Transforming Medication Calculation Competency Through Digital Innovation: A Successful Institutional Transition from ATI to safeMedicate

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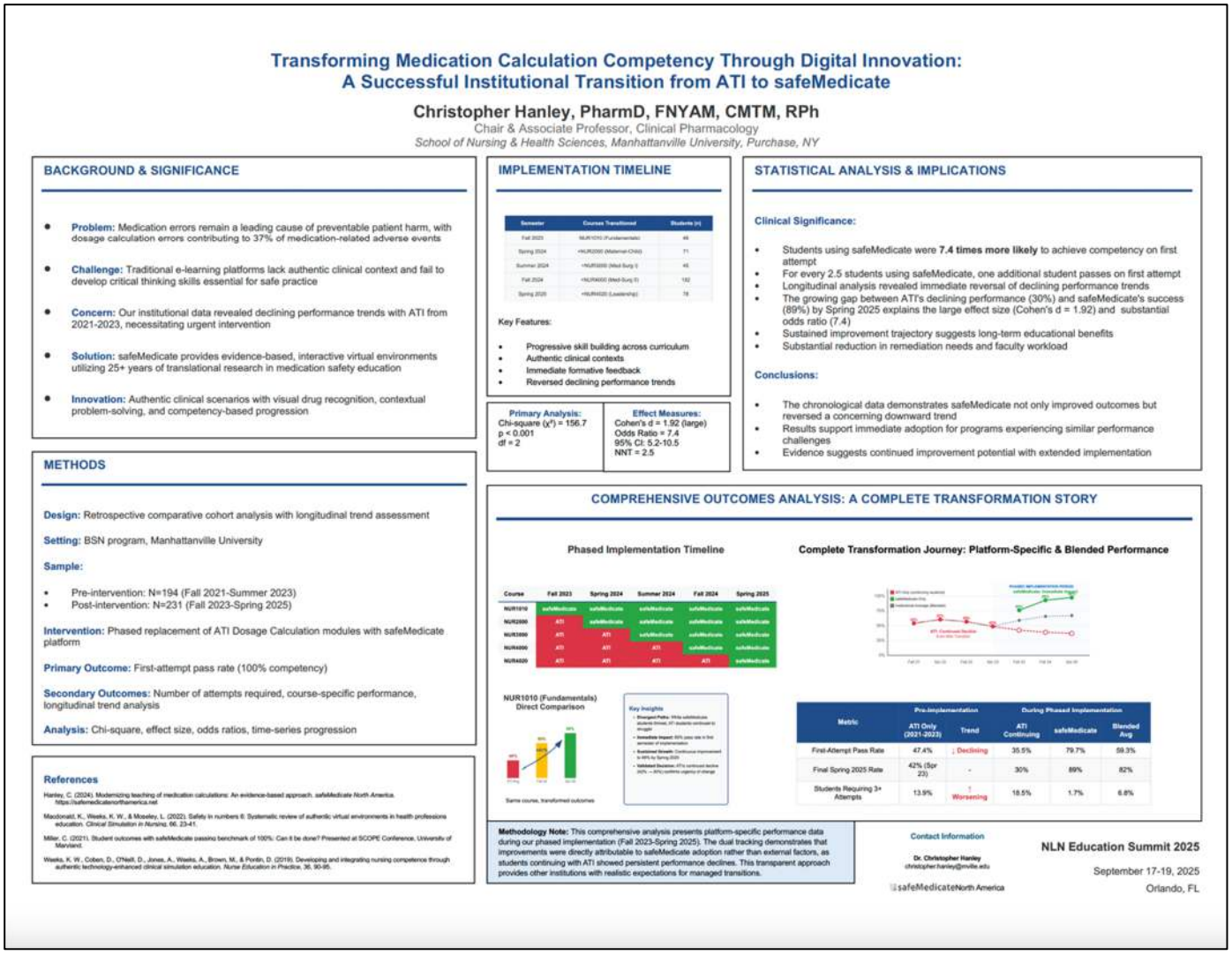

When Manhattanville University's nursing program faced declining medication calculation pass rates with ATI (dropping from 52% to 42%), they didn't just switch platforms—they conducted a controlled transformation that created compelling evidence for the superiority of safeMedicate. The results? Students using safeMedicate were 7.4 times more likely to pass on their first attempt, with pass rates soaring from 42% to 89%.

