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From Silos to Synergy: Integrating Academic Health Informatics with Operational IT for Healthcare Transformation

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Why this Story Matters

- Digital health is rapidly accelerating
- Innovation & operations are becoming increasingly inseparable
- Health systems need new structures to maximize impact

From silos to synergy: integrating academic health informatics with operational IT for healthcare transformation

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Chief Health Informatics Officer

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What is DHI?

- **Department of Health Informatics (DHI)** = NYU's new enterprise hub for applied health informatics.
- Lives inside MCIT (Medical Center IT), not academia.
- Mission: integrate academics, clinicians, and IT to scale innovation across care, research, and education.

Why DHI matters

- Health systems can't separate innovation from operations anymore.
- Academic research often fails to scale.
- Clinicians need tools that fit into workflows, not add burden.
- **DHI is NYU Langone Health's solution to these problems.**

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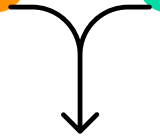
The Divide

Academic Informatics
Research, new tools, pilots

- Clinical Decision Support (CDS) Tool Development and Evaluation
- Data Science & AI/ML
- Workflow Innovation
- Equity & Access Research



Worked in **parallel silos**

Operational IT
Infrastructure, enterprise stability

- Core EHR Infrastructure
- Clinical Applications
- Data & Reporting
- Compliance & Security
- Support Functions

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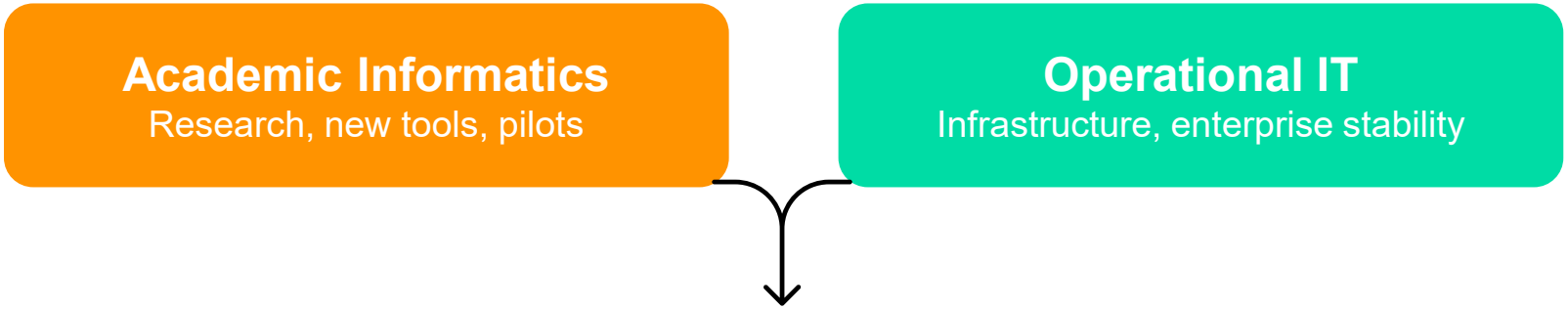
Consequences



Restricted data access

Pilots rarely scaled

Poor workflow integration

Redundant or duplicative projects

Lost opportunity for innovation and change

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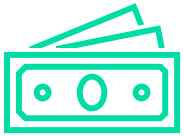
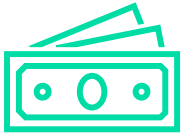
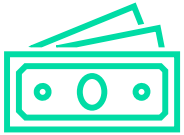
Federal & Market Drivers of Digitization



