IVI INNOVATION AND VALUE INITIATIVE

MDD Advisory Group Meeting

August 2022

Meeting Agenda

- Welcome and Advisory Group Business 1:00-1:05 pm
- Updates on Model Development & AG Engagement 1:05-1:20 pm
- Component Studies – Early Findings 1:20-1:40 pm
  - Patient-Driven Priorities for Management of MDD (PAVE) – Results Preview Below
  - MDD Treatment Patterns Retrospective Claims Study (HealthCore) – Results Preview Below
- Looking Ahead: Putting the Model into Practice 1:40 - 2:00 pm

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MDD Project Timeline

User Interface Prototype

Q2-Q3 2022

The user interface prototype is an interactive prototype for the MDD model that describes the optimal graphical design of the interface, as well as the granular dynamic components within each screen. This will be informed based on use case development and feedback from potential users.

Final Model Protocol

Q2-Q3 2022

The draft model protocol will be finalized based on feedback from the public, findings from the component projects, and input from the multi-stakeholder advisory group.

Model Public Release

Q4 2022-Q1 2023

The major depressive disorder (MDD) value assessment model will allow users to use the model's pre-specified inputs or their own data sources to compare treatments for MDD. All model code is open source, and we invite users to provide feedback and recommendations for improvement.

Use Case Development and Model Updates

Ongoing

IVI and interested stakeholders will use the MDD model to conduct additional research projects. IVI will update the model as new data sources become available.

AG Engagement

- Feedback on User Interface Design
- Insights on Technical Specification
- Applications of the MDD Model
- Review Model Prototype

Treatment Sequence Simplification

- More than 476,000 possible treatment pathway (4 lines)
- Need to simplify, combine, and reduce number of treatments based on:
  - Clinical guidelines
  - Real-world treatment patterns study
- Next steps
  - Share proposed simplified treatment pathway
  - Review and seek feedback from clinician advisors on the AG

First (potential, options)	Second	Third	Fourth
Start with: Pharmacotherapy - SSRI - SNRI - Atypical - Mirtazapine - Bupropion - TCAs - Serotonin modulators - MAOI Psychotherapy - CBT - IPT - Psychodynamic therapy Combination – Psychotherapy + pharmacotherapy	Switch to a different treatment option listed below: *(Note - for pharmacotherapy, people with MDD can switch from one medication to another medication in the same class or a different class)* Pharmacotherapy - SSRI - SNRI - Mirtazapine - Bupropion - TCAs - Serotonin modulators - MAOI Psychotherapy - CBT - IPT - Psychodynamic therapy Combination – Psychotherapy + pharmacotherapy	Switch to a different treatment option listed below: Pharmacotherapy - SSRI - SNRI - Mirtazapine - Bupropion - TCAs - Serotonin modulators - MAOI - Ketamine - Esketamine Psychotherapy - CBT - IPT - Psychodynamic therapy Combination of treatments – Psychotherapy + Pharmacotherapy Somatic Therapy - ECT - TMS Pharmacotherapy augmentation strategies	Switch to a different treatment option listed below: Pharmacotherapy - SSRI - SNRI - Mirtazapine - Bupropion - TCAs - Serotonin modulators - MAOI - Ketamine - Esketamine Psychotherapy - CBT - IPT - Psychodynamic therapy Combination of treatments – Psychotherapy + pharmacotherapy – Psychotherapy + somatic therapy + pharmacotherapy Somatic Therapy - ECT - TMS - VNS Pharmacotherapy augmentation strategies

HealthCore Collaboration

- A retrospective claims study to identify treatment patterns (both pharmaceutical and non-pharmaceutical) in two-year follow-up for commercially-insured individuals newly diagnosed with MDD (age 18 to 64 years)
- Key findings (detailed in pre-read) include:
  - Of 12,657 patients, Rx-only 34%, non-Rx only 25%, both 28%, neither 13%
  - Rates of all-cause hospitalization: Rx-only 11%, non-Rx-only 10%, both 16%, neither 29%
    - Monthly total costs, respectively: $792, $633, $786, $1,292
  - “Rx-only” and “both” cohorts had higher odds of decreasing MDD severity than those that received neither type of treatment
- Discussion
  - Are you surprised by any of these findings?
  - How do you expect treatment patterns to differ by insurance type?

