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Land Acknowledgement

The National Coordinating Centre of the Canadian Longitudinal Study on Aging (CLSA) is located on the traditional territories of the Mississauga and Haudenosaunee Nations, and within the lands protected by the Dish With One Spoon wampum agreement.

Our panelists are presenting from McGill University, situated on the traditional territory of the Kanien'kehà:ka, known as the Mohawk people, and is a place which has long served as a site of meeting and exchange amongst nations, and the University of Toronto, which operates on the traditional land of the Huron-Wendat, the Seneca, and most recently, the Mississaugas of the Credit River.

As attendees of this webinar, we want to acknowledge the original inhabitants of the land where we currently have the privilege to research, live and work, wherever that may be.

Emerging researchers: How trainees are using the CLSA platform for research on health and aging

Presenters:



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McGill University
M.Sc., Nutritional Epidemiology, Boston University

Register online:
[clsa-elcv.ca/
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February 25, 2021
12-1 PM ET



Webinars will be broadcast using WebEx.
Further instructions will be sent by email.

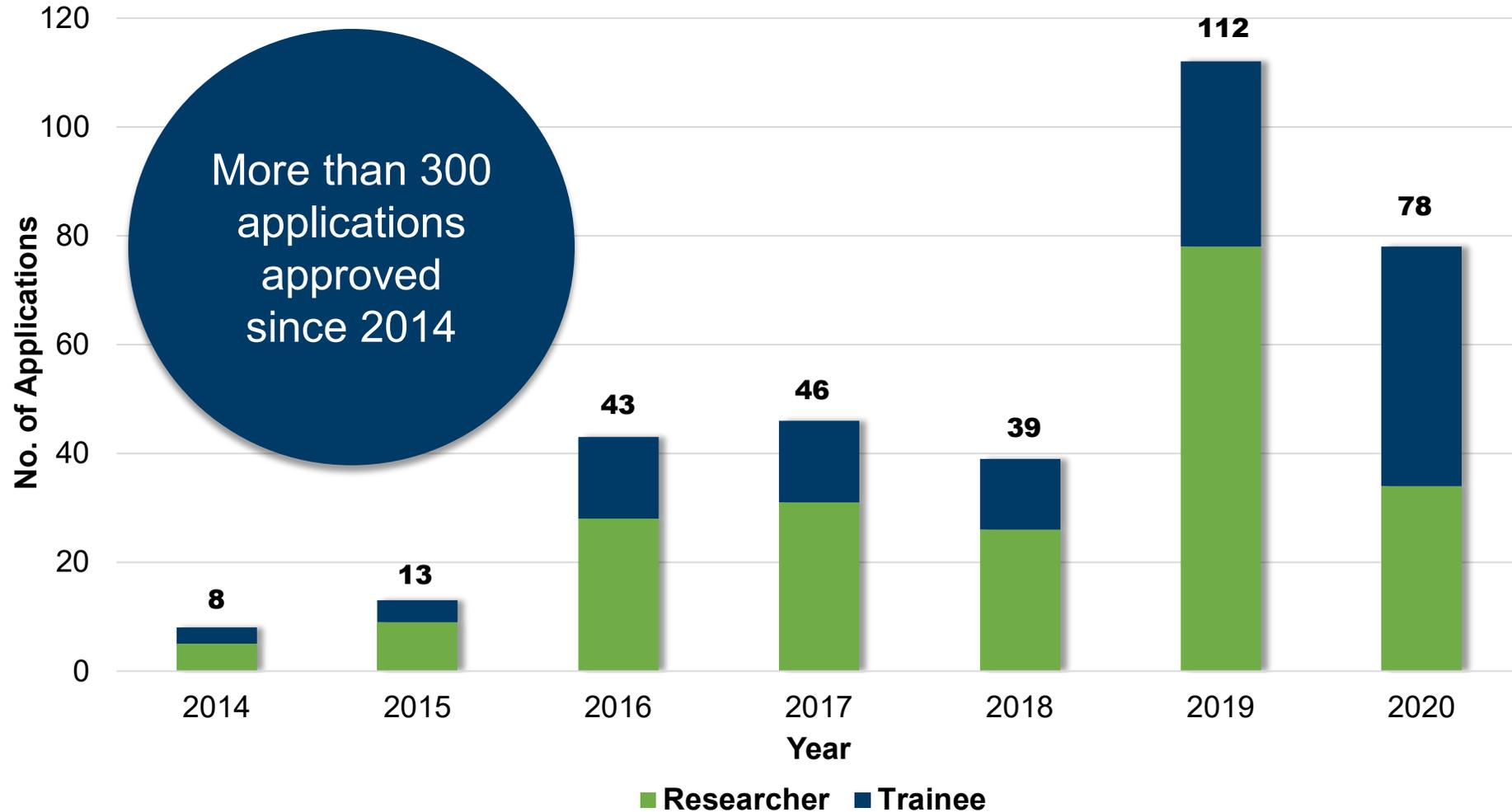


www.clsa-elcv.ca

Preparing a CLSA data access application: Tips for Trainees

**Dr. Matilda Saliba,
PhD, CLSA Data
Access Officer**

Approved Applications



Approved Applications Summary

Year	Researcher	Trainee	Total
2014	5	3	8
2015	9	4	13
2016	28	15	43
2017	31	15	46
2018	26	13	39
2019	78	34	112
2020	44	34	78
Total	221	118	319

1. Request a fee waiver if you are eligible

CLSA Data is available at NO COST for qualifying trainees:

✓ Enrolled at:

- a recognized institution in Canada
- or Canadian trainees based at institutions outside Canada but funded through a Canadian source

✓ The CLSA dataset requested will be for the sole use of :

- the graduate student's (Masters or PhD) thesis research
- or the postdoctoral fellow's research project (limit one waiver per postdoc)

2. Ensure that the research team roles are clearly assigned

- The trainee's supervisor must be the Primary Applicant
- The supervisor on behalf of the trainee must
 - Request a user account on **Magnolia**
 - Be responsible for the content of the application
 - Follow up on correspondence with CLSA
 - Submit the application

Complete this section if this is a Trainee application (MSc, PhD and Postdoctoral Fellow).

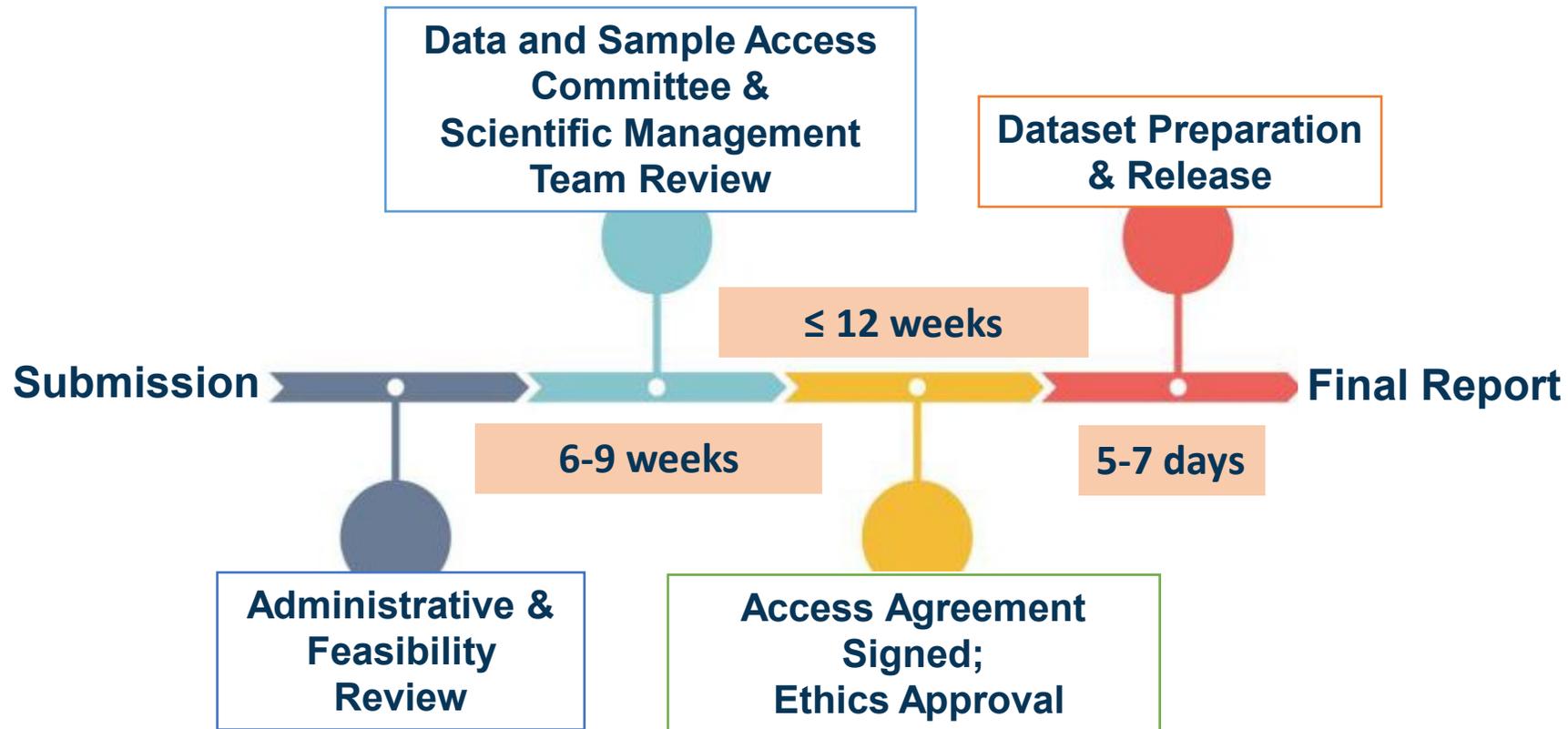
Name	<input type="text"/>
Degree and Program of Study	<input type="text"/>
Institution of Enrollment	<input type="text"/>
Current Mailing Address	<input type="text"/>
Phone	<input type="text"/>
E-mail ^①	<input type="text"/>

