Developing Next-Gen Home Health EMR: Nursing Expertise + AI

Kathy Duckett MSN, RN – K. Duckett Consulting
Mary Narayan PhD, RN – IHCNO
H3IT Conference
November 1, 2025

“AI in nursing is not about replacing human judgement. It’s about strengthening it… nurses can help shape the future of technology that supports both clinical-decision making, and compassionate patient care.”

Interview with Jing Wang 2025 (Payton, 2025)

OVERVIEW

- Problems
- Approaches/Observations
- AI Augmentation
- Conclusion/Call to Action

PROBLEM
Documentation Burden

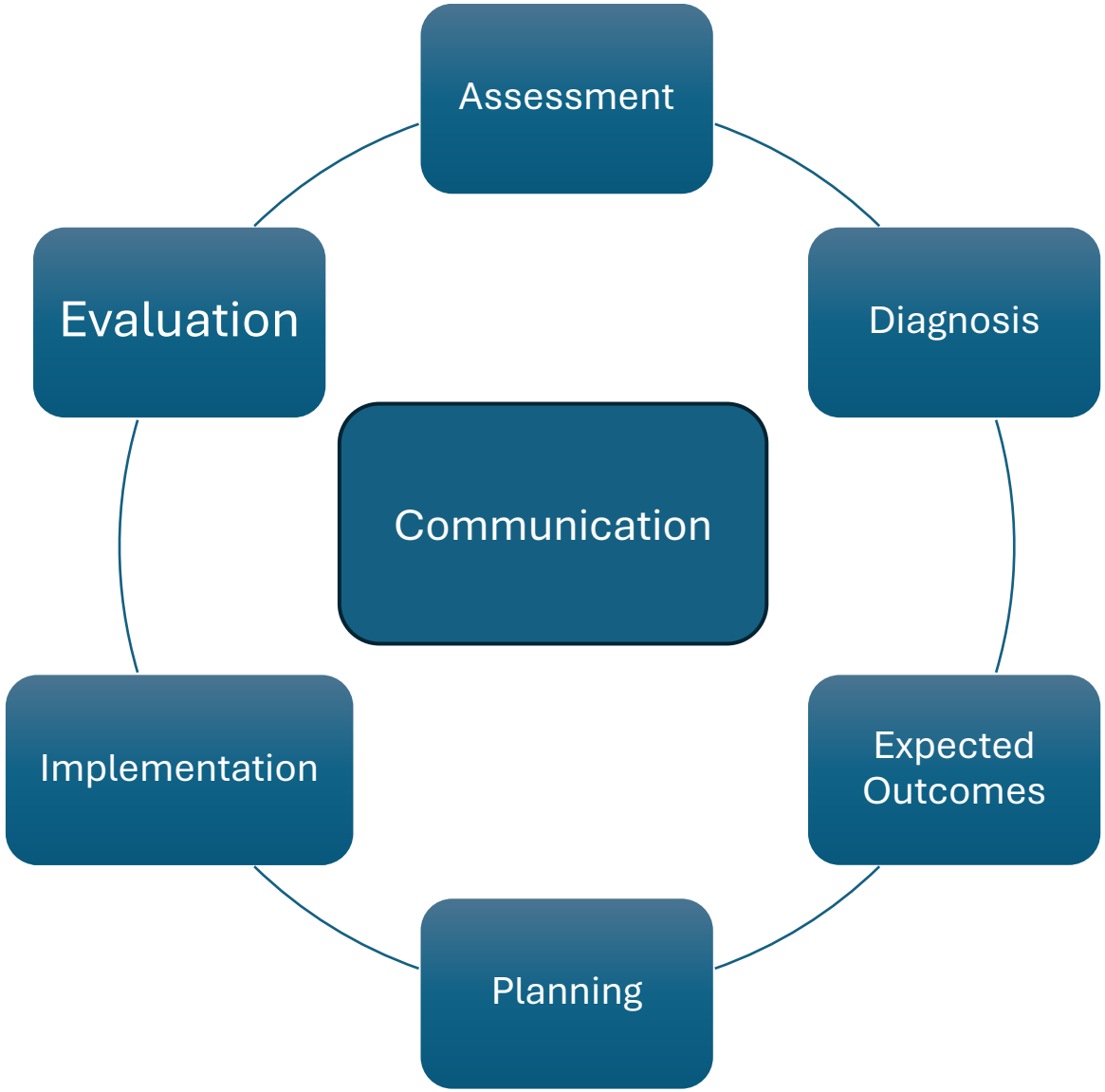
- High Documentation burden
  - Up to 41% of nursing time spent on documentation (DeGoot et.al. 2022)
  - Documentation significant dissatisfier for nursing staff (Nayaran, 2023)
  - Significant amount of documentation is redundant
    - Several areas to document interventions
    - Redundancy in care plans for pts with multiple co-morbidities
    - Assessment questions are redundant, asked in several areas
  - Difficult to customize record by adding/deleting verbiage not relevant to patient
    - Inability to delete sections not relevant to patient makes completed document difficult to read
    - Easy to miss relevant information from assessment
  - Difficult to review previous notes for pertinent assessment and interventions

