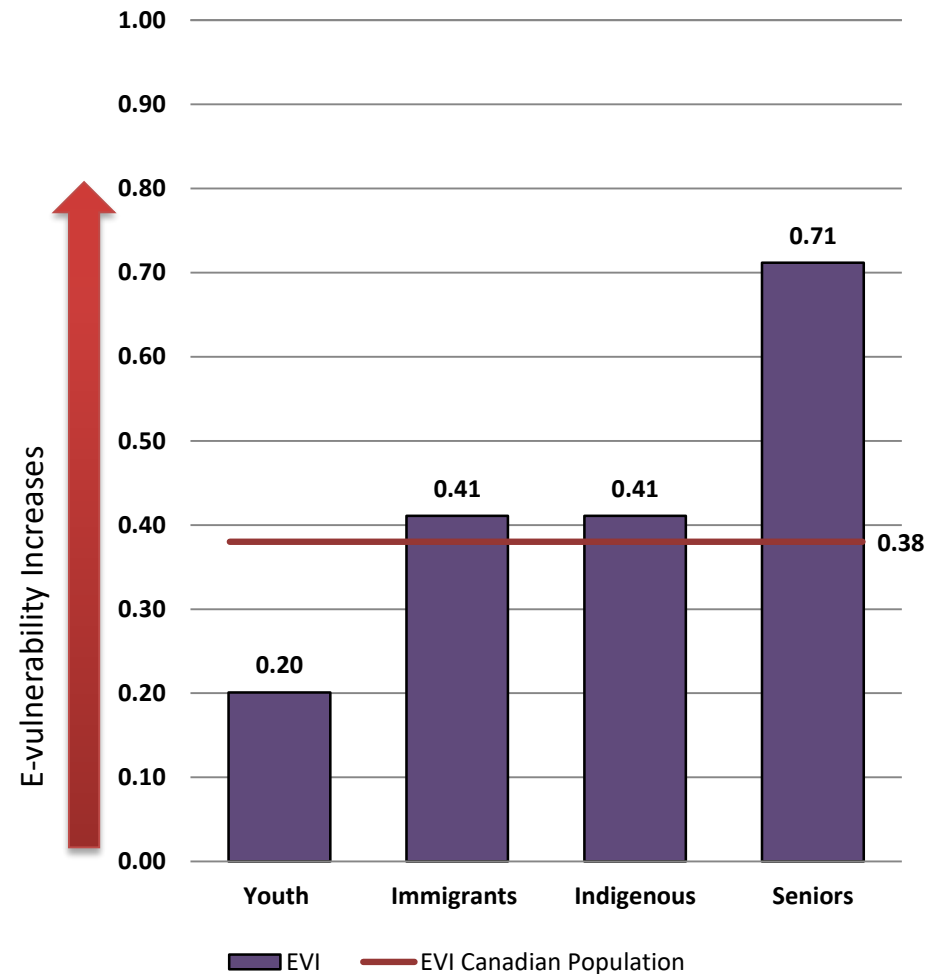
Methodology



- **EVI and sub-index were created using factor analysis**
 - Each sub-index is a weighted score of a number of indicators
 - The EVI is a weighted score of the sub-indices
- **Models account for observed regional variations (Small Area estimation techniques)**

- The index assigns individuals a EVI score ranging between 0 and 1, with 0 being the lowest level of e-vulnerability and 1 the highest.
- The EVI was first developed to look at populations living within 50km of each Service Canada Centre to help inform policy, program, and service delivery.
- To allow other service partners to benefit from the tool, the index has been applied to different geographic levels (census metropolitan area (CMA), census subdivision (CSD)).
- The index was also developed to better understand different segments of population (youth, immigrants, seniors and Indigenous Peoples).

Results of Pan-Canadian EVI Scores: Different Segments of the Population



E-Vulnerability Index Opportunities

EVI can help facilitate outreach, inform digital strategies, service program collaboration, and planning.

What can EVI do?

- Identify who are e-vulnerable and how they might be affected by operational decisions on service channel delivery.
- Assist the development of digital services and mitigate potential disadvantages arising from implementing e-services.
- Facilitate outreach efforts by informing outreach officers of an area of e-vulnerability before providing in-person outreach.

Why partner on EVI ?

