CMCM MBMC

Centre de médecine comportementale de Montréal
Montreal Behavioural Medicine Centre

Université Concordia University

Trajectories of *depressive symptoms* across Metabolic Bariatric Surgery and their associations with post-surgical *weight outcomes*

Stephanie Oliverio
PhD Candidate
Clinical Psychology

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

Disclosure Slide

✖	No, nothing to disclose
	Yes, please specify:

Beyond weight loss:

Why psychosocial health matters after MBS

Depression is clinically relevant throughout the MBS pathway

Psychological health is an important outcome in its own right

COMMON

~19% MDD preoperatively

CLINICALLY IMPORTANT

Self-harm • Suicidality
Quality of Life

CONSEQUENTIAL

Adherence, Health Behaviours, Weight

What happens to depressive symptoms after MBS?

Dawes et al., 2016; Castaneda et al., 2019; Alyahya & Alnujaidi, 2022; **Chan et al., 2024**

The early story is encouraging.

But are those improvements sustained?

Improvement
"psychological honeymoon"

Diminishing / potential worsening (?)

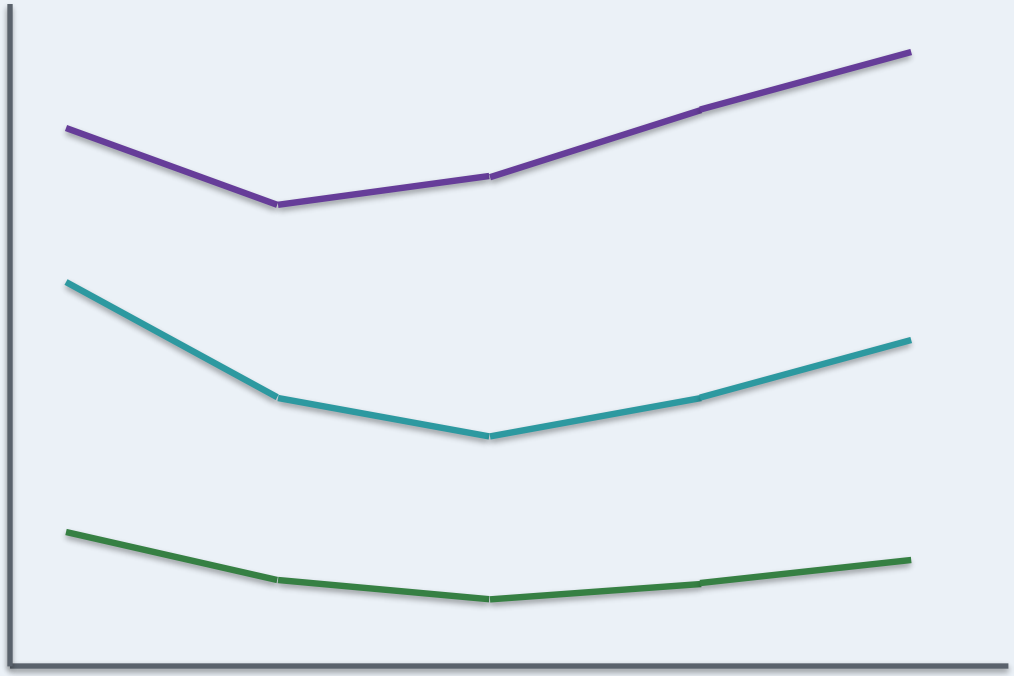
Woods et al., 2023; Budin et al., 2025; Spirou et al., 2020

