Empowering Nurses Through the Cloud to Improve Engagement, Onboarding, and Costs

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Background:

Nursing turnover is nearly 20%, with burnout a critical contributor (Shah 2021). Nurse training and retention are critical to healthcare operations. Onboarding of new graduates in increasingly complex care settings is difficult and time-consuming, with traditional face-to-face modalities costly and ineffective. Today's nursing grads are "digital natives," preferring on-demand actionable information. In 2017, we launched a mobile-friendly microlearning solution in our cardiac ICU to train nurses with new workflows and drive practice consistency, with a 75% decrease in serious patient harm (Vincent 2020).

Methods:

We expanded the cloud-based team microlearning app (Elemeno Health, Oakland, CA) across all inpatient and emergency units at our 200 bed hospital. Training and communication content was customized by each unit manager using the app service. Managers created new content (training & unit updates based on templates or existing internal resources) and adapted shared content from external sources (e.g., manufacturer references or other hospitals using the app). We measured user and content engagement over 1 year (July 2020 - June 2021), as well as nurse turnover and Skills Fair costs.

Results:

Staff Engagement

Our nurses and select ancillary and provider staff adopted the app (781 users). New content deployed in-app over the year was 1,543 (total content since 2017 increased to 2,792). Total content views were 50,049, including 1,607 staff wellness resource views. Peer recognitions totaled 307. From 2017 to 2020, nursing turnover decreased from 20% to 10%.

In-Servicing/Skills Development

Historically in-service training was delivered via staff meetings, shift huddles, and annual Skills Fairs. The Skills Fair required 9 educators to spend 100h in preparation and trainings. All nursing staff cycled through respective relevant stations, costing several hundred additional hours of paid non-clinical time.

Post implementation, most in-service training was transformed to microlearning, accessible 24/7. Educators delivered unit-based training asynchronously, with content consumed during downtime on clinical shifts. The annual Skills Fair was eliminated. Skills competency was confirmed on shift by unit-based educators. For failed competency, the nurse was directed to review specific in-app resource(s). Clinical educator costs were reduced $23,868, with major additional savings in nurse non-clinical hours. This allowed us to focus unit-based education on low-frequency/high-risk procedures, with the ability to review in real time at the bedside.

Onboarding Efficiency

66 new graduate nurses were hired. All received unit-based orientation through the app. 66 orientee and 43 preceptor evaluations were completed in-app. Orientation and on-boarding guides had 854 views.

Discussion:

Implementation of this team microlearning and communication app, paired with a decentralized approach to nurse training and engagement, has proven effective for our institution. New hire onboarding improved. Non-clinical time training costs decreased. Through the app cloud infrastructure, we shared training content with other hospitals. This sharing network has helped us promote equity of training and support other resource-constrained institutions. Given trainer and new grad feedback, we are expanding the microlearning solution for both general nursing staff and nurse residency program across all hospitals in our system.

References:

Vincent, K., Richmond, M., Hallford, R., & Milbourne, M. (2020). Reduction of Serious Harm Events with Practice Change(s) and Implementation of Clinical Education Software. *Pediatric Quality & Safety*, *5*(Supplement 2), e276. https://doi.org/10.1097/pq9.0000000000000276

Shah, M. K., Gandrakota, N., Cimiotti, J. P., Ghose, N., Moore, M., & Ali, M. K. (2021). Prevalence of and Factors Associated with Nurse Burnout in the US. *JAMA Network Open*, *4*(2), e2036469. https://doi.org/10.1001/jamanetworkopen.2020.36469