- The EVI mapping tool is easily accessible and user friendly.
- Collaboration on EVI can enhance your organization's analytical and technical skills.
- EVI can be tailored to your needs, e.g. applied to your geographic service areas and tailored to population groups having distinct needs (see Annex A).
- EVI can be combined with partners' administrative data to further understand your communities and clients.
- Other key service indicators such as unemployment rates, low income rates, education, language, ethnicity, etc. can be integrated to the EVI mapping tool to enhance its analytical value and facilitate evidence based service policy and program development.

The EVI Map

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Canada

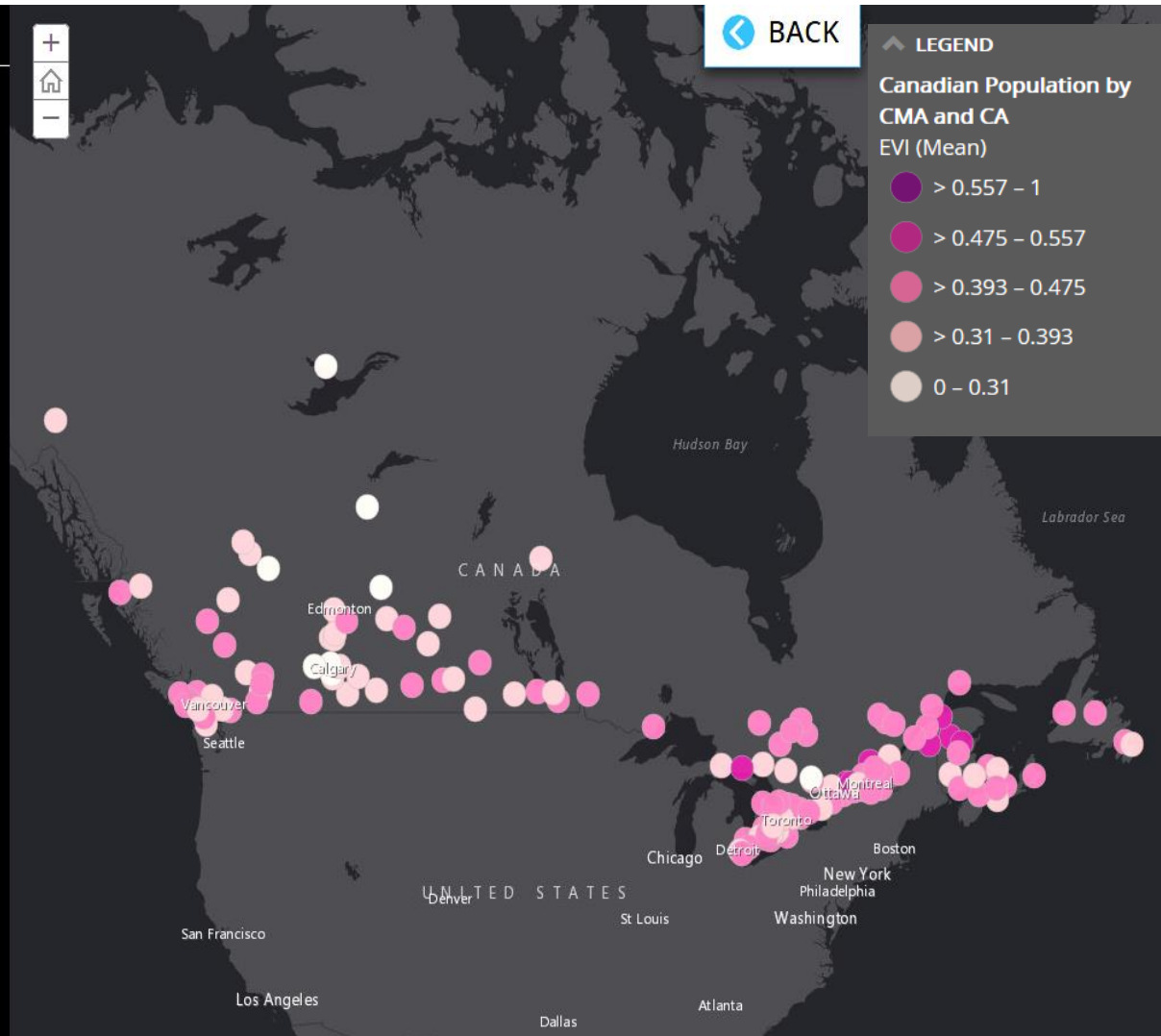
E-Vulnerability Index (EVI)