On average…

Averages can conceal the profile of patients that may need more support

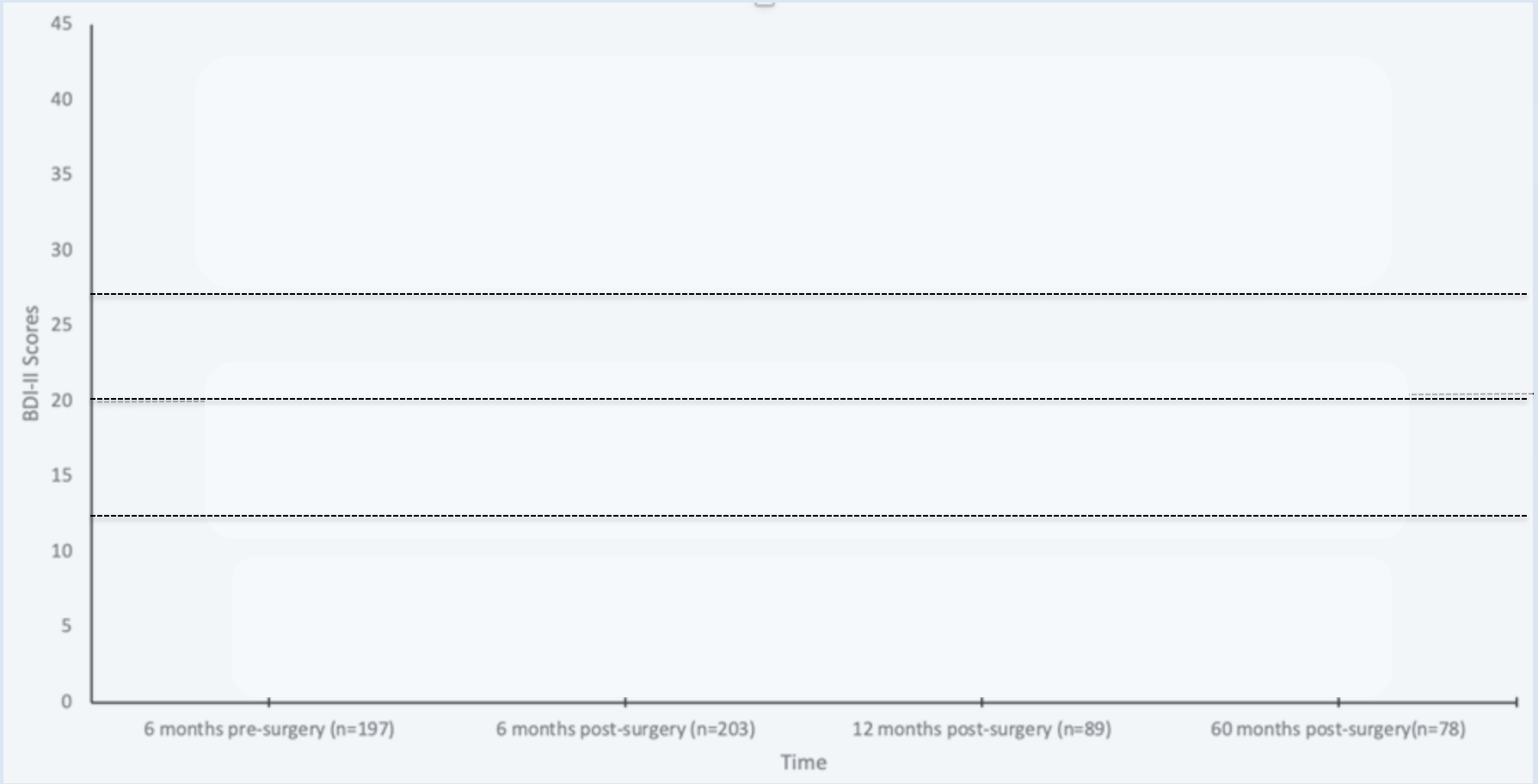
On average…

But in reality…



The average trajectory could represent patients following very different psychological courses.

Depressive symptoms follow distinct trajectories after MBS



Oliverio et al., (2026). manuscript submitted.

Do these trajectories differentially impact outcomes

Five-year outcomes

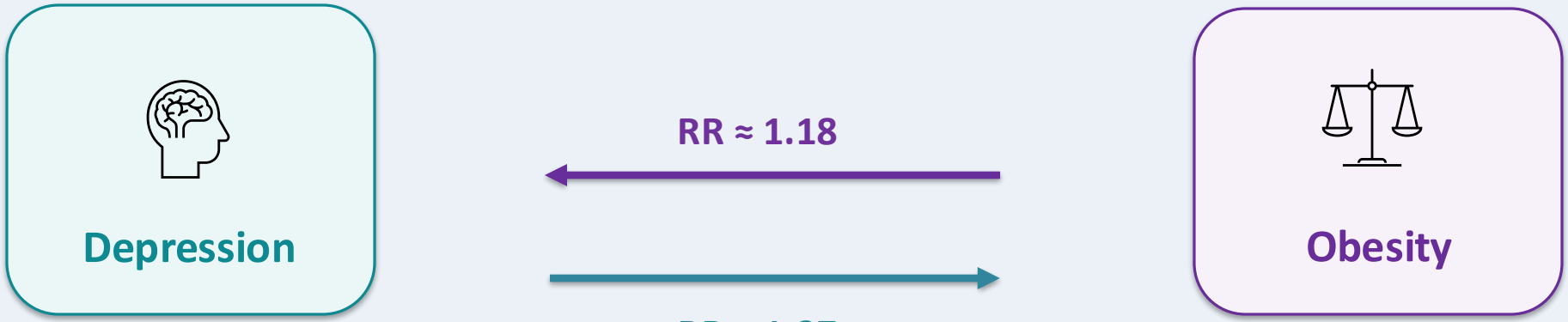
Profile	5-year weight loss	5-year quality of life
High (4.9%)	32% EWL	0.38
Moderate (36.6%)	44% EWL	0.73
Low (58.5%)	68% EWL	0.92
	Low > Moderate ≈ High	Clear gradient ↓

