HealthManagement
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EHR Management for Patient-Physician Communication Workflows

In an era marked by the digitization of healthcare, electronic health record (EHR) adoption has significantly transformed the dynamics of patient-physician communication. However, the exponential growth in inbox messages, particularly exacerbated by the COVID-19 pandemic, has posed significant challenges for healthcare systems worldwide. Addressing this pressing issue, a recent quality improvement study conducted by Kaiser Permanente Northern California (KPNC) sheds light on a groundbreaking initiative aimed at managing the overwhelming volume of patient messages while enhancing response efficiency.

Streamlining Patient Communication: KPNC's Desktop Medicine Program

The Desktop Medicine Program, introduced by KPNC in 2019, emerged as a strategic response to streamline message handling and swiftly direct patients to the appropriate resources. This innovative programme harnessed interdisciplinary collaboration and real-time natural language processing (NLP) algorithms to categorise message content and route them to designated roles before inundating individual physician inboxes. Notably, the programme underwent continuous refinement, integrating feedback and updates to optimise its functionality and responsiveness to evolving healthcare needs.

Unveiling Patterns: Analysing Message Content and Variability

During the study period spanning from April to August 2023, encompassing a staggering 4 million patient messages, the Desktop Medicine Program demonstrated remarkable efficacy. An impressive 77.6% of messages received at least one label, with prevalent categories including medications, skin conditions, messages with attachments, and emergent content. Furthermore, over 29.2% of messages featured multiple labels, underscoring the complexity and diversity of patient inquiries encountered by healthcare providers. An in-depth analysis of label variability unveiled intriguing patterns, with certain categories exhibiting consistent trends while others displayed significant fluctuations. Notably, acute changes in categories such as COVID-19, influenza, and Mpox highlighted the program's agility in responding to emerging healthcare needs promptly. This real-time adaptability proved instrumental in addressing evolving patient concerns and streamlining communication pathways within the healthcare system.

Beyond Categorization: Impact of Desktop Medicine Program on Clinical Workflow and Patient Care

The impact of the Desktop Medicine Program transcended mere categorization, with over 31.9% of messages resolved by regional staff before inundating individual physician inboxes. This proactive approach not only alleviated inbox burden but also facilitated expedited clinical assessment for potentially urgent cases, ultimately enhancing patient care delivery and outcomes. Despite its success, the study acknowledged certain limitations, including its focus on a single healthcare system and the absence of newer AI models that could further enhance content labelling accuracy. Nevertheless, the findings underscored the potential of a systematic, health system-wide approach to managing electronic communications effectively, thereby optimising physician workflow and improving patient satisfaction.

The KPNC study offers invaluable insights into the evolving landscape of patient-physician electronic communication. By implementing tailored solutions such as the Desktop Medicine Program, healthcare systems can navigate the complexities of inbox management, ensuring timely responses and alleviating physician workload. Looking ahead, continued advancements in technology and workflow optimisation hold promise in further enhancing the efficiency and efficacy of patient care delivery in the digital age.

Source: JAMA Network Open

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