HealthCore Collaboration

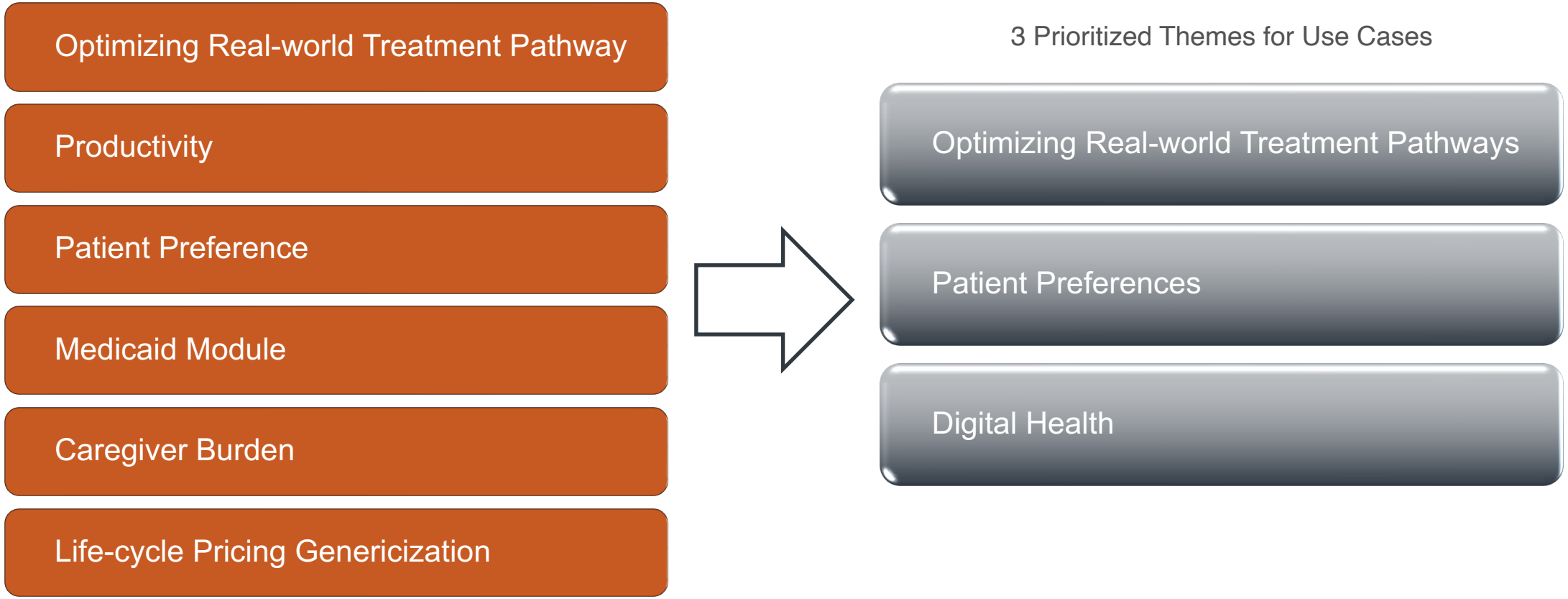
- Application to the MDD model
  - Treatment sequences specification
  - Cost inputs
  - Patient characteristics
  - Subgroup-specific inputs and assumptions
  - Use case development (i.e., private payer perspective)
- Discussion
  - What are some of the additional ways we can incorporate the study results into the model?