Weight loss only tells us part of the story

Depression and obesity: A bidirectional association

Prospective evidence in the general population supports pathways in both directions

- Patients follow meaningfully different depressive symptom trajectories after MBS
- These trajectories are associated with differences in longer-term outcomes



Potential pathways

Eating behavior	emotional eating • appetite
Physical activity	motivation • reduced activity

Potential pathways

Biological	inflammation
Psychosocial	weight stigma • body image
Functional	pain • mobility • limitations

Faith et al., 2011; Mannan et al., 2016; Weiss et al., 2020

What comes first?

The association between depressive symptoms and weight change following MBS may be bidirectional and time-dependent.

DEPRESSION → WEIGHT

Possible pathways

Eating behaviours

appetite, cravings, emotional eating

DEPRESSIVE SYMPTOMS

severity, persistence, change over time

Direction ?

WEIGHT CHANGE

loss, plateau, regain, variability

WEIGHT → DEPRESSION

Possible pathways

Expectations

perceived failure, disappointment

1. **Does depression precede subsequent weight change?**
2. **Does weight change precede subsequent depressive symptoms?**
3. **Does the relationship change over time across the postoperative course?**

Understanding the temporal relationship may help **identify critical windows** and **targets** for **psychosocial support.**

How can we study the direction of this association?

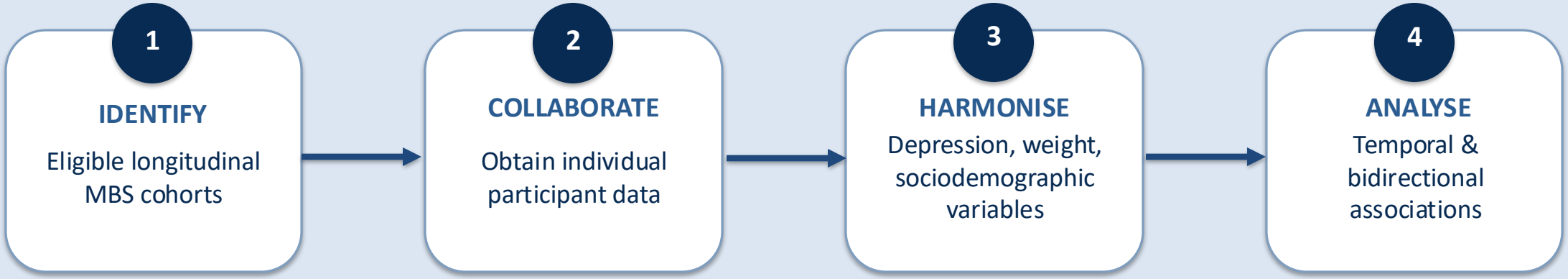
The data are already out there

~173
independent cohorts identified

Multiple measures
BDI • PHQ • HADS
+ other validated tools

6 mo → 5+ yr
longitudinal follow-up available

Individual Participant Data Meta-Analysis



$Depression_t \rightarrow Weight_{t+1}$ | $Weight_t \rightarrow Depression_{t+1}$

Does the direction or strength change across the postoperative course?

Have longitudinal MBS data?
Repeated depression + weight measures? Let's collaborate!
stephanie.oliverio@mail.concordia.ca

Systematic review: 255 eligible articles; ~173 independent study groups.

From describing association to personalised care

WHO?

Who follows vulnerable trajectories?

Person-centred trajectories

WHEN?

When do depression and weight influence one another?

IPD longitudinal modelling

WHAT?

Which psychosocial processes should we target?

Mechanisms & targets

HOW?

How do we intervene effectively?

Intervention development

Psychosocial concerns aren't peripheral to the postoperative course.
They are meaningful health outcomes in their own right.

CMCM MBMC
Centre de médecine comportementale de Montréal
Montreal Behavioural Medicine Centre

Université Concordia University

Thank you to our co-investigators

Patient Investigators
Patrick Marion
Annick Gauthier

Researchers
Andrea Benedetti (PhD)
Tair Ben-Porat (PhD)
Patrick Boudreau (PhD)
Stephanie Cassin (PhD)
Marilou Côté (PhD)
Karen Grothe (PhD)
Alexandre Morin (PhD)
Ian Patton (PhD)
Sanjeev Sockalingam (MD)
Stephanie Sogg (PhD)

Surgeons
Pierre Garneau (MD)
Radu Pescarus (MD)
Anne Sophie Studer (MD)

MBMC
Simon L. Bacon (PhD)
Kim L. Lavoie (PhD)

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