Graduate students (MSc or PhD) who wish to obtain the CLSA data for the sole purpose of their thesis, and postdoctoral fellows (limit 1 waiver per postdoc) who wish to obtain the CLSA data for the sole purpose of their postdoctoral project who are enrolled at Canadian institutions for their graduate degree or postdoc, can apply for a fee waiver. Canadian trainees working outside Canada but funded through a Canadian source are also eligible for a fee waiver. Trainees eligible for a fee waiver are also waived the supplemental data fee for images and raw data. The CIHR Catalyst Grants for the use of CLSA Data are not eligible for Trainee Fee Waivers.

Fee Waiver Type:

[← Return to the previous section](#) [Proceed to the next section →](#)

3. Be mindful of the application process timeframe



Applicants advised to plan on receiving data six months after submission deadline

4. Be aware of the upcoming submission deadlines

Submission Deadline	Anticipated Notification of Decision*
April 14, 2021	July 2021
September 8, 2021	January 2022

- All applications must be received by 11:59 p.m. Eastern Time on the day of the submission deadline.

5. Be certain what CLSA variables modules are needed for your research

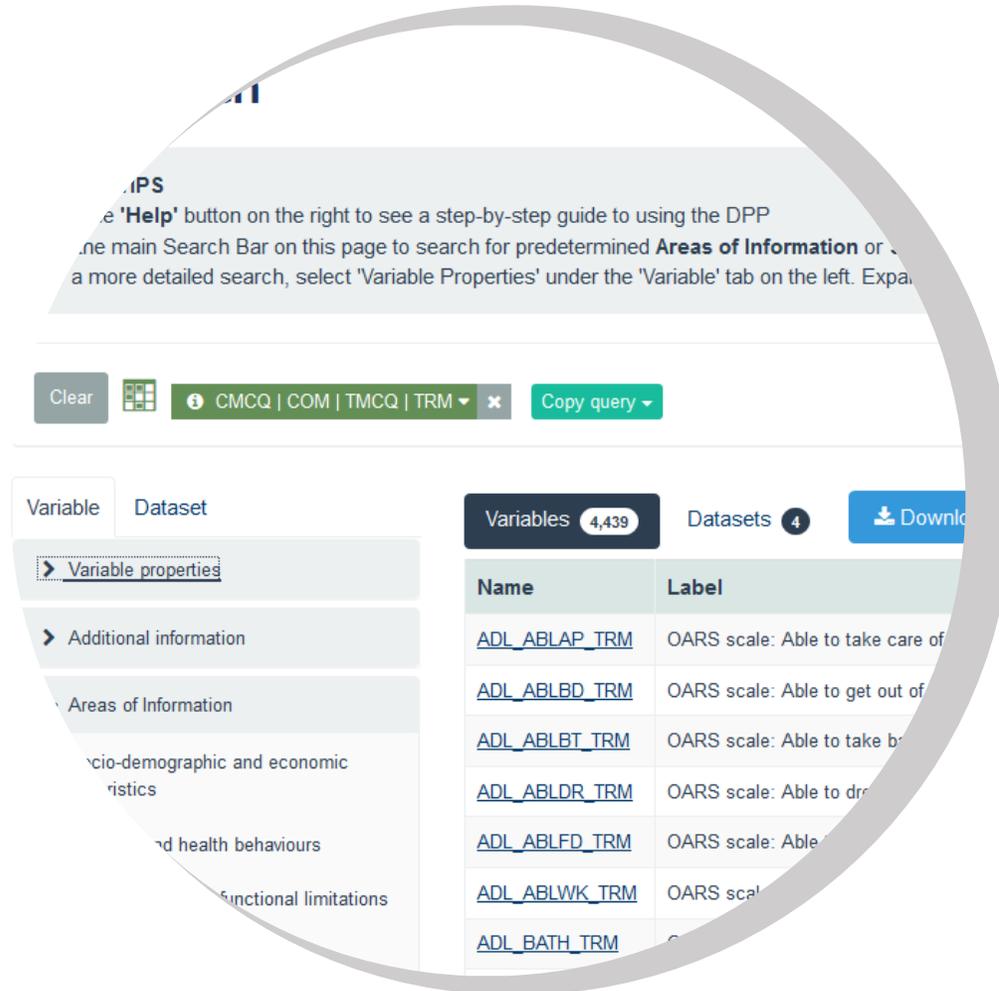
- Explore the CLSA website

www.clsa-elcv.ca

- Consult the **CLSA Data Availability Table** to know what data are currently available. CLSA only accepts applications for data that are available at the time of submission



5. Be certain what CLSA variables modules are needed for your research, Cont'd



DataPreview Portal

- **Summary statistics**
- **Explore data:**
 - Variable by variable
 - Scales & measures
 - Areas of Information