Problem
Focus on CMS Requirements

- Focus on CMS/OASIS compliance over patient-centered care
- Existing systems documentation driven by CMS requirements
  - >100 questions
  - Required to use CMS data set for OASIS as basis for all assessments at specific time points
    - SOC/ROC/Follow-up/Recert/DC
  - CMS states OASIS data set not considered complete assessment – required to have additional questions as part of comprehensive assessment (CMS, 2017, 2023, 2025, Legal Information Suite, 2023)
  - Nurses feel that assessment is used primarily to provide data to CMS and not to assess patient individual status or needs (Narayan, 2023)

Problem
Doesn't Follow Nursing Process

- Current flow out of alignment with nursing process
  - Homebound assessment completion required at beginning – prior to completing assessment



(Narayan, in press 2025)

Problem
Not Meeting Nursing Needs

- Goal of Home Health assessments, all time points, create a dynamic document - updated as patient condition changes (CMS, 2025)
- HH only area nurses are required to complete holistic assessment including home environment and create comprehensive care plan.
  - Must include comprehensive physical, mental health & home assessments, SDOH, relevant dx, patient goals
- Reality
  - Nurses vary in assessment skills
  - Care plans are standardized and preloaded into EMR
  - Difficult and time consuming to alter existing care plans
  - Care plans - redundancy with multiple dx
  - Care plans manually updated by nurses
  - Current EMRs have no critical thinking extrapolation except in Medication reconciliation

Approach
Nursing Expertise

- Leverage Nursing Expertise in HH EMR development
  - Current gap in understanding nsg perspectives and integrating into EMR development (Karnehed, et.al. 2025, Rushton, 2025)
  - Current lack of understanding of specific home health population (McGrow 2025)
  - Majority of work in AI has been physician led – missing the unique perspectives of nurses. (Raths, 2025, Rushton 2025)
  - HH Nurses are autonomous. Providers rely primarily on nursing assessments for interventions based on plan of care. Need to tap into this expertise in designing EMR. (Duckett, Narayan, Piskar 2025)
  - Involve nurses top down and bottom up
    - include staff, managers, QA

Approach/Observations
Critical Thinking & Workflow patterns

- Assessment ⇨ Intervention requires critical thinking
  - Individualize standard care plans based on unique patient needs that also need to include
    - Patient ***specific*** concerns, strengths, weaknesses
    - Patient/family current disease management knowledge
    - Patient specific challenges to meeting goals
    - Patient preferences
  - Nurse must collate all the information and create a holistic, comprehensive patient-specific plan of care
- Understanding work-flow patterns eliminates unnecessary and redundant steps. Typical SOC takes 2 1/2-3 1/2 hours (includes documentation) (Narayan, 2023)
  - Decrease time spent documentation
  - Increase time available to spend with patient/family (Yakusheva & Hagopian, 2024)
  - Improve nsg satisfaction
  - Improve EMR interface
- Nurse-centered, intuitive workflows streamline meaningful data capture and decision support (McGrow, 2025)