2009 HITECH Act -> EHR ubiquity



Financial and liability risk tied to IT success



Trends towards digitization across missions

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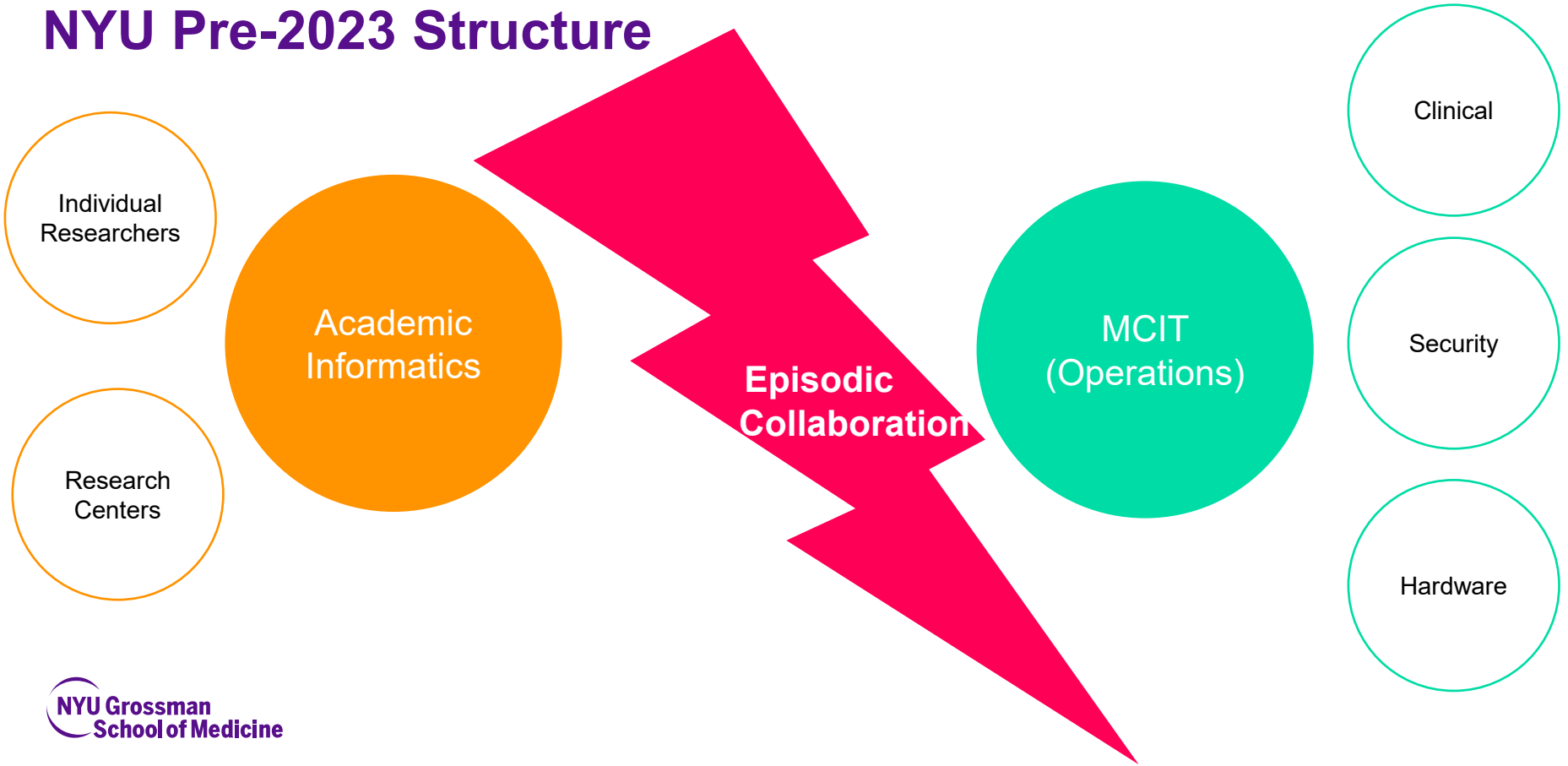
NYU Pre-2023 Structure



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Prior MCIT Incremental Steps Toward Change

Shift from App-Specific Structure ⋙ **Digital Experiences**

Focus on Portfolios - Patient, clinician, research/education

Maintained: Parallel governance!