6. Obtain ethics approval

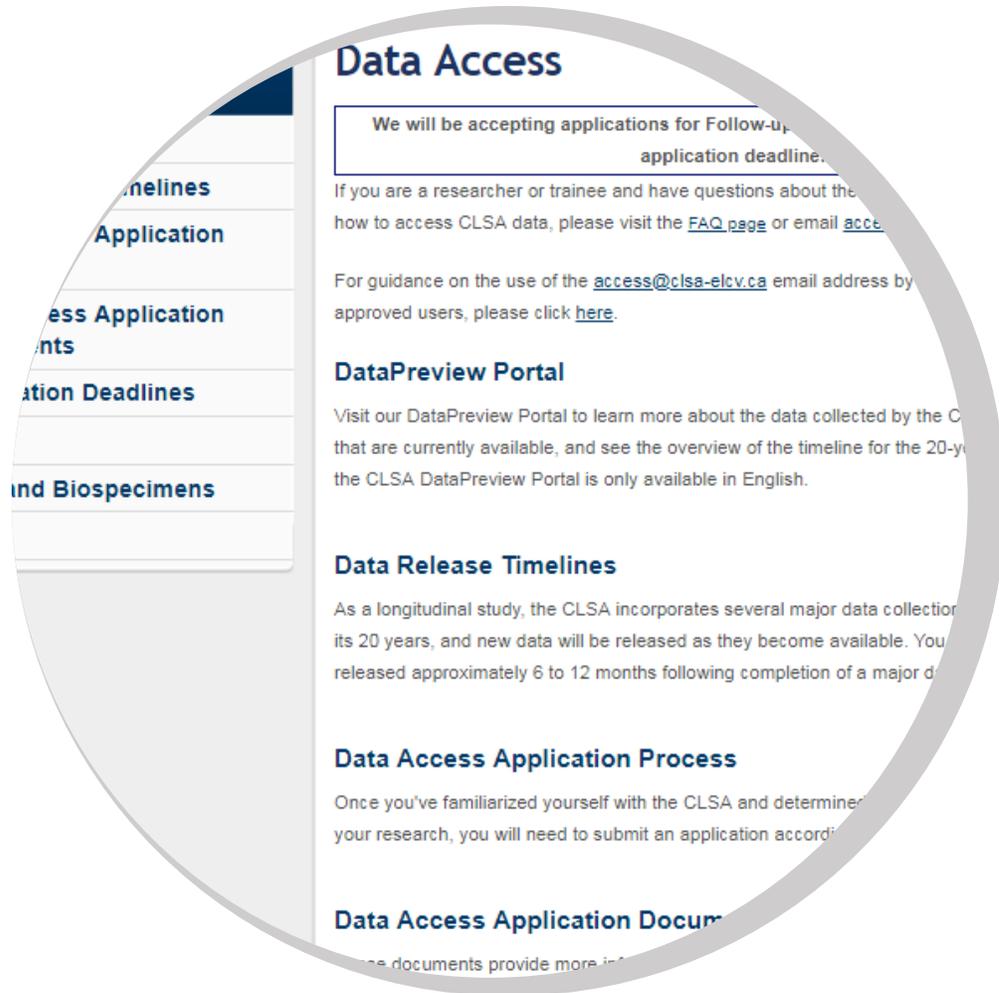
- Ethics approval is not required at the time of the application
- No data will be released to users until ethics approval has been received from an institutional REB.

7. Ensure your application is complete

- Follow the instructions on magnolia
- Describe well your project - provide the level of details you would normally provide in a grant application
- In the data checklist, select only the variables modules needed for your research and the corresponding wave (Baseline/ Follow Up1)
- The Primary Applicant (the supervisor) is responsible to verify content and submit the application

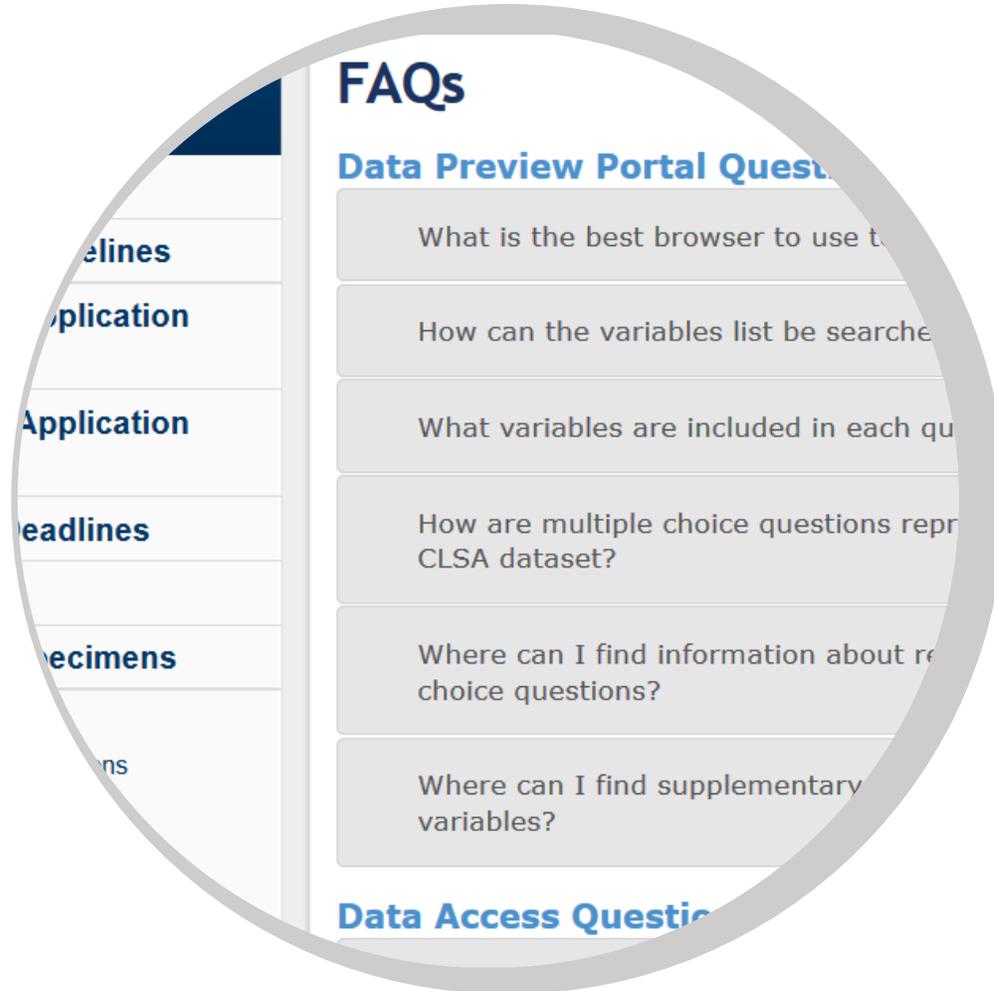
Supervisors should use the CLSA data access application process as a valuable training tool to guide trainees in preparing the application. Inadequate information can result in processing delays or refusal of an application

For more information



Data Access Section

- DataPreview Portal
- Application Process
- Fees
- Deadlines
- Application Documents (policies, guidelines)
- Data and Biospecimens (data availability)
- FAQs



Data Access FAQs

- **Data Access**
- **Application**
- **Publication & Presentations**
- **DataPreview Portal**
- **Dataset**

Additional questions?

Data access support
access@clsa-elcv.ca



McGill

Department of
Family Medicine

Département de
médecine de famille

Undiagnosed depression, persistent depressive symptoms and seeking mental health care

Doaa Farid, MA, RD, PhD (c)

Co-supervised by Drs. Elham Rahme and Kaberi Dasgupta

CLSA, 2021



I have no conflict of interest
to disclose.









Poll Question 1

Did any of you experience symptoms of mental illness or depression?