BY CENSUS METROPOLITAN AREAS AND CENSUS AGGLOMERATIONS (CMA's and CA's)

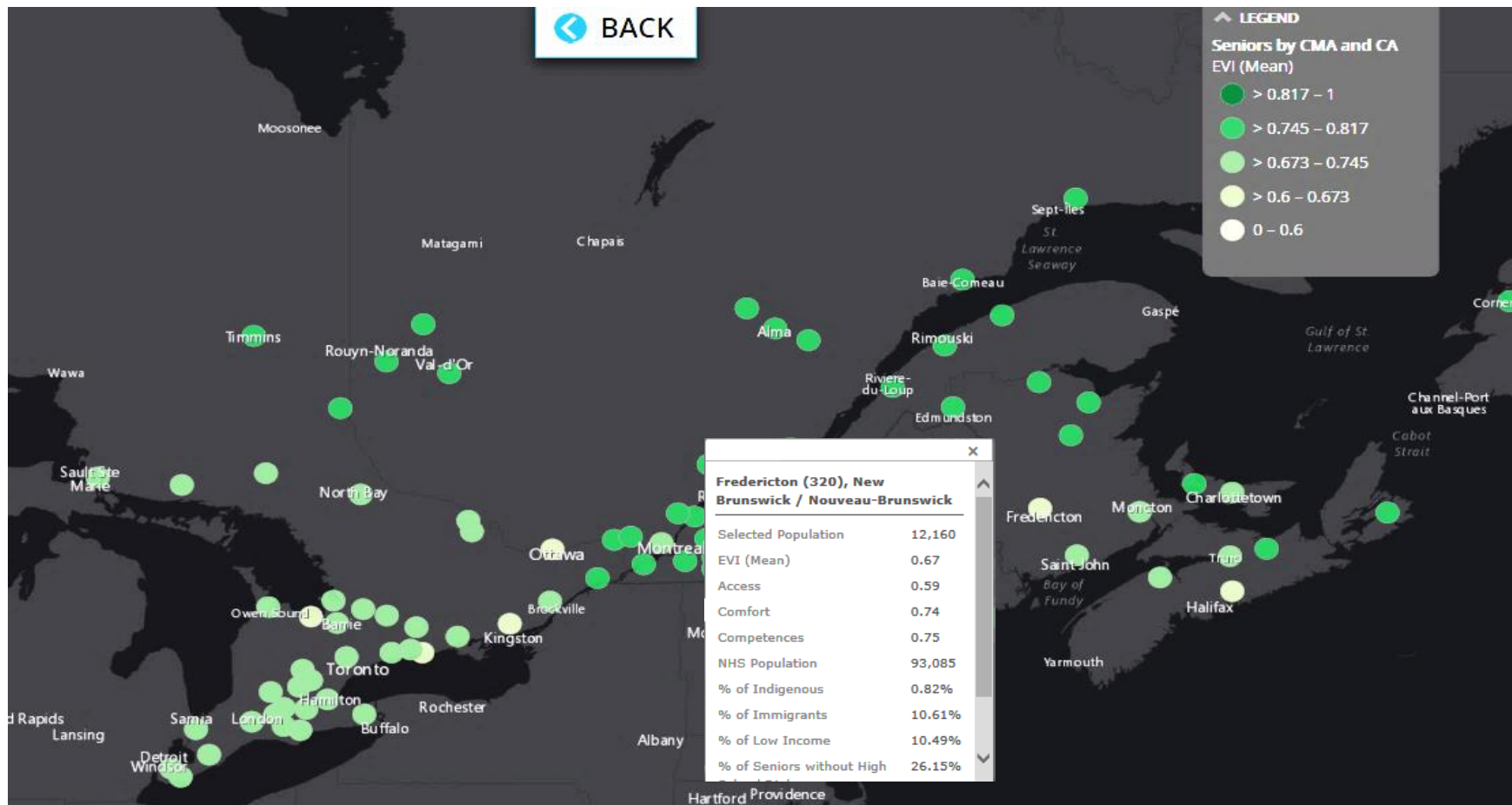
- **Canadian Population**
- **Seniors**
 - 65-70
 - 71-75
 - 76-80
 - 80+
- **Youth**
- **Immigrants**
- **Indigenous Populations (in development)**

