Integrating Medical Informatics Training in Radiology Residency: A Pathway to Enhanced Clinical Impact

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Background/Problem Being Solved

As artificial intelligence (AI) and informatics tools advance in radiology, integrating training in these areas into residency programs has become a topic of increasing interest. This study evaluates a semi-structured medical informatics mini-fellowship undertaken by two senior radiology residents (IDdOS, LG) during their final year at a tertiary academic center. The fellowship is designed to provide four months of focused training throughout their final year, guided by a primary mentor (SC) with additional support from the institution's Program for Innovation in Imaging Informatics (PI3).

Intervention(s)

The mini-fellowship includes structured training with protected time and institutional funding to complete the SIIM bootcamp, prepare for the Certified Imaging Informatics Professional (CIIP) exam, and finish Epic Physician Builder modules focused on data analytics and workflow optimization. Additionally, the residents are tasked with presenting selected articles at a journal club and complete individualized projects based on their interests. IDdOS further expanded her expertise by auditing machine learning courses at our associated university.

Barriers/Challenges

By the midpoint of the fellowship, both residents have made substantial progress. LG completed, and IDdOS nearly finished, the Epic Physician Builder course. IDdOS also completed the SIIM bootcamp and passed the CIIP exam. LG's project focuses on developing a dashboard to streamline radiology-pathology correlation, aiming to improve diagnostic accuracy and patient outcomes. IDdOS is working on a project to optimize navigation between maternal and neonatal records to improve access to prenatal imaging in congenital disorder cases. Both residents selected journal club topics, and article authors were invited to enhance discussions.

Outcome

The mini-fellowship has the potential to equip residents with essential informatics skills, fostering innovation in clinical decision-making, workflow optimization, and data analysis. Projects addressing maternal-neonatal records and radiology-pathology correlation illustrate the real-world impact of informatics training on patient care. By including certification programs like CIIP and Epic Physician Builder, the fellowship enhances residents' ability to implement advanced solutions in clinical practice.

Conclusion/Statement of Impact/Lessons Learned

This mini-fellowship illustrates and emphasizes the importance of integrating informatics training into residency programs, with the potential to preparing radiologists to lead in precision medicine, optimize clinical workflows, and deliver patient-centered care.

Keywords

Administration & Operations; Clinical Workflow & Productivity; Educational Systems; Organizational & Professional Development; Provider Experience