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Why Status Quo Wasn't Enough

- ✕ Incremental tweaks too slow
- ✕ Innovation needed at enterprise scale
- ✕ Risk of lagging behind peers

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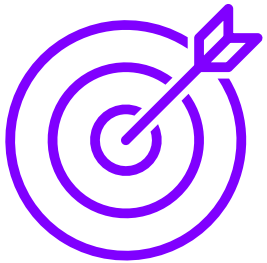
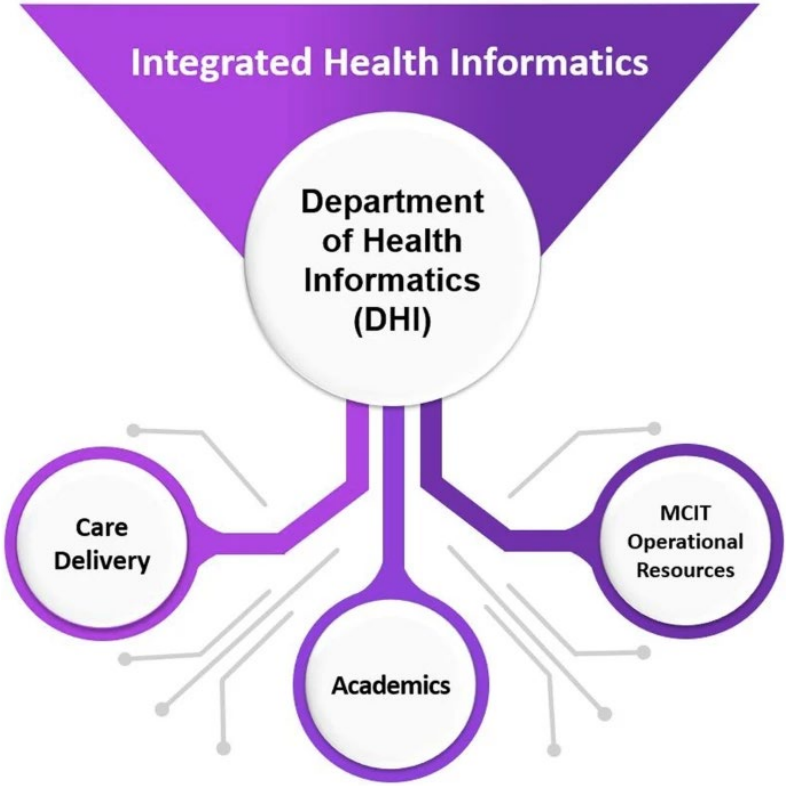
DHI Launch

- Established within MCIT (2023)
- Enterprise hub for informatics
- Unconventional structure designed to **maximize innovation** and **impact**





Cross-mission reach:
clinical, research, education

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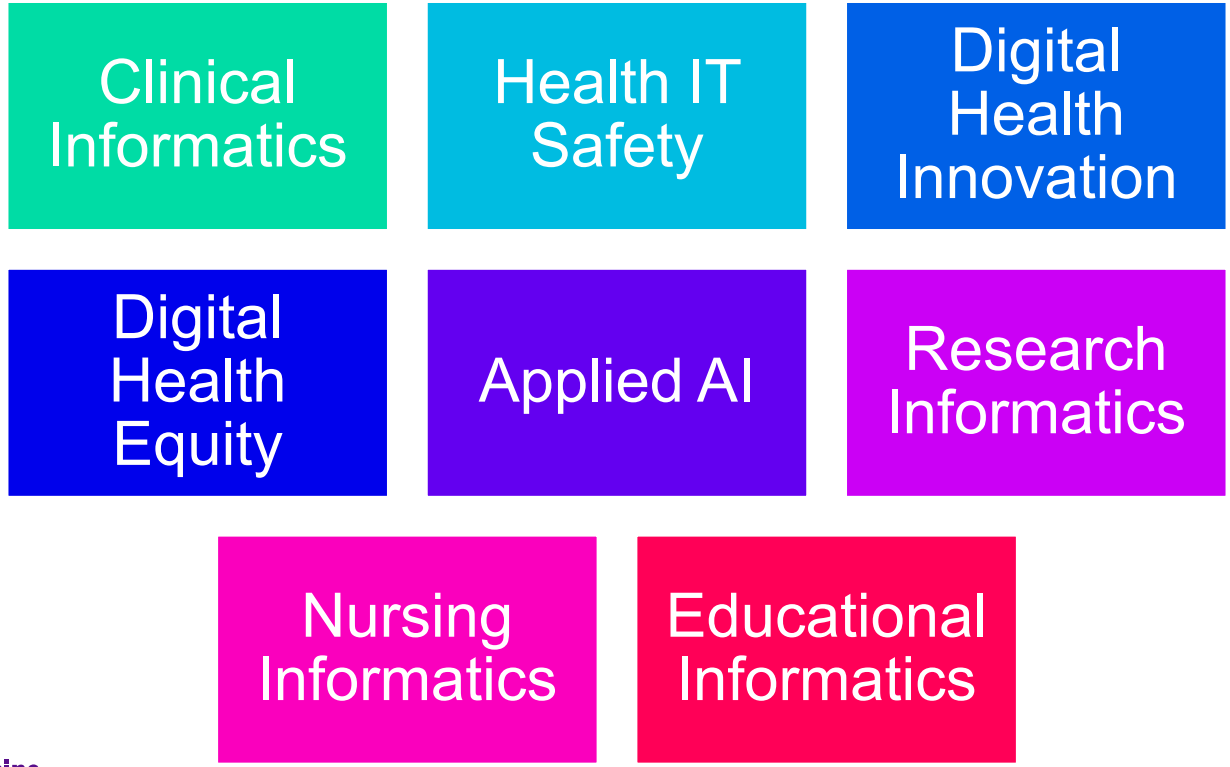
Division Focus