1. Yes
2. No

Depression is a leading cause of disability globally



Depression is serious

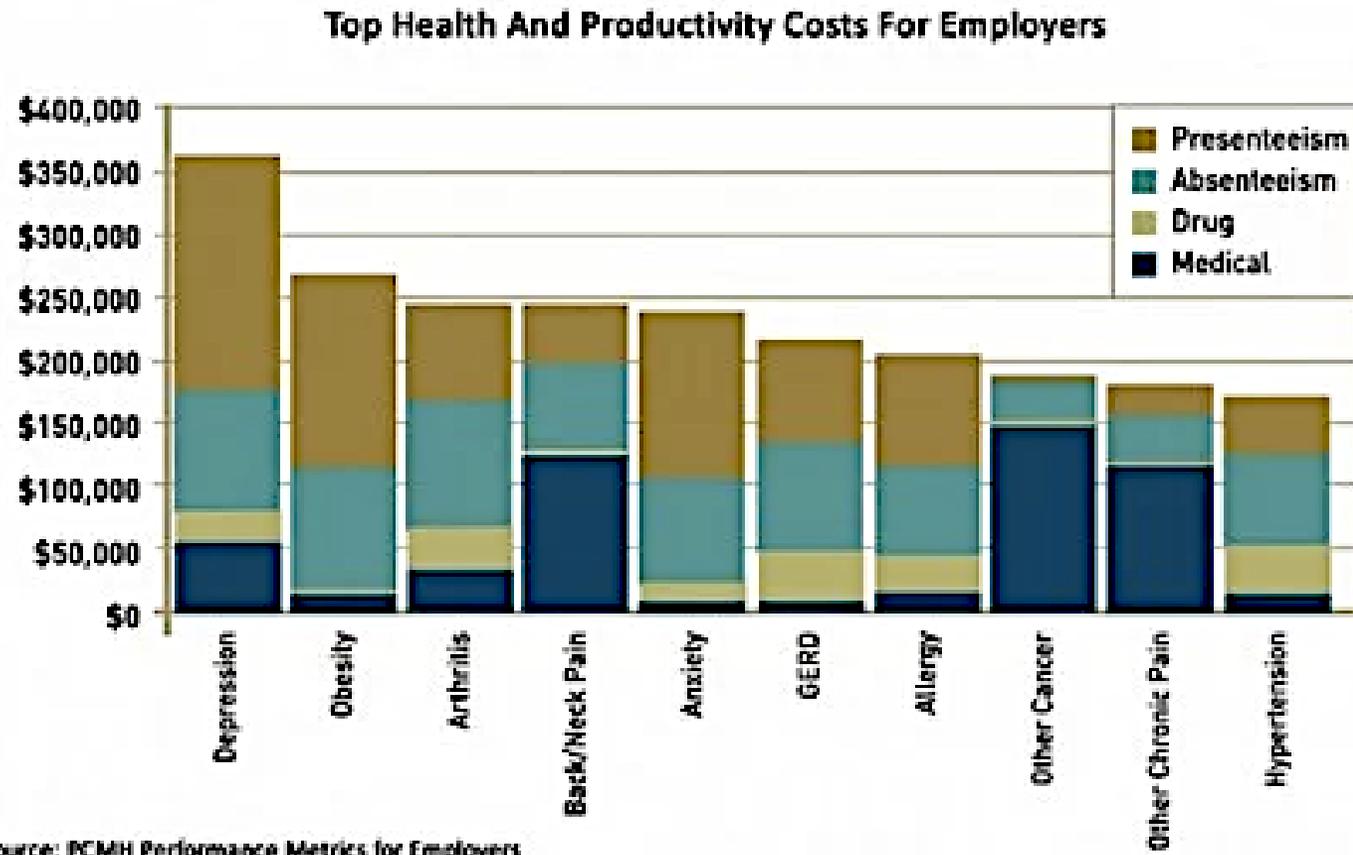
- 1/5 people (6.7 million) in Canada experience a mental health problem or illness (Canadian Psychiatry Association, 2016)
- It seems though that depression often goes undiagnosed and untreated (Wang et al., 2007)

What happens if depression is left undiagnosed?

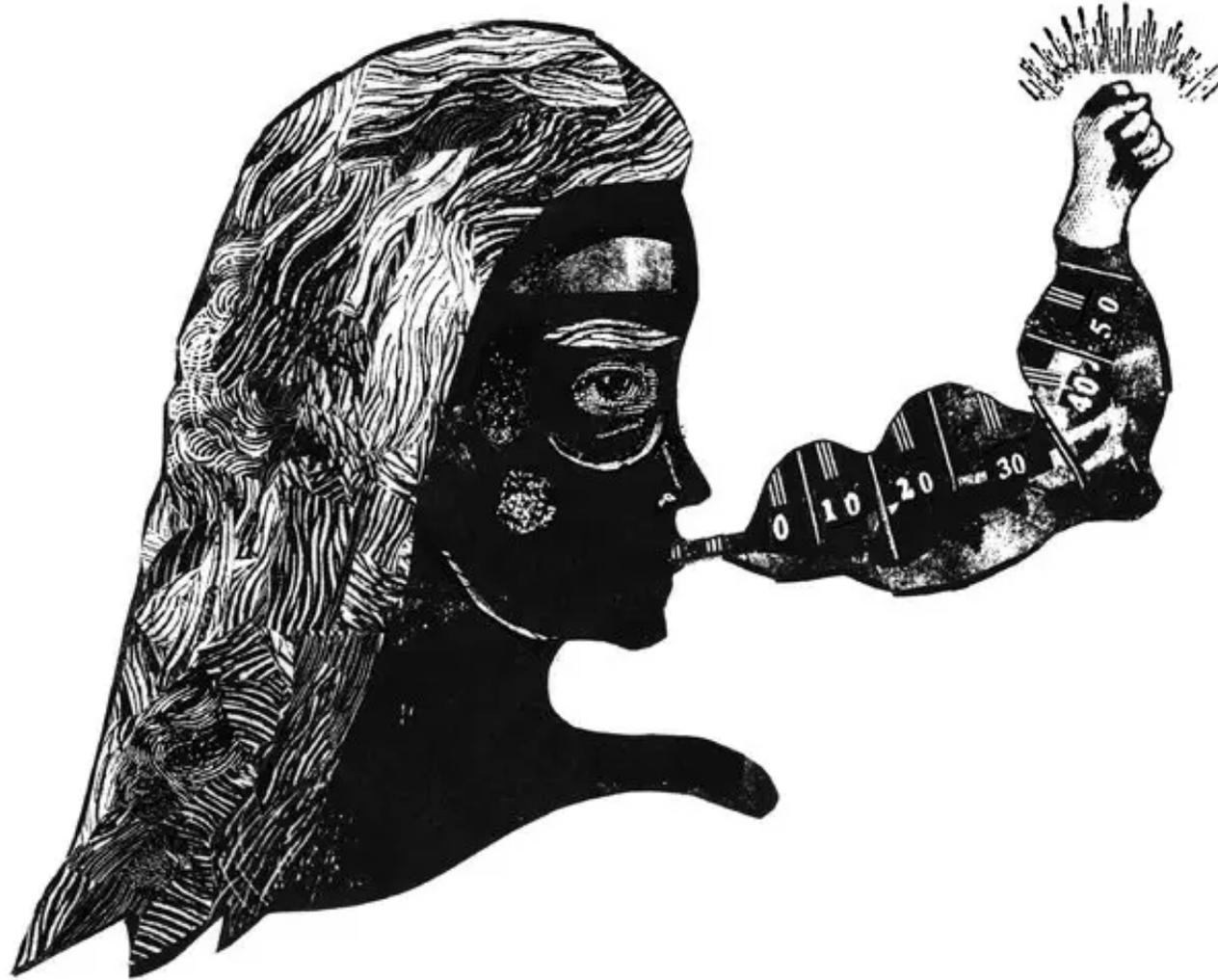


What happens if depression is left undiagnosed?

- [



What happens if depression is left undiagnosed?



What happens if depression is left undiagnosed?



Be paralyzing and prevent from seeking help



What happens if depression is left undiagnosed?

Poll Question 2

For those who had symptoms of depression, did you seek help?

1. Yes
2. No

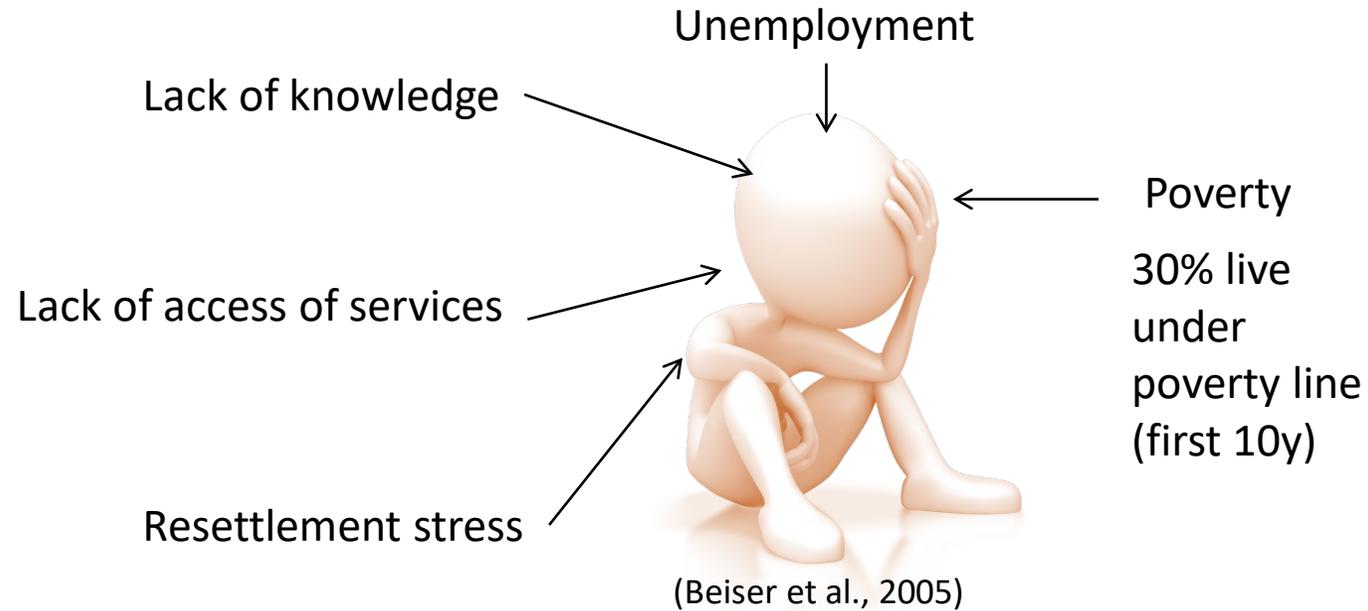
Poll Question 3

Why not?