Approach/Observations
Culturally sensitive Care

- AI tends to universalize recommendations – risks ignoring diversity of minority populations. (Kaur, 2024)
- Need to modify based on:
  - Patient's cultural belief and practices
  - Western/medical norms may not be appropriate for all populations
- Train AI using literature/sources that include data from diverse pt populations
  - Avoid bias & errors in predictive AI functions
  - Developers trained in cultural diversity and its issues for health outcomes
- When AI used as translation for text and infographics – seek back translation from a medical interpreter

Approach/Observations
Culturally sensitive Care

- AI generated assessment tools, intervention tools, and summaries must capture data including cultural assessment:
  - Cultural healthcare beliefs, practices, traditions
  - Cultural preferences, concerns, priorities, ethical norms
  - Language – including fluency in written and spoken language,
  - Literacy - written, numerical, technological
  - Nonverbal communication patterns
  - Birth, death, illness, treatment preferences
  - Family roles; who is family and who is family decision-maker
  - Diet, meal patterns, lifestyle, bathing & modesty norms

Approach/Observations
AI Augmentation

- ***Suggest*** tailored care plans & interventions based on needs outside of preset care plans/interventions based on LLM learning (Klein, 2024)
  - Demographics
  - SDOH
  - Culture
  - LIfestyle
  - Disease presentation
  - Disease co-morbidities
  - Medications
- Real time care plan updates
  - Eliminates time spent to update care plans
  - Reduces redundancy & increases usability
  - **Suggest** new care plans/interventions as patient condition changes
- Carry forward data across visits/episodes
  - **Suggest** visit interventions based on previous visit and current assessment – change in status (Ahmed, 2024
  - Make information in other parts of patient chart easily available for clinician review
    - Provider visits, other discipline notes, communications, RPM information
  - **Suggest** interventions based on findings/suggest correlations between symptoms and most recent lab results/Provider visits

Approach/Observations
AI Augmentation

- **Suggest** verbiage required for reimbursement based on clinical assessments
- Include explanatory reasoning for suggestions – promotes clinician learning
- Integrate voice-to-text into assessment/interventions (Orlov, 2025
  - Builds in flexibility for assessment & intervention completion
- Reminders for completion of assessments/interventions
- Identification of clinician improvement areas based on consistently missing assessments/interventions
- Integrate provider/team communication into documentation
  - Cross reference communication for future need
- Quickly find information needed while in the home with one inquiry
- Back office – scan for potential compliance & work issues