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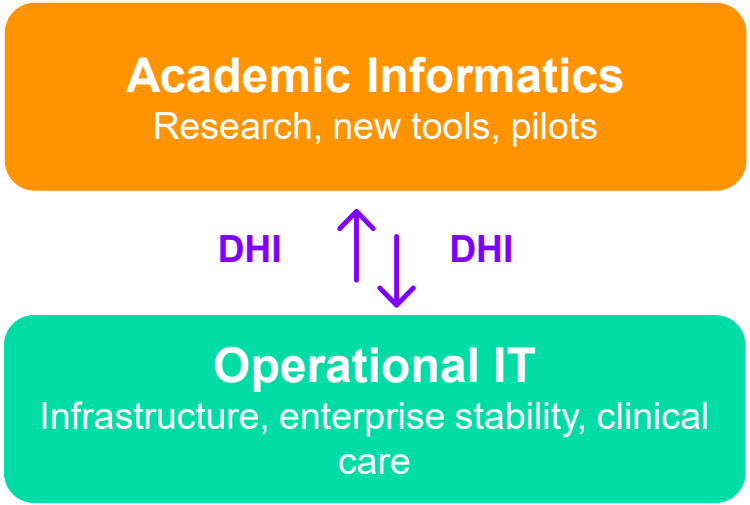
A New Paradigm

Key Integrative Features

- **Structural Integration**: DHI *inside* MCIT, and not academia
- **Matrix Roles**: Faculty & staff with joint academic + operational responsibilities
- **Shared Resource Pool**: Analysts, architects, data staff, etc. allocated dynamically
- **Unified Governance**: Single prioritization process for all projects
- **Cross-Mission Reach**: Clinical care, research, education, equity, and AI



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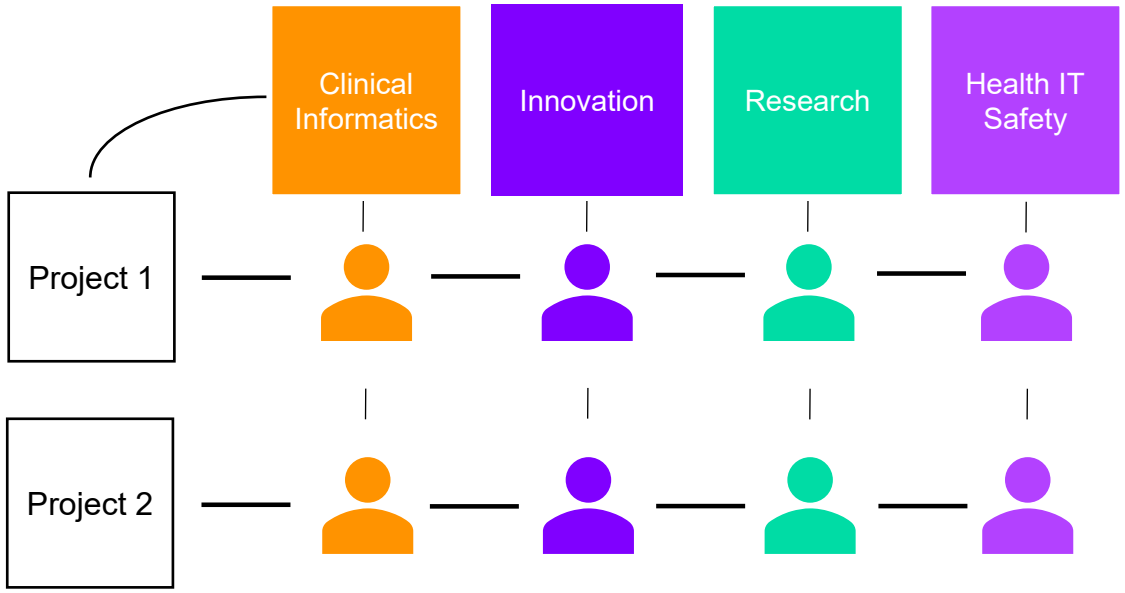
Matrixed Roles