PAVE Collaboration

- Phase 2 survey recruitment complete
  - A deliberate effort to recruit underrepresented subgroups (defined by race/ethnicity, education, and income level)
- Currently analyzing the full-sample results, with specific focus on patient heterogeneity
- Exploring ways to incorporate patient preferences into the MDD model
  - Test different ways of building the preference estimates into the health economic and MCDA modules
  - Understand how patient heterogeneity will impact key model insights
  - Incorporate equity considerations into value assessments
- Public webinar to showcase the full set of results in September
- **Discussion** – What are the ways you think we can build patient preferences into MDD model?

Use Case Development

- Conducted 16 user interviews with different stakeholders including patients, payers, employers, manufacturers, clinicians, and researchers
- Identified 3 prioritized themes for use case development based on feasibility and likely impacts



Use Case Development

- Discussion
  - Any reactions or feedback on the three prioritized ideas?
  - Are you aware of other organizations conducting research/initiatives in these areas?
  - Who are the partners that IVI should reach out to to fill data gaps and form partnerships?

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Appendix

- Among 12,657 patients, 7,820 patients have used at least one pharmacologic treatment.
- The table to the right describes the most common treatment sequences (observed in at least 0.5% of the patients in the sample).

Post-index (2 years) treatment sequences among MDD patients

Treatment Sequences	MDD Patients
Number of patients with ≥1 line of therapy, N	7,820
Treatment sequences[1]	
[SSRI]	3,134 (40.1%)
[SSRI] => [SSRI]	886 (11.3%)
[Bupropion]	561 (7.2%)
[SNRI]	263 (3.4%)
[SSRI] => [SSRI] => [SSRI]	188 (2.4%)
[SSRI] => [Bupropion]	128 (1.6%)
[Bupropion] => [Bupropion]	113 (1.5%)
[SSRI] => [SNRI]	113 (1.5%)
[SSRI] => [Bupropion + SSRI]	103 (1.3%)
[SSRI] => [Bupropion + SSRI] => [SSRI]	85 (1.1%)
[SMS]	74 (1.0%)
[SMS + SSRI] => [SSRI]	64 (0.8%)
[TCA]	63 (0.8%)
[Bupropion] => [SSRI]	55 (0.7%)
[SSRI] => [Bupropion + SSRI] => [Bupropion]	49 (0.6%)
[SSRI] => [SMS + SSRI] => [SSRI]	49 (0.6%)
[SNRI] => [SNRI]	46 (0.6%)
[SMS + SSRI]	42 (0.5%)
[SSRI] => [SMS]	37 (0.5%)

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- Among 12,657 patients, 6,675 used non-pharmacologic treatments in two-year follow-up period after initial diagnosis of MDD.
- The table to the right summarizes the use of these treatments.

Non-pharmacologic treatment for MDD (Total number of patients = 12,657)	
Any non-pharmacologic treatment	
≥1 visit, n (%)	6,675 (52.7%)
Number of visits per patient, mean (SD)	9.1 (18.1)
Days to first non-pharmacologic treatment	
Mean (SD)	50.4 (132.4)
Median (IQR)	0.0 (0.0-17.0)
Individual/family/group psychotherapy	
≥1 visit, n (%)	6,033 (47.7%)
Number of visits per patient, mean (SD)	8.4 (17.5)
Psychotherapy in crisis visits	
≥1 visit, n (%)	101 (0.8%)
Number of visits per patient, mean (SD)	0.0 (0.2)
Psychiatric diagnostic evaluation visits	
≥1 visit, n (%)	5,628 (44.5%)
Number of visits per patient, mean (SD)	0.7 (1.1)
Medication management visits for psychotherapy	
≥1 visit, n (%)	≤10
Number of visits per patient, mean (SD)	--
Electroconvulsive therapy	
≥1 visit, n (%)	≤10
Number of visits per patient, mean (SD)	--
Transcranial magnetic stimulation	
≥1 visit, n (%)	≤10
Number of visits per patient, mean (SD)	--
Vagus nerve stimulation	
≥1 visit, n (%)	0 (0.0%)
Number of visits per patient, mean (SD)	0.0 (0.0)

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