Conclusions/Outcomes
Impact

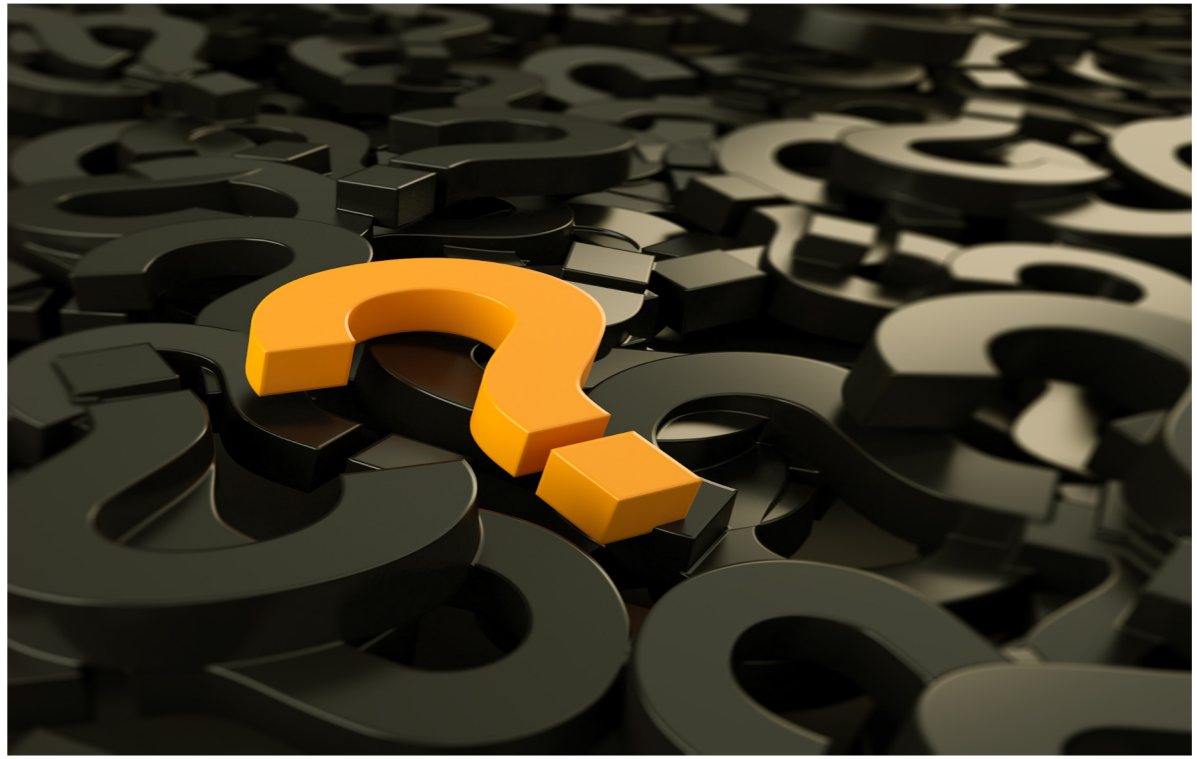
- Individualized, streamlined plans of care
- Better team communication
- Adherence to Nursing Process
- Honors clinical judgement
- Empowers nursing profession with culturally sensitive, adaptive intelligence
- Reduced documentation burden

Conclusions/Outcomes
Call to Action

Collaboration between EMR vendors
and home health nursing experts
to build adaptable, intelligent, nurse-centered
records for streamlining documentation and
providing
better in-home care

THANK YOU

QUESTIONS



Kathy Duckett MSN, RN
President
K. Duckett Consulting LLC
21st Century Home Care
kathy@kathyduckett.com

References

- Ahmed, S. K. (2024). Artificial intelligence in nursing: Current trends, possibilities and pitfalls [Letter to the editor]. *Journal of Medicine, Surgery, and Public Health, 3,* 100072. https://doi.org/10.1016/j.glmedi.2024.100072
- Centers for Medicare & Medicaid Services. (2023). *Appendix B – Guidance to surveyors: Home health agencies. State operations manual*. U.S. Department of Health and Human Services. https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_b_hha.pdf
- Centers for Medicare & Medicaid Services. (2017). *42 CFR Part 484 – Home health conditions of participation*. Federal Register. https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/HHCoPsFinalRule.pdf
- Centers for Medicare & Medicaid Services. (2023). *42 CFR § 484.45 – Condition of participation: OASIS data transmission*. U.S. Department of Health and Human Services. https://www.ecfr.gov/current/title-42/chapter-IV/subchapter-G/part-484/subpart-B/section-484.45
- Centers for Medicare & Medicaid Services. (2023). *42 CFR § 484.55 – Condition of participation: Comprehensive assessment of patients*. U.S. Department of Health and Human Services. https://www.ecfr.gov/current/title-42/chapter-IV/subchapter-G/part-484/subpart-B/section-484.55
- Centers for Medicare & Medicaid Services. (2023). *Home health agency (HHA) conditions of participation (CoPs)*. U.S. Department of Health and Human Services. https://www.ecfr.gov/current/title-42/chapter-IV/subchapter-G/part-484
- Centers for Medicare & Medicaid Services. (2025). *Home health quality reporting requirements (OASIS, HH QRP, HH CAHPS)*. U.S. Department of Health and Human Services. https://www.cms.gov/medicare/quality/home-health/home-health-quality-reporting-requirements
- De Groot, K., De Veer, A. J. E., Munster, A. M., & Francke, A. L. (2022). Nursing documentation and its relationship with perceived nursing workload: A mixed-methods study among community nurses. *BMC Nursing, 21,* 34. https://doi.org/10.1186/s12912-022-00811-7
- Duckett, K., Narayan, M., & Piskar, B. (2025, July 14). [Personal communication].
- Herzog, C. (2025). Relational & culture-sensitive AI innovation. *Journal of Responsible Technology, 23,* 100135. https://doi.org/10.1016/j.jrt.2025.100135