Dual Reporting Lines

- Faculty + staff positioned across both academic homes and IT operations

- Roles -> ***bridges, not silos***



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Shared Resource Model

No dedicated "siloed" pools

Enterprise Prioritization

Dynamic Resource Allocation

Reduces redundancy & increases scalability

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Governance: *Transparent, Enterprise-Aligned Decision Making*

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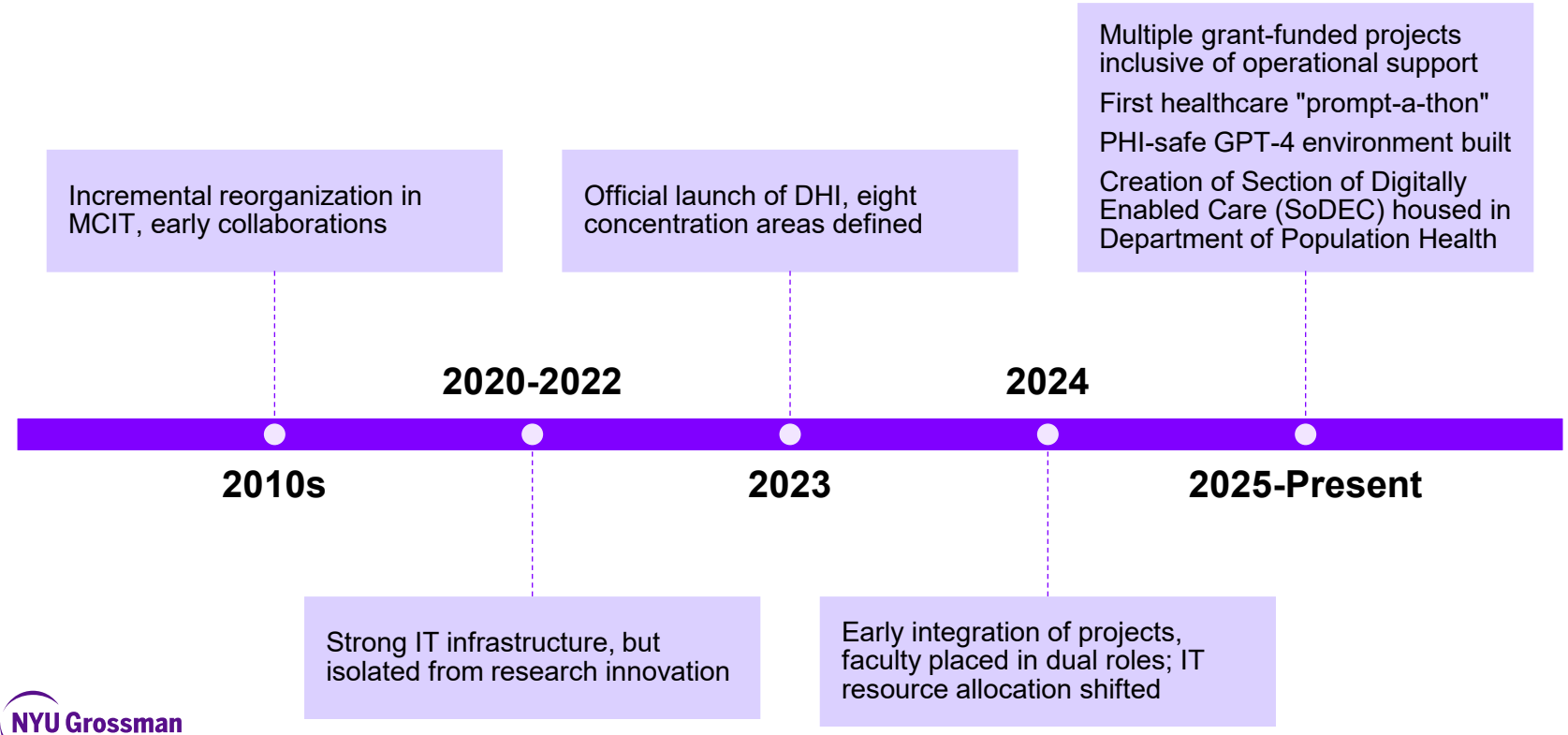
Key Milestones in Building DHI