1. Time
2. Stigma
3. No social support
4. Discrimination
5. Availability of doctor
5. Other

What about immigrants?

Immigrants experience...



Older immigrants?

- We know their physical health deteriorates over time
- What about their mental health?



What about seeking help?

- 20% of immigrants report having barriers in accessing health care services (Government of Canada, 2011)
- 12% lower all-cause unmet needs than non-immigrants (Wu et al., 2005)

Questions

Among older immigrants and non-immigrants (45-85 years) who participated in the CLSA in 2010-2015):

1. What is the prevalence of undiagnosed depression?
2. What are the risk factors? Are length of residence or age at arrival important?
3. What is the prevalence of persistence in depressive symptoms at 18 months?
4. What is the likelihood of seeing a mental health care professional for these symptoms?

Methods

Data cohort

- Data Source: CLSA
- Cohort Selection: baseline data of Comprehensive cohort, 2005-2010, (n=30,097)
- Exclusion: those with any mood disorder in the last year, current anti-depressant use, and/or missing information on the outcomes

Inclusion & Exclusion

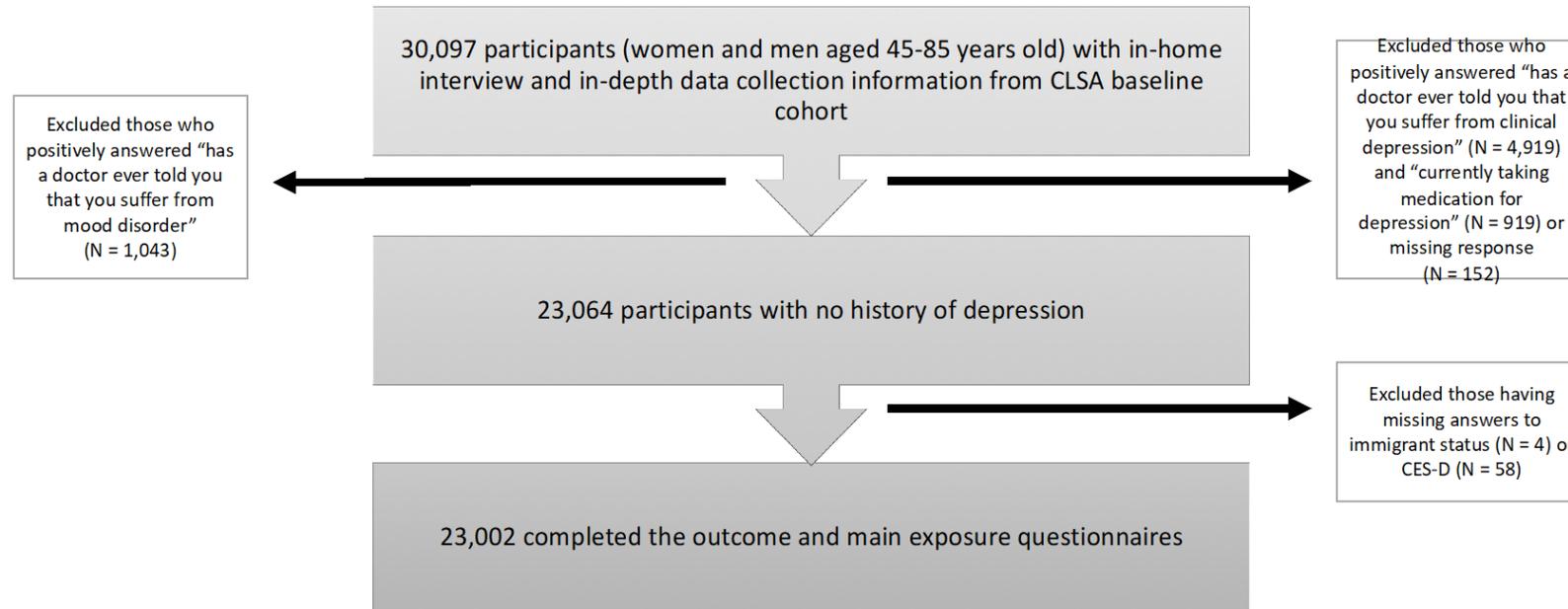


Figure 1. Diagram flow chart for sample selection from the Canadian Longitudinal Study on Aging (CLSA). CES-D = Center for Epidemiological Studies Depression 10 Scale

Primary Outcome Variable

Current screening for undiagnosed depression:

- 1) Center for Epidemiologic Studies Short Depression Scale (CES-D 10 \geq 10: feelings of depression, loneliness, hopefulness for the future, and restless sleep)
- 2) Widely validated tool: sensitivity 97-100%, specificity 84-93% & positive predictive value 38-85% (min 4 cut-off)

CES-D 10

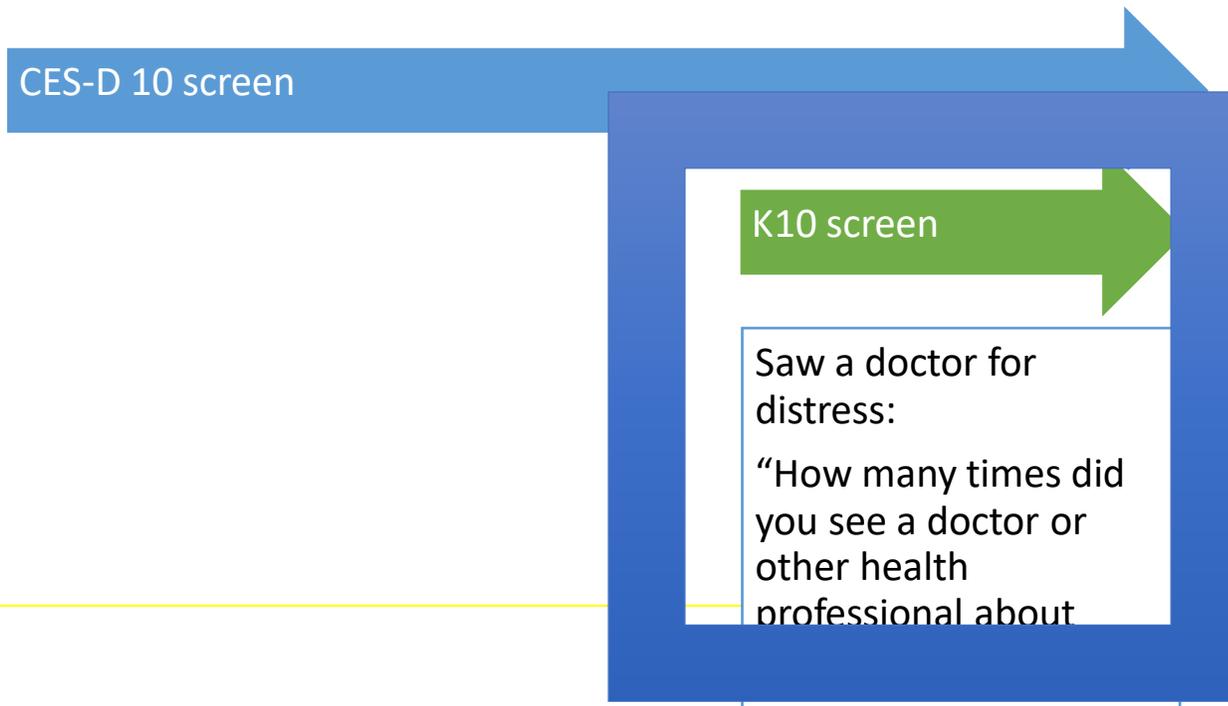
Please indicate how often you have felt this way during the past week by checking the appropriate box for each question.

	Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	All of the time (5-7 days)
1. I was bothered by things that usually don't bother me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I had trouble keeping my mind on what I was doing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I felt depressed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I felt that everything I did was an effort.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I felt hopeful about the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I felt fearful.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. My sleep was restless.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I was happy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I felt lonely.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I could not "get going."	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Outcome variables

Secondary outcomes (Telephone) at 18 months

1) Kessler Psychological Distress Scale (K10): measures non-specific psychological distress, predict diagnosis of mental illness



K10

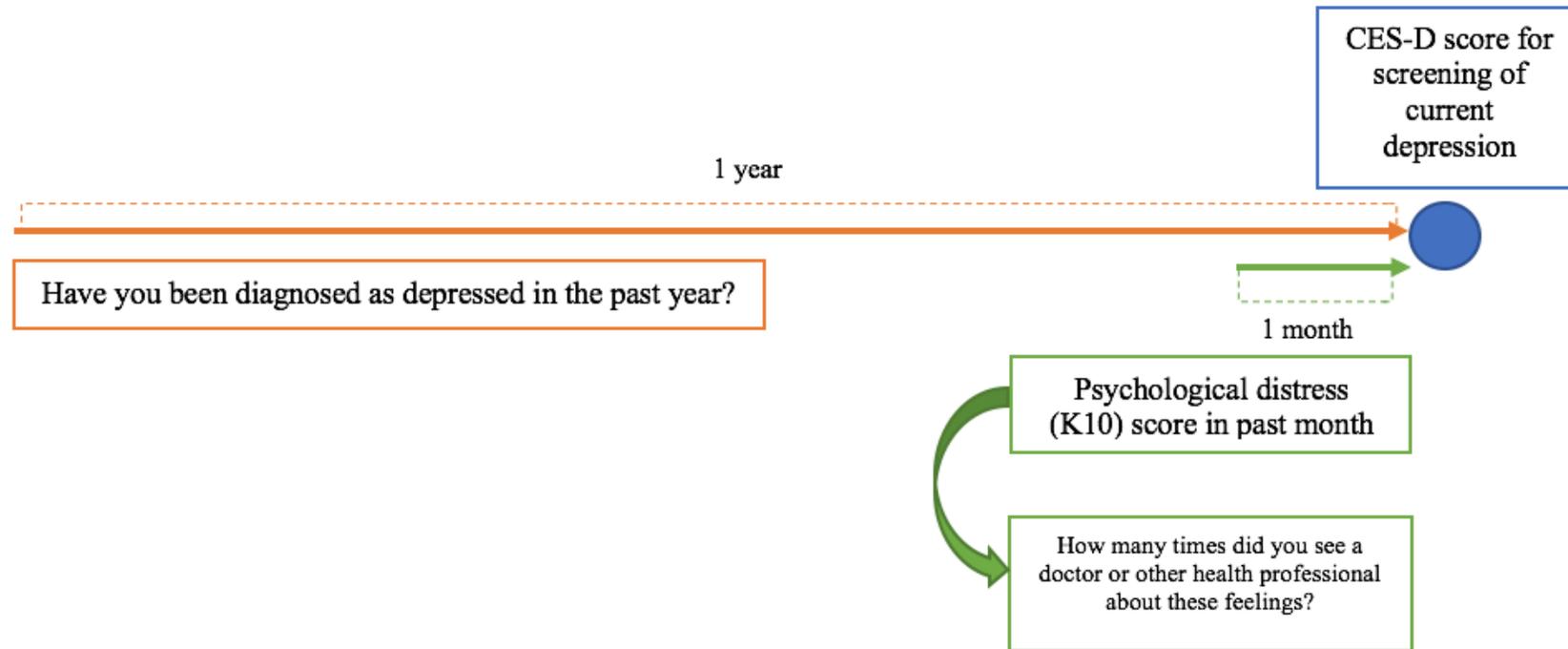
A cut-off of 19 was found to balance sensitivity (79%) & specificity (66%) (Vasiliadis, 2015)

Other studies in Australia found: similar sensitivity (71-77%) & higher specificity (78-90%) (Kessler, 2003; Andrews, 2001)

In the past 4 weeks:		None of the time	A little of the time	Some of the time	Most of the time	All of the time
1.	About how often did you feel tired out for no good reason?	<input type="checkbox"/>				
2.	About how often did you feel nervous?	<input type="checkbox"/>				
3.	About how often did you feel so nervous that nothing could calm you down?	<input type="checkbox"/>				
4.	About how often did you feel hopeless?	<input type="checkbox"/>				
5.	About how often did you feel restless or fidgety?	<input type="checkbox"/>				
6.	About how often did you feel so restless you could not sit still?	<input type="checkbox"/>				
7.	About how often did you feel depressed?	<input type="checkbox"/>				
8.	About how often did you feel that everything was an effort?	<input type="checkbox"/>				
9.	About how often did you feel so sad that nothing could cheer you up?	<input type="checkbox"/>				
10.	About how often did you feel	<input type="checkbox"/>				

Seeking mental health care practitioner (MHCP)

Secondary outcomes (Telephone) at 18 months



Correlates of Depression and access mental health care

Population Characteristics

1. **Predisposing characteristics:** sex, age, and marital status
2. **Enabling resources:** household income, employment status, education and geographic location.
3. **Needs-related factors:** anxiety disorders, self-reported perceived health

Health Behavior

1. **Personal health choices:** alcohol consumption, smoking, activity level

Analysis

- Descriptive statistics with means & SD (medians & quartiles)
- Multivariable logistic regression models were used to examine the associations between immigrant, and mental health with
 - Primary outcomes at baseline
 - Undiagnosed Depression (Model 1)
 - Secondary outcomes at 18 months
 - Persistent depressive symptoms (Model 2)
 - Seeing a mental health care professional (Model 3)

Results



Weighted crude Results

Primary Outcome:

- Around 10.9% were depressed at baseline
- 19.1% had immigrated to Canada and the majority over 20 years ago (87.5%)

Secondary Outcomes:

- 32.0% had depressive symptoms at 18 months, of whom 15.5% had seen a mental health care professional in the previous month

Crude Results

Immigrants (vs. non-immigrants) were more likely to be:

- Older
- Former or non-smoker
- Married
- Secondary school or post-secondary degree/diploma
- Unemployed
- Male
- To have <\$20,000
- Live in urban

	Immigrant versus non-immigrant
	(N = 22,278)
	Adjusted OR (95% CI)*
Predisposing characteristics	
Age, years, mean (SD)	
45 - 60	1
61 - 70	1.72 (1.53 - 1.93)
71 - 85	2.24 (1.96 - 2.57)
Sex	
Male	1
Female	0.82 (0.75 - 0.90)
Marital status	
Single	1
Married	1.79 (1.46 - 2.19)
Widowed/divorced/separated	1.38 (1.12 - 1.69)
Language most spoken at home	
French	1
English	6.27 (4.88 - 8.05)
Enabling resources	
Total household income Can \$	
< 20,000	1
20,000- less than 50,000	0.80 (0.63 - 1.02)
50,000- less than 100,000	0.60 (0.47 - 0.77)
≥100,000	0.48 (0.37 - 0.62)
Working status	
Employed	1
Unemployed	1.27 (1.01 - 1.61)
Retired	0.64 (0.57 - 0.72)
Education level	
< Secondary school	1

Crude Results

Immigrants are less likely to:

- Have bowel disorders
- Have cancer
- Overweight or obese (vs. normal weight)

Model 1: Likelihood of having
undiagnosed depression in immigrants
and non-immigrants?

Model 1: Primary outcome

Table 3. Association between immigrant status and sex and undiagnosed depression at baseline^a (N = 23 002)

	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Female immigrant v. female non-immigrant	1.46 (1.28–1.75)	1.50 (1.25–1.80)
Female immigrant v. male immigrant	2.00 (1.62–2.47)	1.85 (1.45–2.37)
Female non-immigrant v. male non-immigrant	1.39 (1.25–1.55)	1.30 (1.14–1.47)
Male immigrant v. male non-immigrant	1.04 (0.87–1.25)	1.05 (0.86–1.28)

UD, undiagnosed depression; OR, odds ratio; CI, confidence interval.

