

## BACKGROUND

- Falls are a major inpatient safety issue linked to harm, longer stays, and higher costs
- UMMC launched AI-enabled Virtual Nursing in Feb 2025 on two acute care units for real-time fall prevention
- Existing falls data is often retrospective and underused
- Need for interpretable, real-time monitoring and evaluation tools

Figure 1: Virtual Nursing + AI-powered Virtual Observation

AI-enhanced Virtual Nursing was piloted on 2 UMMC units (46 beds), using tele-sitters 24/7 and VRN coverage 9am–9pm with an initial focus on fall prevention.

### Virtual Nursing Bunker



- Admission**
- Review of patient data
- Discharge**
- Patient education
  - Coordination of Care
- Rounding**
- Identification of need
    - Safety checks
    - Pain reassessment

### Bedside RN Team

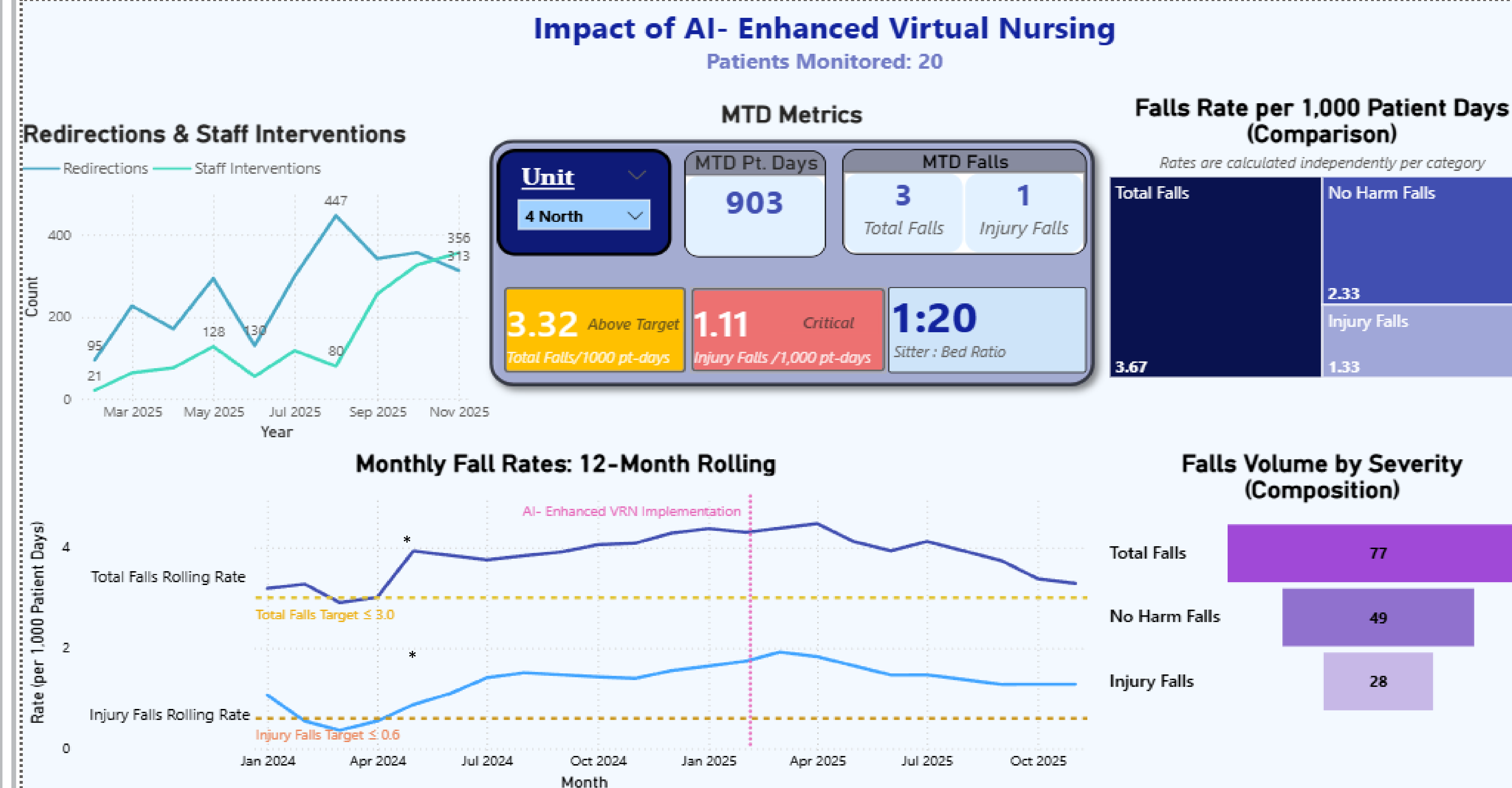
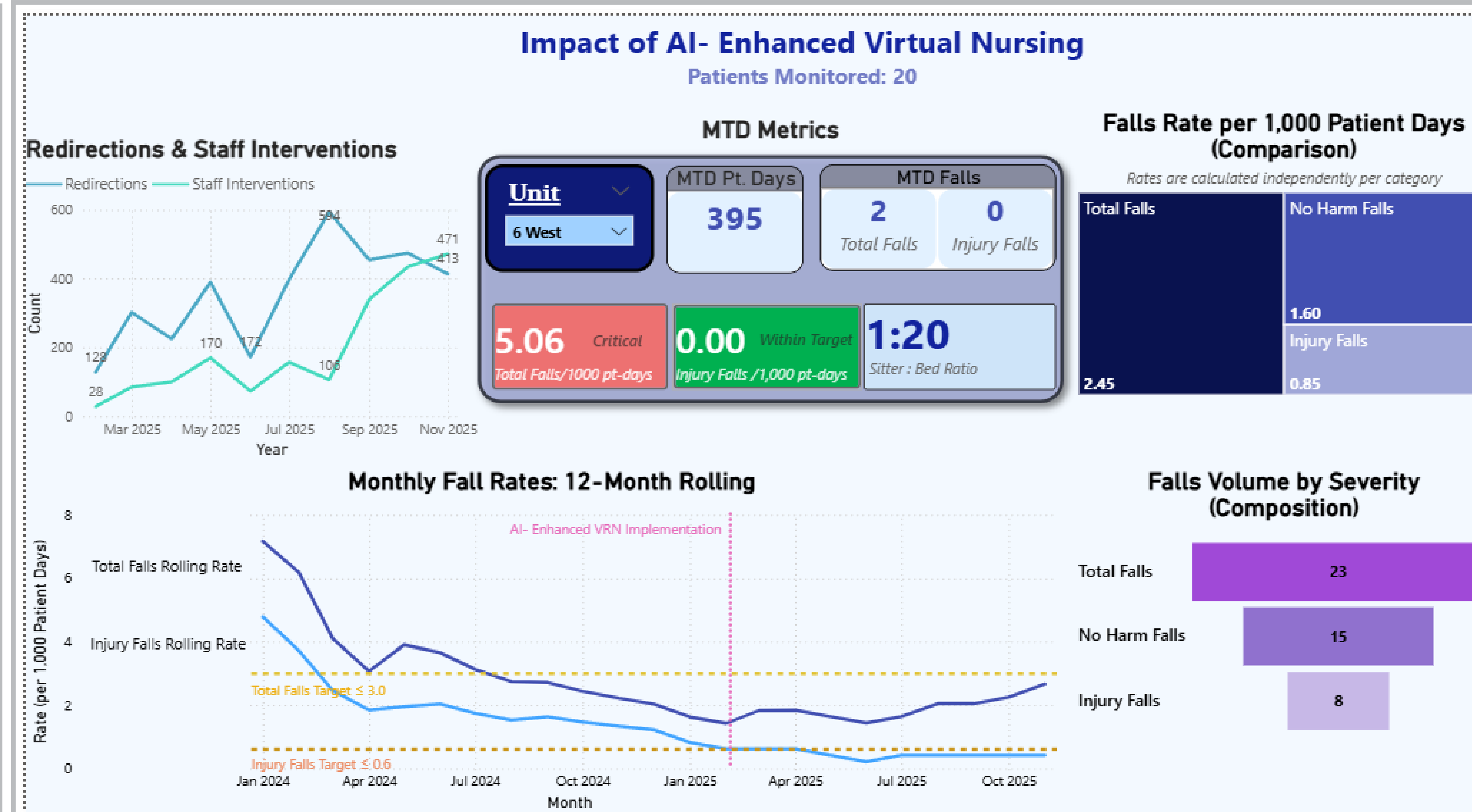


## METHODS

Developed an **interactive dashboard** to:

- Monitor fall trends and severity
- Compare against clinical benchmarks
- Support **unit-level decision-making**