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Immediate Benefits of Integration

Freedom to Experiment

Innovation no longer bottlenecked by IT gatekeeping

Research -> Deployment Pathway

Pilots designed with operational alignment from the start

Reduced Redundancy

Fewer duplicative apps or "shadow projects"

Clinician-Centered Tools

Digital solutions built into workflows, not bolted on later

Grant Leverage

Grant-funded projects supported by operational IT resources

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*other use cases coming soon

“The RPM Digital Brain” GenAI + RPM

AI-Enhanced Care at Home: *Collaboration between SoDEC researchers, MCIT CDIO, UX designers, software architects and RPM team*

INPUTS

- Patient reported data & conversations
- Blood pressure readings
- Electronic health record data

RPM BRAIN

OUTPUTS

Patient facing

- Acknowledgement & support of BP readings
- 24/7 conversational support

Clinician facing

- Smart Summary of EHR Note
- Patient Portal Message Generation

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Proof at NYU – RPM Foundation

373

Providers

10k+

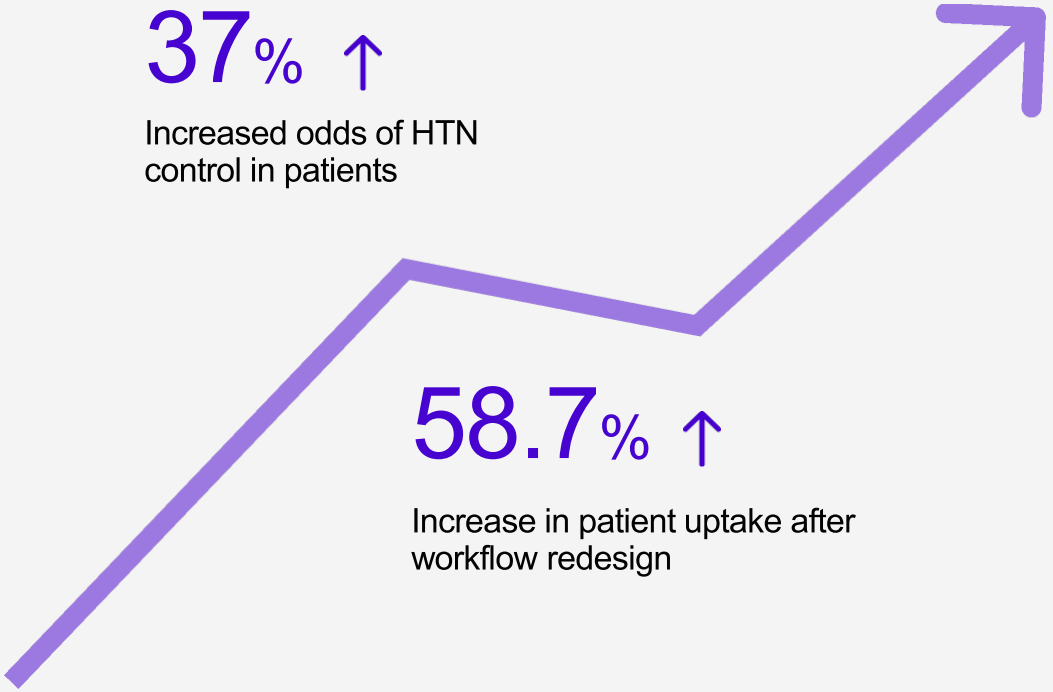
Patients monitored at NYULH

3.7k+

Active RPM orders in 2023

37% ↑

Increased odds of HTN control in patients



58.7% ↑

Increase in patient uptake after workflow redesign

NEJM Catalyst 2023; JAMA Netw Open 2024; CMS MLN 2025

The AIManage Intervention for GLP-1 Management

Funded by NIH

Built on MCIT infrastructure of RPM "Brain"