BY CENSUS SUBDIVISIONS (CSD's)

- **Canadian Population**
- **Seniors**
- **Youth**
- **Immigrants**
- **Indigenous Populations (in development)**



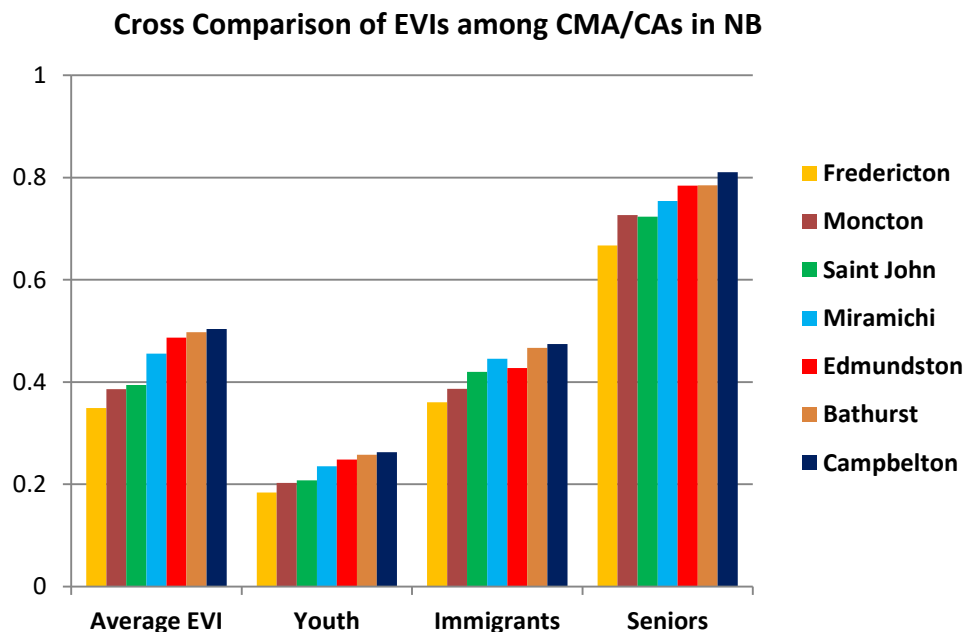
The EVI Map for Seniors in Fredericton



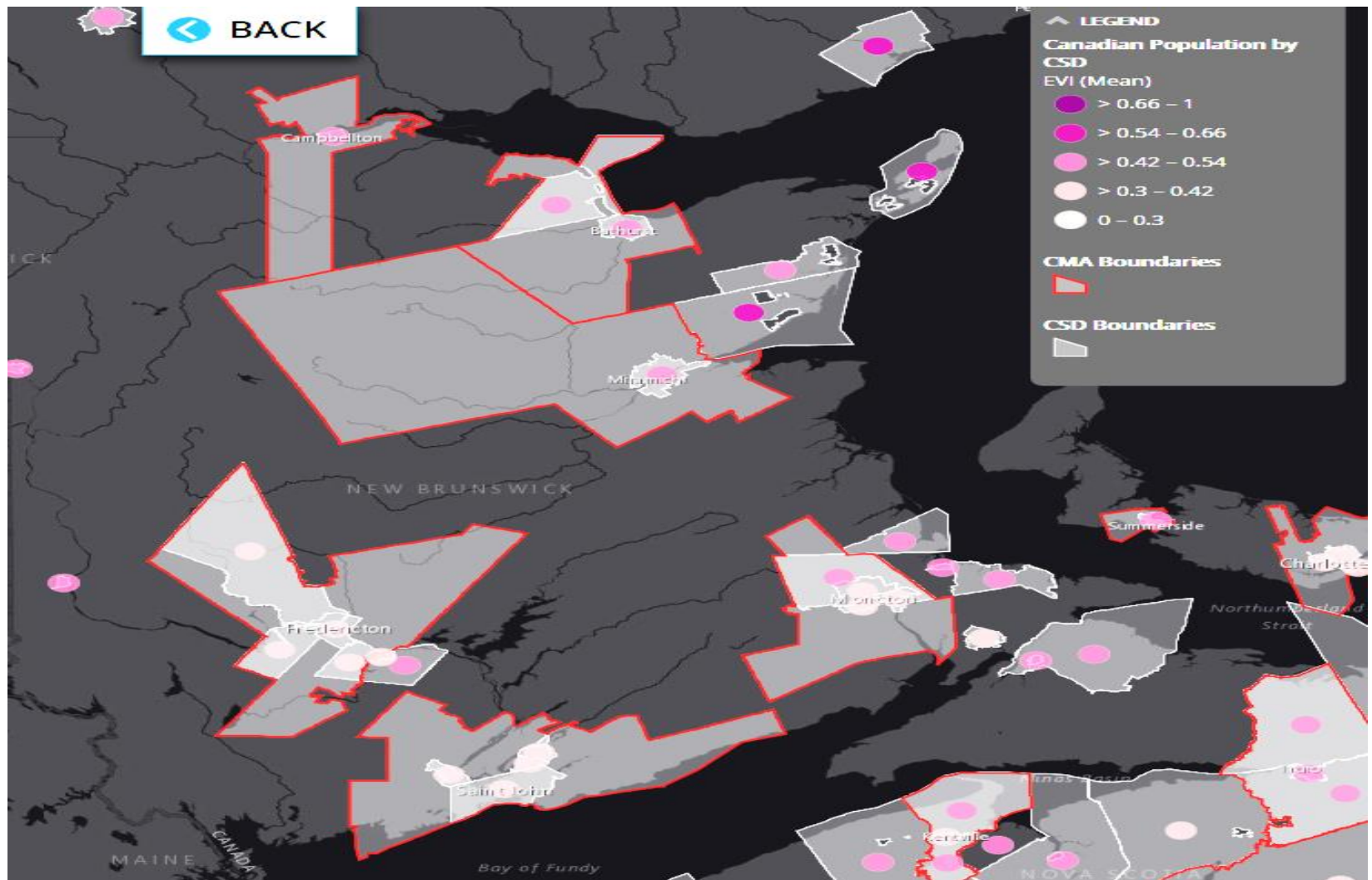
- The value of the EVI index is that it brings a comprehensive portrait of the socio-demographic characteristics of client groups.
- Over 60 indicators for service delivery considerations are included in the EVI tool (e.g. low income, educational attainment, social benefits administered, etc.), which can be produced for various and detailed geography levels.

An Example of How to Use the EVI

- As clients demand more digital services, Governments are beginning to nudge their clientele to use these e-services to optimize investments (e.g. driver licence and health care renewal).
- Imagine that the province of NB wants to conduct a Behavioral Insight (BI) pilot by starting with smaller CMA/CAs before scaling up. Depending on the objectives and target population, the EVI could be used to select the location where nudging could be initiated by using the information about the digital vulnerability of the clientele along with their socio-demographics characteristics.