References

- Karnehed, S., Larsson, I., Petersson, L., Erlandsson, L. K., & Tyskbo, D. (2025). Navigating artificial intelligence in home healthcare: Challenges and opportunities in nursing wound care. *BMC Nursing, 24*(1), 660. https://doi.org/10.1186/s12912-025-03348-7
- Kaur, P. (2024, February 8). *2024 predictions: Three applications for AI in home healthcare.* McKnight's Home Care. https://www.mcknightshomecare.com/2024-predictions-three-applications-for-ai-in-home-healthcare/?itm_source=Bibblio&itm_campaign=Bibblio_related&item_medium=Bibblio_footer
- Klein, J. (2024, July 29). *AI and home care: Navigating challenges and embracing innovation to meet growing needs*. *Behavioral Health News*. https://behavioralhealthnews.org/ai-and-home-care-navigating-challenges-and-embracing-innovation-to-meet-growing-needs/
- Legal Information Institute. (2023). *42 CFR § 484.40 – Release of patient identifiable OASIS information.* Cornell Law School. https://www.law.cornell.edu/cfr/text/42/484.40
- McGrow, K. (2025). Artificial intelligence in nursing: A journey from data to wisdom. *Nursing, 55*(4), 16–24. https://doi.org/10.1097/NSG.0000000000000165
- Narayan, M. C. (in press, 2025). Nurses' scientific method: Thinking critically about the nursing process. *American Journal of Nursing, 125*(10).
- Narayan, M. C. (2023). Structural barriers to high-quality home healthcare nursing: What home health nurses want Medicare policy makers and agency administrators to know. *Home Health Care Management & Practice, 36*(3), 159–167. https://doi.org/10.1177/10848223231180590
- Orlov, L. M. (2025, June). *The future of AI in home care: What's now and what's next*. Aging and Health Technology Watch. https://www.ageinplacetech.com/page/future-ai-home-care
- Payton, S. (2025, March 14). *"Nursifying" artificial intelligence with Jing Wang*. *The Nursing Beat*. https://www.thenursingbeat.com/articles/nursifying-artificial-intelligence-with-jing-wang
- Raths, D. (2025, July 7). *Why it is crucial to involve nurses in AI development processes.* Healthcare Innovation. https://www.hcinnovationgroup.com/clinical-it/nursing/article/55301520/why-it-is-crucial-to-involve-nurses-in-aidevelopmentprocesses
- Rushton, C. (Host). (2025, April 3). *The last human job* (No. 21) [Audio podcast episode]. In *The resilient nurse*. Johns Hopkins School of Nursing. https://nursing.jhu.edu/magazine/podcasts/archive/the-resilient-nurse-episode-21-the-last-human-job/
- Yakusheva, O., Bouvier, M. J., & Hagopian, C. O. P. (2025). How Artificial Intelligence is altering the nursing workforce. *Nursing outlook*, *73*(1), 102300. https://doi.org/10.1016/j.outlook.2024.102300