A **GenAI chatbot** to **collect patient data**

An **EHR-integrated CDS algorithm** to **guide dose titration**

A **patient data summarization tool**

Side-effect management

Workflow integration for **patients and providers**

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Challenges of Building an Integrated Model

Role Confusion

- Early uncertainty: who "owns" projects – academics or IT?

Cultural Differences

- Compliance standards vs. Exploratory research norms
- Product development vs. innovation iteration

Risk of New Silos

- DHI itself could become another "wall" if not carefully managed

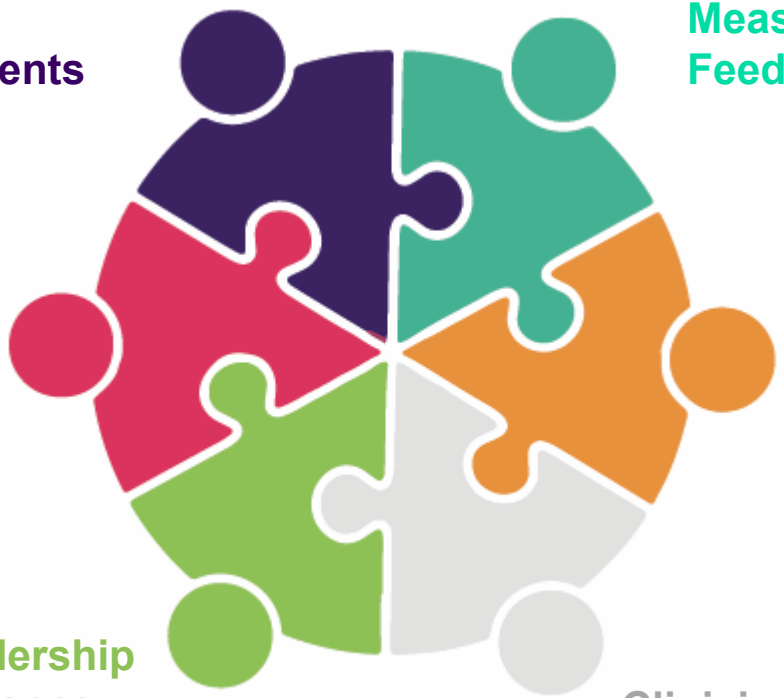
Clinician Concerns

- Workflow disruption, being a guinea-pig, "too many tools"

Potential for Gatekeeping

- Requires an operational leadership tolerance of innovation risk

Strategies to Address Challenges



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Lessons for Other Academic Medical Centers

Integration Must Be **Deliberate**	*Silos won't break down on their own – requires structural change*
Leadership Commitment Is **Essential**	*C-suite sponsorship enables project success*
Governance & **Resource Transparency**	*Enterprise prioritization prevents turf wars and duplication*
Clinician **Partnership** Drives Adoption	*Co-design ensures tools fit into workflows, not on top of them*
Operational + Academic **Synergy Yields Scale**	*Grants + IT support -> sustainable innovation*

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The Future of Applied Informatics

- Generative AI & Automation
- Scaling Remote Care
- Smarter Clinical Decision Support
- Regulation & Compliance
- Culture of Collaboration

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Key Takeaways: From Silos to Synergy

Silos are costly
- Duplication, poor adoption, clinician burden

Academic and operational integration is disruptive but essential
- Requires structural change, not just goodwill

DHI is a model for applied health informatics
- Bridges academics, IT, and clinicians

Clinician-centered design matters most
- Tools only succeed if they fit workflows

Future-ready
- This model positions health systems for AI and digital transformation

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Thank you

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