^aAn interaction effect of sex and immigrant was found and is presented here. The multivariate logistic regression models adjusted for all baseline characteristics included in [Table 1](#). The full model is shown in online Supplementary Table C.

- Among men, immigration status was not associated with depression
- Among women, immigrants were 50% more likely to have depression
- Women were consistently more likely to be depressed than men

Are age at arrival or length of residence risk factors of depression?

- Immigrants who arrived at age ≥ 40 years were twice as likely as non-immigrants to have UD (2.02, 1.43-2.86).
- Immigrants who resided in Canada for < 20 years or > 40 years were more likely than non-immigrants to have UD

Model 2: Likelihood of having
persistent depressive symptoms
at 18 months?

Likelihood of persistence

- No difference between immigrants and non-immigrants regardless of UD at baseline
- Among those without UD, females were at increased risk of DS vs. males (1.25, 1.09-1.44)
- But among those with UD, the risk of DS was not different between females and males.

Model 3: Likelihood of seeing a MHCP for these symptoms?

Seeing a MHCP

- No difference between immigrants and non-immigrants
- Females 22% more likely
- Those who had persistence in depressive symptoms (UD and DS) were 3x more likely compared to those with UD (3.11, 2.20-4.37).

Take home message...

- Screening particularly benefits immigrants who arrived at 40 years of age and older
 - more specifically those of female sex.
- Follow-up screening should query persistence of depressive symptoms
- Encourage seeking mental health care regardless of immigration status.

Published results

Epidemiology and Psychiatric Sciences

[cambridge.org/eps](https://www.cambridge.org/eps)

Original Article

Cite this article: Farid D, Li P, Da Costa D, Afif W, Szabo J, Dasgupta K, Rahme E (2020). Undiagnosed depression, persistent depressive symptoms and seeking mental health care: analysis of immigrant and non-immigrant participants of the Canadian Longitudinal Study of Aging. *Epidemiology and Psychiatric Sciences* **29**, e158, 1–11. <https://doi.org/10.1017/S2045796020000670>

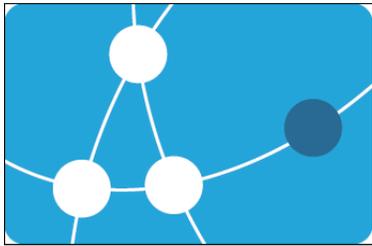
Received: 1 May 2020
Revised: 4 July 2020
Accepted: 14 July 2020

Undiagnosed depression, persistent depressive symptoms and seeking mental health care: analysis of immigrant and non-immigrant participants of the Canadian Longitudinal Study of Aging

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Best article of the year
RQSHA Award



RÉSEAU QUÉBÉCOIS SUR LE SUICIDE,
LES TROUBLES DE L'HUMEUR
ET LES TROUBLES ASSOCIÉS

Thank you

Supervisor: Dr. Elham Rahme

Co-supervisor: Dr. Kaberi Dasgupta

Thesis committee

Department of Family Medicine



**Fonds de recherche
Santé**

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DIABETES TYPE, AGE OF ONSET AND AGE AT NATURAL
MENOPAUSE:
A RETROSPECTIVE COHORT STUDY USING THE CANADIAN
LONGITUDINAL STUDY ON AGING

VRATI MEHRA, MSc

FEB 2021

SUPERVISOR: DR. HALA TAMIM

Diabetes Mellitus

- **Type 1 Diabetes:** Chronic condition in which your body is no longer able to produce insulin.
- **Type 2 Diabetes:** The body becomes unresponsive to insulin. Has both genetic and environmental risk factors.
- **Gestational diabetes:** Elevated blood sugar during pregnancy in an otherwise non-diabetic woman.

Diabetes Statistics

- In 2017, more than 476 million lived with diabetes across the globe.^[1]
- In Canada, 2.3 million people reported being diagnosed with Diabetes ^[3]
- Affects both males and females with overlapping risk factors, however the influence of these risk factors and the clinical impact of this disease can differ significantly between the two sexes ^[4,5]

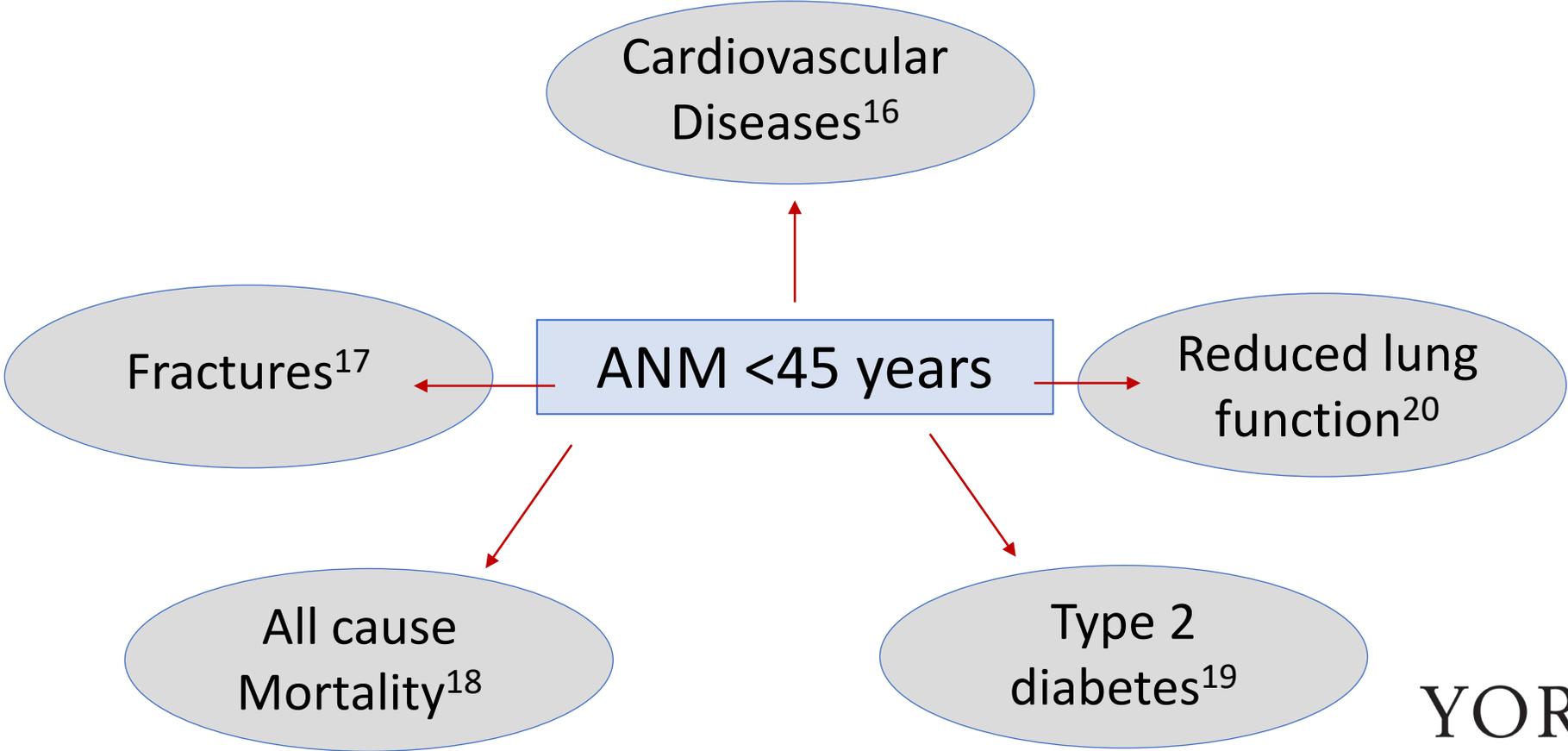
Diabetes in Women

- With increased prevalence across all age groups, more women are expected to spend a greater portion of their reproductive years with diabetes ^[11–13]
- It is thus important to understand the long-term implications of diabetes on women's reproductive health