## AI-Enabled Virtual Nursing Dashboard



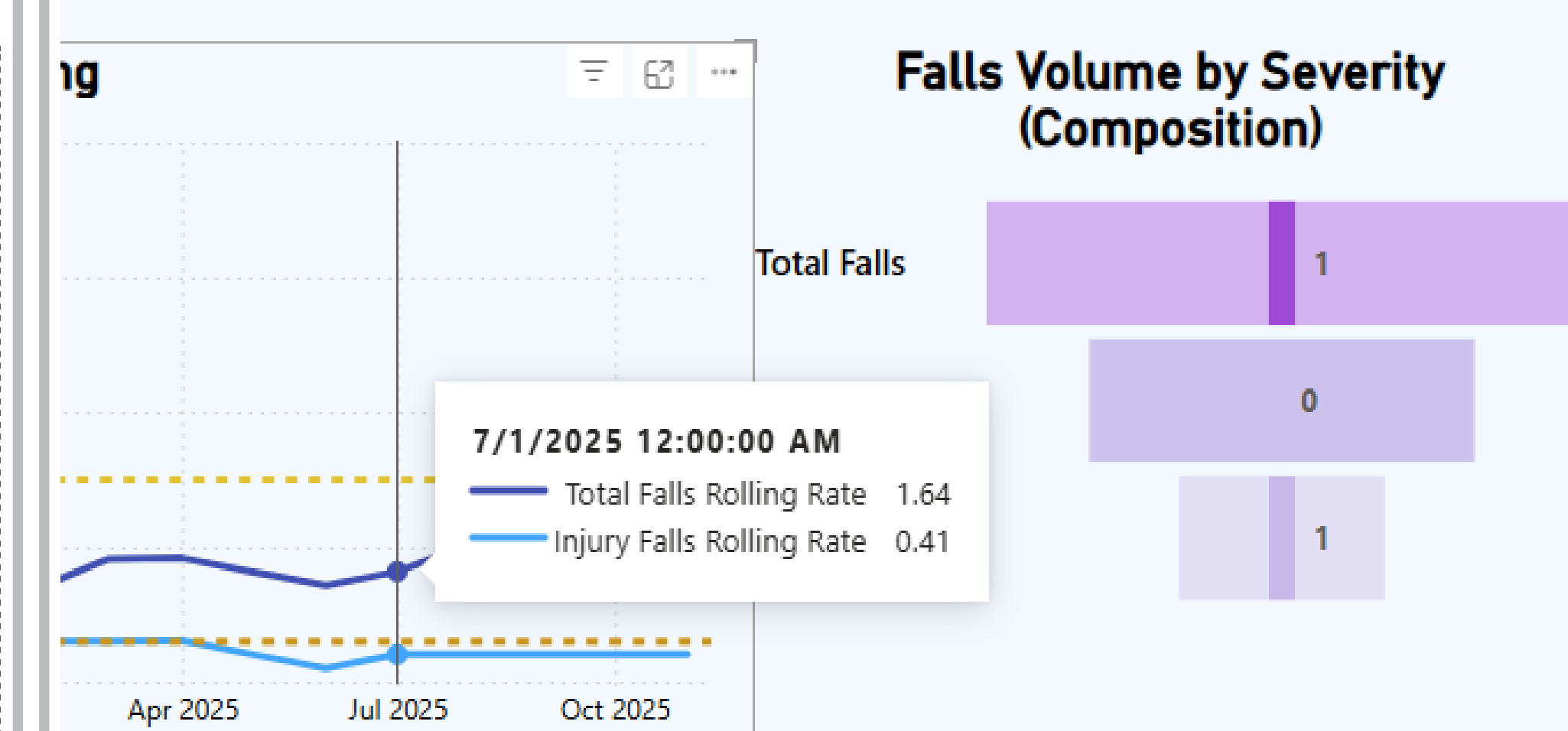
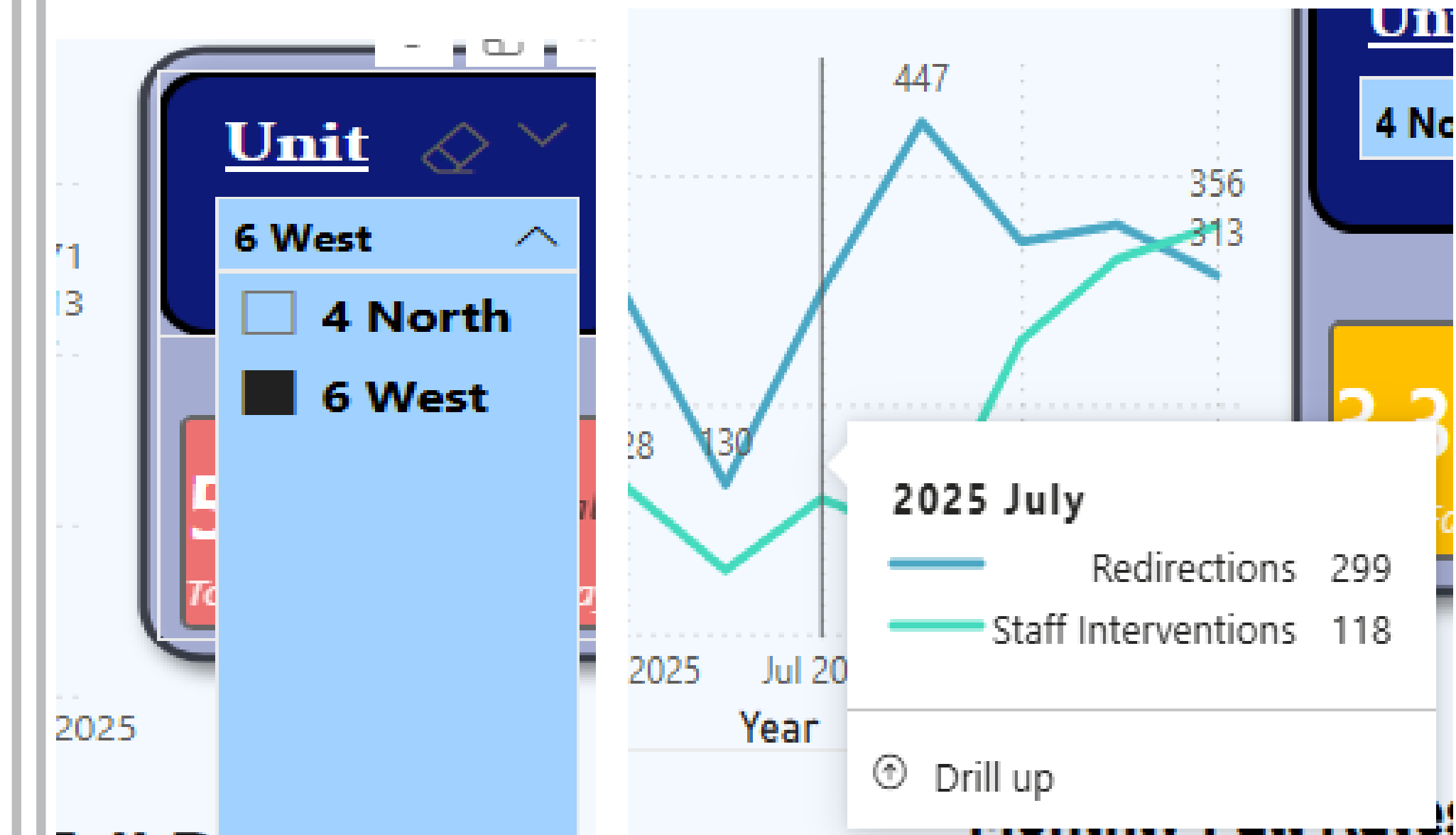
### Definitions:

- Redirections:** Remote verbal prompts (recorded or live) used by the Virtual Observer to redirect unsafe patient behavior.
- Staff Interventions:** Bedside staff entering the room when remote redirection is unsuccessful.
- MTD:** Month to Date

\*National Fall Benchmarks Source: AHRQ PSNet, NDNQI reports, and peer-reviewed literature

### Interactive Dashboard Components:

- Unit selection (dropdown)
- MTD metrics (patient days, falls, rates, status)
- Falls Volume by severity
- Fall Rates (per 1,000 pt. days)
- Redirections & staff interventions
- 12-month rolling fall rates



## KEY INSIGHTS

- Enables real-time tracking of fall rates against clinical benchmarks
- Identifies high-risk periods and severity patterns to guide intervention
- Links AI alerts → staff interventions → outcomes
- Reveals variation in impact across units, highlighting the need for unit-level evaluation.
- Transforms routine safety data into actionable insights for clinical decision-making.