MRSA ABM Model - Work Plan

Project Period: December 2025 - March 2025

December 2025

Week of December 8-14, 2025

Goals:

- Finish Visit behavior

Tasks:

- Finish transmission-eligible visit behavior

    - HH->GG->Transmission?->HH
    - Q: Model all as nested or sequenced steps, or multiply probabilities?

Deliverables:

- Visit data file contains all visits with disease state of hcw and patient, whether or not transmission occurred.

Notes:

- Importation of I-state patients already implemented. This will allow tracking of transmission at the visit.
- The rest of the disease model next week.

Week of December 15-21, 2025

Goals:

- Finish Disease Model
- Feature Complete

Tasks:

- Implement transitions from C->I, I->R

    - Require time-to-event parameters.

Deliverables:

- Disease data file contains importations, transmissions, progressions.

Notes:

- This will represent feature-completion on the model.

Week of December 22-23, 2025

Goals:

- Calibrate Visit Rates
- Create documentation website

Tasks:

- Adjust HCW-specific intra-visit rates to match observed frequencies in HCW Room Visit Frequencies.docx in Box folder.

Deliverables:

- Visit rate report already exists. Just need to get the histograms to match calibration targets.
- Automatically generated documentation website.

Notes:

- **Q: We're using mean intra-event times in the visit frequencies document. We're currently implemented as gamma distributions in the model. Do we need to adjust the shape parameters to match the observed distributions? Guidance needed**
- Short Week - Christmas Holiday

Week of December 29 - January 2, 2026

Goals:

-Calibrate Visit Rates (cont'd)

Tasks:

- Adjust HCW-specific intra-visit rates to match observed frequencies in HCW Room Visit Frequencies.docx in Box folder. (cont'd)

Deliverables:

- Visit rate report already exists. Just need to get the histograms to match calibration targets. (cont'd)

Notes:

January 2026

Week of January 5-11, 2026

Goals:

- Parameter finalization for disease model, visit behavior, all submodels
- Calibrate disease outcomes.
  - **Q: What are the calibration targets for disease outcomes? Infections/10000pt days?**

Tasks:

- Calibration process. Should be one tuning variable, right?

Deliverables:

- Calibration report for disease

Notes:

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Week of January 12-18, 2026

Goals:

- set up batch runner
- initial sensitivity analyses

Tasks:

- Configure batch runner.
- Set up initial sensitivity analyse

Deliverables:

- Sensitivity analysis reports

Notes:

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** What experimental parameters should be promoted up to user-control level? **

Week of January 19-25, 2026

Goals:

- prepare to run experiments

Tasks:

- Probably run more sensitivity analyses
- Last adjustments for calibration, verification, etc.

Deliverables:

- TBD

Notes:

- MLK Day - January 20

Week of January 26 - February 1, 2026

Goals:

- Prepare to run experiments
- finalize documentation website

Tasks:

- Write good documentation for all model features.
- Work through website, make sure it's accurate and complete

Deliverables:

- Website progress.

Notes:

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February 2026

Week of February 2-8, 2026

Goals:

- Run Experiments

Tasks:

- Setup and run batches.
- Manage and analyse initial batch results

Deliverables:

- Prelim analysis

Notes:

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Week of February 9-15, 2026

Goals:

- Run Experiments (cont'd)
- I think should be done by this time.

Tasks:

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Deliverables:

- experimental data w/ prelim analysis

Notes:

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Week of February 16-22, 2026

Goals:

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Tasks:

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Deliverables:

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Notes:

- Presidents Day - February 16

Week of February 23 - March 1, 2026

Goals:

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Tasks:

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Deliverables:

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Notes:

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March 2026

Week of March 2-8, 2026

Goals:

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Tasks:

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Deliverables:

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Notes:

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Week of March 9-15, 2026

Goals:

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Tasks:

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Deliverables:

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Notes:

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Week of March 16-22, 2026

Goals:

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Tasks:

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Deliverables:

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Notes:

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