Flux Notes

MID PROJECT VISION DOCUMENT v02

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1. Summary

There are materials and assets already describing the overarching goal and strategy for Flux Notes in relation to the SHR oncology moonshot. The goal of this document is to revisit the more specific vision and strategy for design and development for Flux Notes itself, to ensure shared team understanding of that vision moving forward in order to inform the next steps in design and development.

2. Vision

Project Goals after 2018 mid-year presentation

Design and build the next iteration of Flux Notes using the envisioned future state of the product, driven by more delightful data capture, improved automation of clinical note creation and increased patient-provider collaboration to provide more complete patient health records and better encounter experiences.

Work closely with oncology based providers to ensure that Flux Notes content is clinically accurate, and the interactions closely tied to relevant clinical workflow use cases.

Incorporate patient touchpoints into Flux Notes. Drive adoption and dissemination of the Flux Notes design and method by creating assets that further communicate the value of Flux Notes. Elucidate the framework and principles of Flux Notes and how it fits into provider workflows and interacts with patients.

Promote buy-in from EHR vendors and providers through dissemination and communication of its concepts, driven by qualitative and quantitative research to prove the efficacy of Flux Notes within a clinical space.

Service goals

Flux Notes is an open source, standard health record based application that will demonstrate the collection and curation of structured high quality, longitudinal and computable health record data to support clinical decision making and research, starting with the oncology space.

For the Provider

1. Collect and curate research quality structured data that is detailed enough to support clinical research and precision medicine without increasing workflow burden.
2. Use high quality structured data to present patient information at the right time in the right format.
3. Inform future patient care by generating care regimens and clinical insights through retrospective curation of high quality structured data.
4. Self documenting encounter.

For the Patient

1. Improve interaction during the medical encounter by using insights and patient visualizations to increase patient-provider collaboration. Lower clinician burden results in greater engagement with the patient.
2. Greater patient reported outcomes drives health record completeness to inform collaborative visualizations and care planning.
3. Demonstrate the concept of a patient encounter data receipt.

3. Top Opportunities

Pain Points

- Low quality and incompatible data across EHR systems result in decreased patient outcomes.
- High provider burden in collecting, viewing, and synthesizing patient data.
- Low patient-provider collaboration in relation to driving patient record data completeness, as well as shared understanding in care and decision making.

Opportunities

1 Collect and curate data as structured and detailed as those found in any clinical trial without increasing workflow burden.

Information capture via extensible structured phrases driven by the Standard Health Record (SHR).

Type, dictate, and insert templates.

Allow patient inputed, provider validated data to generate a more complete health record.

Increase clinical note quality using designs that promote improved documentation while capturing structured clinical data.

2 Generate plans of care and patient insights from high quality structured data.

Patient record summaries that are condition-, domain-, task-, and role-specific.

Customizable viewing of structured information using the clinician's preferred format.

Augment clinical decision making with the display of relevant insights and generated plans of care currently not seen in EHRs.

Communication of information used as co-collaborative decision support tools.

3 Self documenting encounter.

Voice capture and NLP drives autogeneration of structured data and documentation.

Generate a patient health receipt of the encounter.

4. Measuring Success

Key Performance Indicators (product)

- Decrease in the time to review a patient case
- Decrease in the time to author a clinical note
- Increase in the time spent engaging with the patient, rather than the EHR
- Increased high quality data capture rate for the patient record
- Increased patient co-engagement with their health record
- Improved qualitative patient experience of the clinical encounter
- Improved accuracy in patient information capture
- Decrease in time spent outside of patient encounter, to author a clinical note
- Subjective satisfaction value in using Flux Notes vs EHR

Challanges

- Acheiving seemless integration with current EHR systems
- Proprietary, private nature of EHR vendors
- Health literacy level of patients
- Lack of inspiration and guidance in the 'next evolution' of EHRs
- Difficulty in piloting Flux Notes within a hospital environment
- Identifying the top priority content to include in Flux Notes while avoiding scope creep and designing an entire EHR
- Inappropriate use of medical langauge from the patient creates difficulties from an NLP standpoint
- Current voice/NLP limitations

5. Expected Use cases

- **Patient (or caregiver) pre-encounter**
  The patient (or caregiver) notices a symptom while on their medication regimen at home. She digitally records the information on the symptom and the PRO data gets pulled into Flux Notes. The content of this PRO will be reviewed during her next office visit. (v3)

- **Collaborative encounter**
  During the encounter, as the patient and Oncologist discuss test results and current status, she toggles a collaborative mode in FluxNotes. Patient and clinician view the display together to view and discuss imaging results, relevant visualizations, and next steps in care. While reviewing the current medication regimen, the patient comments on experienced side-effects, which are recorded. They discuss and review a modified regimen, and view a timeline of the next steps in care. (v1)

- **Self-documenting encounter**
  The clinician opens FluxNotes and selects a visit-type template as she begins the exam. The patient discusses her concerns, and they discuss. The system listens, analyzes, and populates a note. The clinician then suggests a change in medication and a follow up visit. The system has already produced tentative changes in the SHR, along with new visualizations of the medication plan for them to review together. After the visit, the clinician quickly reviews the entries in the note, confirming or rejecting each one. She finishes by signing the note. (v4)

- **Patient post-encounter**
  Later in the afternoon, the patient receives a FluxNotes Encounter Report. She confirms the new data and notes on what was discussed. She familiarizes herself with her new medications in the FluxNotes Patient View. (v2)

- **Caregiver post-encounter**
  The patient's primary caregiver wasn't able to attend the office visit. That afternoon, he receives a FluxNotes Encounter Report to review. He confirms that his wife's new headaches were duly noted, gets updated on the new medication plan, and learns about a new clinical trial they are eligible for. (v2)