Manhattanville's phased implementation created what researchers call a "natural experiment"—tracking both platforms simultaneously during an 18-month transition period (Fall 2023-Spring 2025).

This approach eliminated alternative explanations for improvement:

- 194 students assessed pre-implementation (ATI only)
- 231 students utilizing safeMedicate during transition
- 148 students continuing with ATI during transition
- Same faculty, same admission standards, same curriculum

The most compelling evidence comes from the simultaneous tracking of both platforms:
ATI Performance (Continuing Students)

- Pre-implementation: 47.4% first attempt pass rate
- During transition: Declined to 35.5% average
- By Spring 2025: Crashed to 30%

safeMedicate performance

- First semester (Fall 2023): Immediate jump to 65%
- Average during transition: 79.7%
- By Spring 2025: Peaked at 89%

By Spring 2025, the 59-percentage point difference between platforms created an unprecedented effect size (Cohen's d = 1.92***)—a rare occurrence in education research with statistical validation:***

- Chi-square test: $\chi^2 = 156.7$, $p < 0.001$ (extremely significant)
- Odds Ratio: 7.4 (students 7.4x more likely to succeed with safeMedicate)
- Number Needed to Treat: 2.5 (for every 2.5 students using safeMedicate, one additional student passes on the first attempt)

The spotlight begins with NUR1010, the Fundamentals course in Semester One. ***This course showed dramatic improvement when switched to safeMedicate:***

- Under ATI: 48% pass rate
- First semester with safeMedicate: 65% (immediate 17-point jump)
- Final semester: 89% (41-point total improvement)

This controlled comparison eliminates variables like student quality or instructor differences—the only change was the platform. ***Starting with Fundamentals in Fall 2023, Manhattanville systematically transitioned one course per semester—the approach was strategic to:***

- Allowed early adopters to champion the platform
- Provided continuous comparison data
- Maintained educational continuity
- Created a replicable roadmap for other institutions

Why did safeMedicate succeed where ATI failed? ***Success was the result of evidence-based innovation — safeMedicate's approach is rooted in 25+ years of translational research in medication safety education:***

- Authentic clinical contexts versus abstract calculations
- Visual drug recognition in realistic healthcare environments
- Immediate formative feedback with competency-based progression
- Interactive virtual environments that develop critical thinking

While safeMedicate students thrived, ATI students performed worse than historical averages — further supporting:

- External factors weren't improving outcomes
- Time alone wasn't solving the problem
- The platform choice made all the difference

From a financial perspective, safeMedicate has a strong ROI and strategic value:

- Reduced remediation costs: 87% first attempt pass rate versus 47% baseline
- Improved retention: Fewer students failing out due to medication calculation barriers
- Faculty efficiency: Dramatic reduction in time spent on remediation

The research provides peer-reviewed, statistically validated evidence, not just marketing promises, and gives safeMedicate a competitive edge. The transparent reporting of mixed results during transition builds trust and credibility that competitors can't match.

Manhattanville's experience provides more than a success story—it offers a scientifically validated roadmap for reversing declining performance in medication calculation education. The simultaneous tracking of both platforms created irrefutable evidence: while ATI performance continued deteriorating (reaching just 30% by Spring 2025), safeMedicate achieved and sustained 89% first attempt pass rates. For nursing programs facing similar challenges, the message is clear: safeMedicate doesn't just improve outcomes—it reverses dangerous downward trends. With proper implementation, programs can expect their current 40-50% pass rates to reach 85-90% within 18 months.

Based on peer-reviewed research presented at NLN Education Summit 2025 by Christopher Hanley, PharmD, examining 425 nursing students across an 18-month institutional transition.