The Clinical Scholars in Informatics (CSI): A novel Internal Medicine (IM) resident-driven applied informatics pathway

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NEEDS AND OBJECTIVE

- In the changing landscape of healthcare, applied informatics shapes clinical workflows and decision making.

- It is important to train physicians leaders in applied informatics allowing for novel locally-relevant workflows targeted to improve healthcare effectiveness, efficiency, equity, and patient engagement.

Journal Club Monthly Topics

- Journal Club 1 - July - CI, CDS, Informatics Journals
- Journal Club 2 - August - Workflow Design-Analysis
- Journal Club 3 - September - Change Management, Evaluation of IS
- Journal Club 4 - October - Data Standards, Networks, Wall of Shame, Phishing
- Journal Club 5 - November - IT Systems, Support and Maintenance
- Journal Club 6 - January - Coding (SQL, Pseudocode, DB structures)
- Journal Club 7 - February - Coding (Java, Tracetables)
- Journal Club 8 - March - Regulatory Issues - HIPAA, PPACA, HITECH, TJC
- Journal Club 9 - April - Security & Privacy
- Journal Club 10 - May - Information System Lifecycle

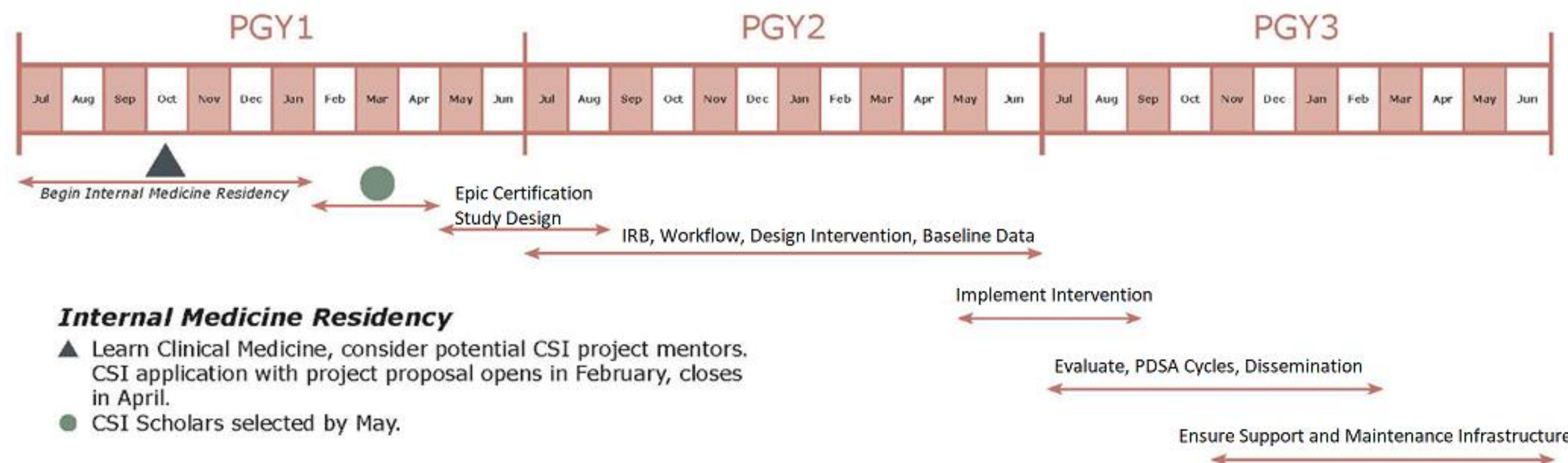| CSI Year	Resident	Project Title	Phase	CSI Resident Career Plans	Mentors
2017-2019	Resident 1 Focus: Oncology	"The Impact of an Automated Alert System to Primary Oncologists on Inpatient Goals-of-Care Conversations and End-of-Life Care"	Evaluation Maintenance	Wake Forest General Internal Medicine Faculty Pursing Clinical Informatics Practice Pathway	Informatics: Ajay Dharod Specialty: Heidi Klepin
	Resident 2 Focus: Internal Medicine	"Improving Social Determinants of Health through the Delivery of Community Resources"	Maintenance	Wake Forest Heme-Onc Fellow Pursing Cancer Informatics Research Career	Informatics: Ajay Dharod Specialty: Nancy Denizard-Thompson
2018-2020	Resident 3 Focus: Geriatrics	"Implementing Predictive Modeling to Increase Advance Care Planning Completion in Outpatient IM Resident Clinics"	Implementation Evaluation	Wake Forest Chief Resident, 2020-2021 Plans to apply for Cardiology Fellowship	Informatics: Ajay Dharod Specialty: Carl Grey
	Resident 4 Focus: Gastroenterology	"Design and Development of Clinical Decision Support Tools for Chronic Gastroenterological Disease Management"	Design Workflow Analysis Baseline Data	Plans to appy for Gastroenterology Fellowship	Informatics: Ajay Dharod Specialty: Sean Rudnick
2019-2021	Resident 5 Focus: Internal Medicine	"Addressing Coverage Gaps in Uninsured and Underinsured Outpatient Department Clinic Patients through expanding ACA Awareness"	Design Workflow Analysis Baseline Data	Undecided	Informtaics: Ajay Dharod Specialty: Deepak Palakshappa
	Resident 6 Focus: Precision Medicine+ Gastroenterology	"Improving Genetic Data Reporting"	Design Workflow Analysis Baseline Data	Plans to apply for Gastroenterology Fellowhship	Informatics: Ajay Dharod, Sean Hernandez Specialty: Michael Olivier

IMPACT

- Future opportunities for research, quality/safety, Electronic Health Record (EHR) workflows
- Projects nearing completion (year 2) presented nationally, with draft publications in progress.
- Residency recruitment tool
- 5 applications received for 2019-2021 cycle
- 4 applications received for the 2020 – 2022 cycle
- Internal development of faculty informatics expertise
- Benefit to Health System: implementation of a locally relevant applied clinical informatics project with robust evaluation

FUTURE DIRECTIONS

- We plan to continue to evaluate the impact of these projects and draft and disseminate CSI resident-driven innovations.
- Expanding CSI to additional Wake Forest Residency Programs based on level of interest (ED, Pediatrics)
- Dissemination and scaling of successful projects through the Health System: Collaboration with Wake Forest Center for Biomedical Informatics (CBMI), Wake Forest Center for Healthcare Innovation (CHI), Department of Implementation Science

Online Resource URL:
https://school.wakehealth.edu/Education-and-Training/Residencies-and-Fellowships/Internal-Medicine-Residency/Curriculum-Overview/Clinical-Scholars-in-Informatics-Pathway

Clinical Scholars in Informatics Curriculum

Internal Medicine Residency
▲ Learn Clinical Medicine, consider potential CSI project mentors. CSI application with project proposal opens in February, closes in April.
● CSI Scholars selected by May.

DISCUSSION, REFLECTION, LESSONS LEARNED

- CSI translates a resident derived project (system pain points) into reality - provides tangible example of LHS in action to residents
- One resident plans to continue informatics-related work in the Hem-Onc domain and one resident plans to join the general IM faculty to pursue the practice pathway clinical informatics board certification.
- Cited as successful by residents, mentoring faculty, and residency/departmental leadership.
- Low cost: $20K in direct costs, $5K per scholar per year (Per scholar: 3K Epic Certification, 2.5K Stipend, 2K Laptop)
- Personnel considerations include collaboration with ITS and faculty time.