EVI is Available for Municipalities and Small Centres

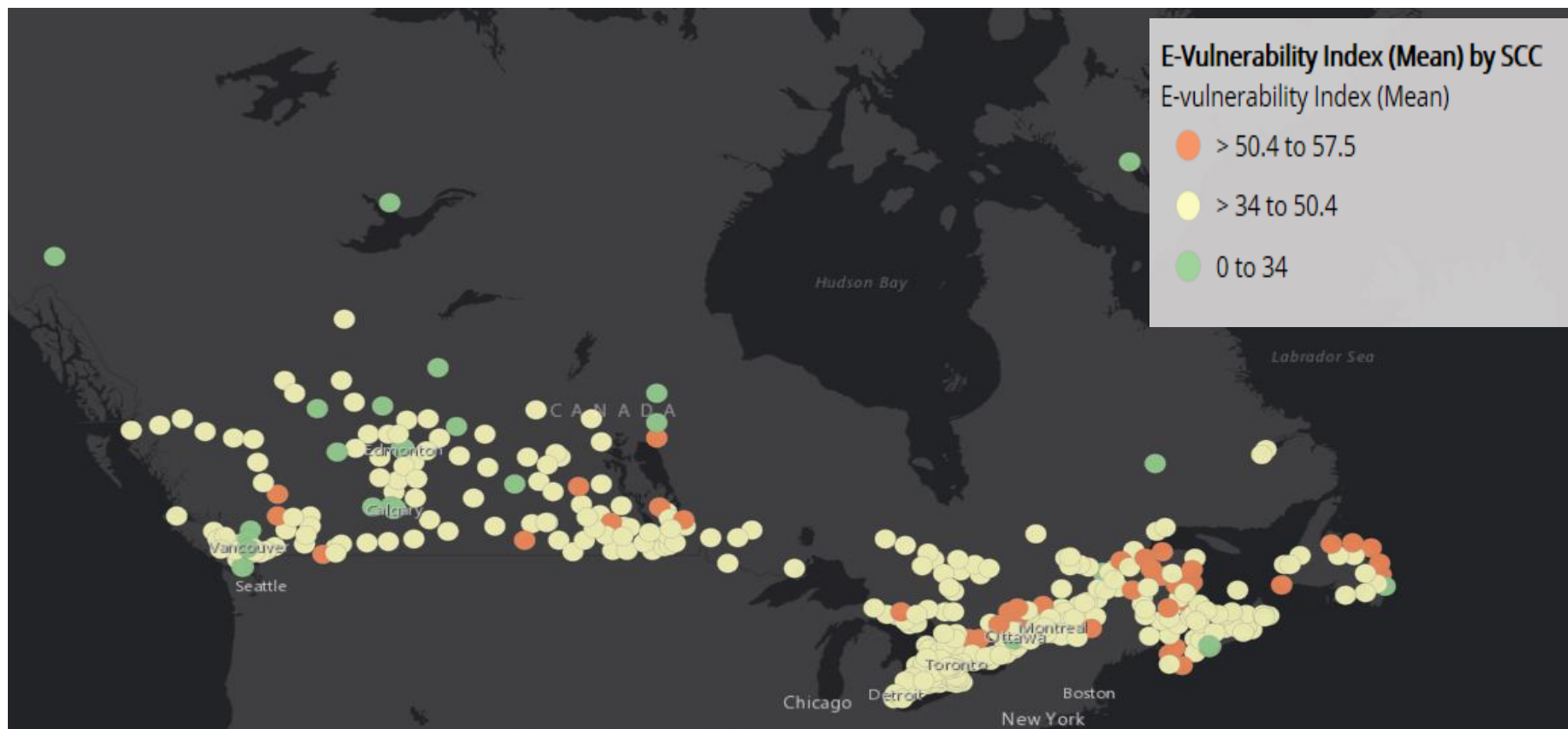


- Looking more at the local provides us with a better view of our clients (see Annex B).

Next Step

- Continue to engage with jurisdictions on how the EVI could be further developed and tested.

Annex A: EVI Adapted for Service Canada Centres



- The map shows the EVI scores for population residing within 50 km of each Service Canada Centre. This analysis can help service centres in the planning of service delivery activities.

Annex B: Socio-Demographic Differences Between Two Census Subdivisions: an Example

CSD: Bathurst (NB)		CSD: St. Clements (MB)	
Total Population: 11,845 Average EVI: 0.48	<ul style="list-style-type: none"> • High low-income rate (23%). • High proportion of people without high school diploma (29%). • Lower median total income (\$23,528). • Higher proportion of social benefits received (19.3%). • Proportion of Immigrant (2.2%). • Proportion of seniors (22%). 	Total Population: 10,395 Average EVI : 0.40	<ul style="list-style-type: none"> • Low low-income rate (9.3%). • Lower proportion of people without high school diploma(20.6%). • Higher median total income (\$34,352). • Lower proportion of social benefits received (9.5%). • proportion of Immigrant (6.6%). • Proportions of seniors (12.8%).
Immigrant Population: 260 Average EVI : 0.39	<ul style="list-style-type: none"> • Low proportion of immigrants without high school diploma (0%). • Median wages and salaries (\$28,021). 	Immigrant Population: 685 Average EVI: 0.52	<ul style="list-style-type: none"> • Higher proportion of immigrants without high school diploma (27.3%). • Median wages and salaries (\$32,631).
Senior Population: 2,520 Average EVI: 0.76	<ul style="list-style-type: none"> • Proportion of seniors without high school diploma (43%). • Median income (\$3,503). • No senior aboriginals. 	Senior Population: 1,330 Average EVI: 0.75	<ul style="list-style-type: none"> • Proportion of seniors without high school diploma (43.2%). • Median income (\$23,744). • Higher proportion of senior aboriginals (10.9%).