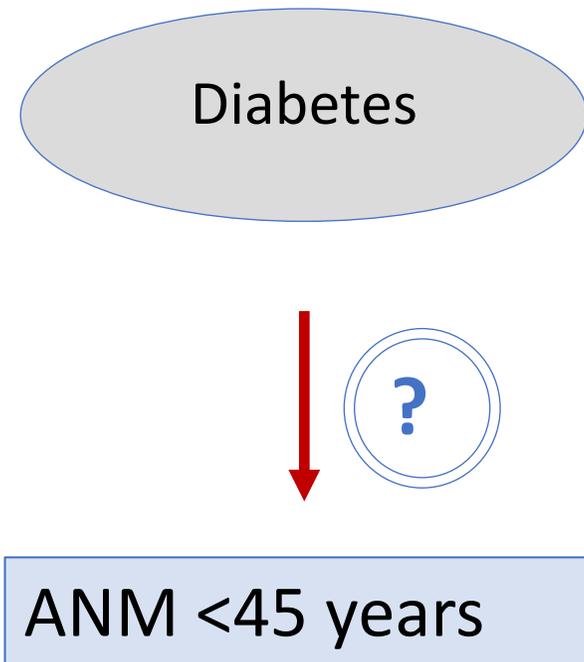
Menopause

- One indicator of a woman's reproductive health is their age at natural menopause (ANM), defined as the age at which a woman experiences 12 consecutive months of amenorrhea^[15].
- The average ANM can range from 46 to 52 years.

Negative Health Outcomes of Early ANM



Diabetes as a predictor of Early ANM



Rationale

I. Impact of premenopausal diabetes on ANM remains debated

- Some studies show no association between diabetes and ANM [21,23,24]
- Others conclude significant reduction in ANM [25, 26]
- Some conclude the effect on ANM may be dependent on time of diagnosis of diabetes [27]

Rationale

II. Incomplete evidence

- Some fail to include important sociodemographic, behavioral and clinical variables^[28]
- Others limited by small sample size ^[29-31]
- As per our best knowledge, the association between gestational diabetes and ANM has never been explored

Objective

The present study will look at the association between pre-menopausal T1D, T2D, and gestational diabetes and ANM.

T1D= Type 1 Diabetes

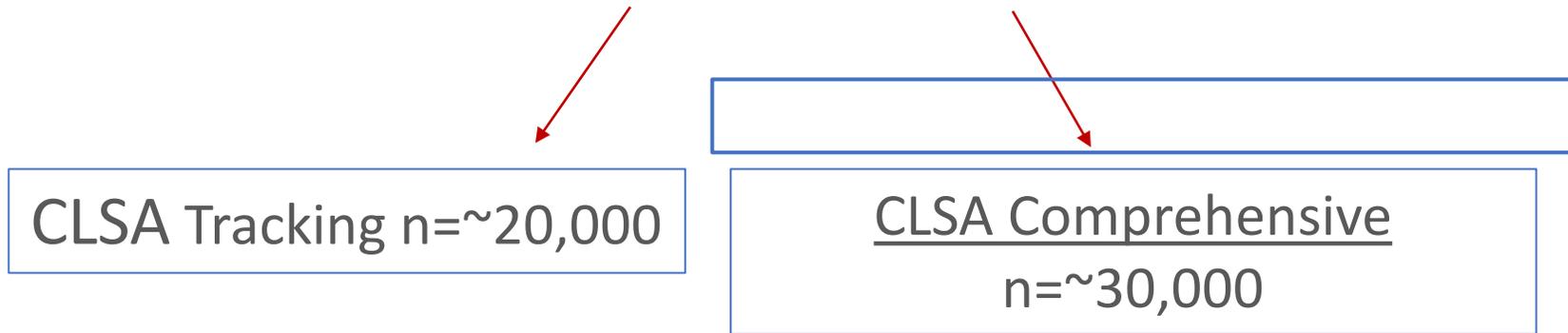
T2D= Type 2 Diabetes

Methods

Canadian Longitudinal Study on Aging

- National, longitudinal study of over 50,000 Canadian men and women aged 45 to 85 years when recruited at baseline
- Baseline data was collected between 2010 and 2015
- The study has two cohorts of participants: (1) the Tracking cohort comprising of 21,241 individuals and (2) the Comprehensive cohort comprising of 30,097 individuals.

CLSA cohorts (N = ~ 50,000)



- Telephone based survey

- Survey completed at home
- 11 Data Collection Site
- Includes biospecimen collection & physical exam

Comprehensive Cohort

Exclusions

- Individuals living on reserves or long-term institutions
- Full-time members of the Canadian Armed Forces
- Non-English or non-French speakers

Current study specific exclusions

**Total females in the
Comprehensive Cohort
of CLSA (baseline)**
N= 15,320

Exclusions

- **Hysterectomy** n= 2502 (16.3%)
- **Breast, ovarian and other female genital organ cancers** n=1247 (8.1%)
- **Menopausal status not reported/missing** n= 102 (0.7%)
- **ANM not reported** n=310 (2.0%)
- **Diabetes status and age of first diagnosis not reported/missing** n= 44 (0.3%)

Total females included in the final sample
n=11,436

Exposure Assessment

- Presence of pre-menopausal diabetes was assessed through self-report at baseline.
- 4 main pre-menopausal diabetes categories
 - Type 1, Type 2, Gestational Diabetes, and No diabetes (ref)
- Type 1 and Type 2 diabetes were divided based on age at diagnosis

Pre-menopausal Diabetes

Premenopausal diabetes categorized as:

- **No diabetes (reference)**
- **Gestational Diabetes**
- **Type 2**
 - T2D <30,
 - T2D: 30-39,
 - T2D: 40-49,
 - T2D: >=50
- **Type 1**
 - T1D <30
 - T1D >=30

Outcome Assessment

- Menopausal status and age at menopause was collected and required participants to retrospectively recall their age at last period.
- ANM was treated as a continuous variable

Covariates

- **Sociodemographic variables**
 - Ethnicity, Marital Status, Highest level of Education & Household income
- **Life-style Factors**
 - Alcohol Use, Smoking, Physical Activity and BMI
- **Premenopausal clinical factors**
 - Nulligravidity (Ever being pregnant)
 - Health Conditions: Cardiovascular diseases (including stroke, mini-stroke angina & heart attack), hypertension, depression, corticosteroid use, osteoporosis, hypo and hyperthyroidism.

Statistical Analysis

- Survival Analysis: Allowed inclusion of participants who had not yet reached menopause
- The primary endpoint (outcome) : ANM for post-menopausal women
- Secondary endpoints (censored) :
 - For non-menopausal women: Age at interview
 - For women using HT before menopause: age at initiation of HT

Statistical Analysis

- Kaplan Meir Curves: used to ascertain the median ANM for different types of diabetes
- Cox proportional hazard regression models
 - the bivariate and multivariate association between the exposure variables and ANM

Discussion

Discussion

- Why this pattern between early diagnosed pre-menopausal diabetes and ANM? Later diagnosis and later ANM?
- The association seen between early and late diagnosis of diabetes and ANM is in line with a recent study looking at general diabetes diagnosis, age of onset and ANM [27]
- The novel addition of our study is the demarcation between different types of diabetes

Strengths and Limitations

Strengths

1. Large sample size and careful adjustment of important covariates.
2. First study to examine the relationship between GD and ANM.
3. Adjustment of premenopausal health permitted clarity of temporal sequence of events, and their impact on the outcome

Strengths and Limitations

Limitations

1. No information on age of diagnosis for GD.
2. Both diabetes and ANM was based on self-report which may have led to misclassification of the both exposure and outcome.
3. Oral contraceptive use, age at menarche, parity, and breastfeeding were not included in this analysis as this information was not included in CLSA.

Significance

- Understanding the long-term implications of diabetes on women's reproductive aging can help clinicians in Canada and around the world direct early and focused care towards at-risk patients.

Thank you!

Supervisor: Dr. Hala Tamim

Statistical support: Hugh Mccague

Lab Members: Asvini, Durdana, Rahim, Peri and Maria

Scholarships:

CIHR-CGS (2019-20)

OGS (2018-19) &

LaMarsh Graduate Research Awards



CIHR IRSC



Canadian Institutes of Health Research
Instituts de recherche en santé du Canada

LaMarsh Centre for Child & Youth Research



Ontario

YORK
UNIVERSITÉ
UNIVERSITY



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QUESTIONS?



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