EMERSE Community Meeting

2025-Nov-05

https://project-emerse.org
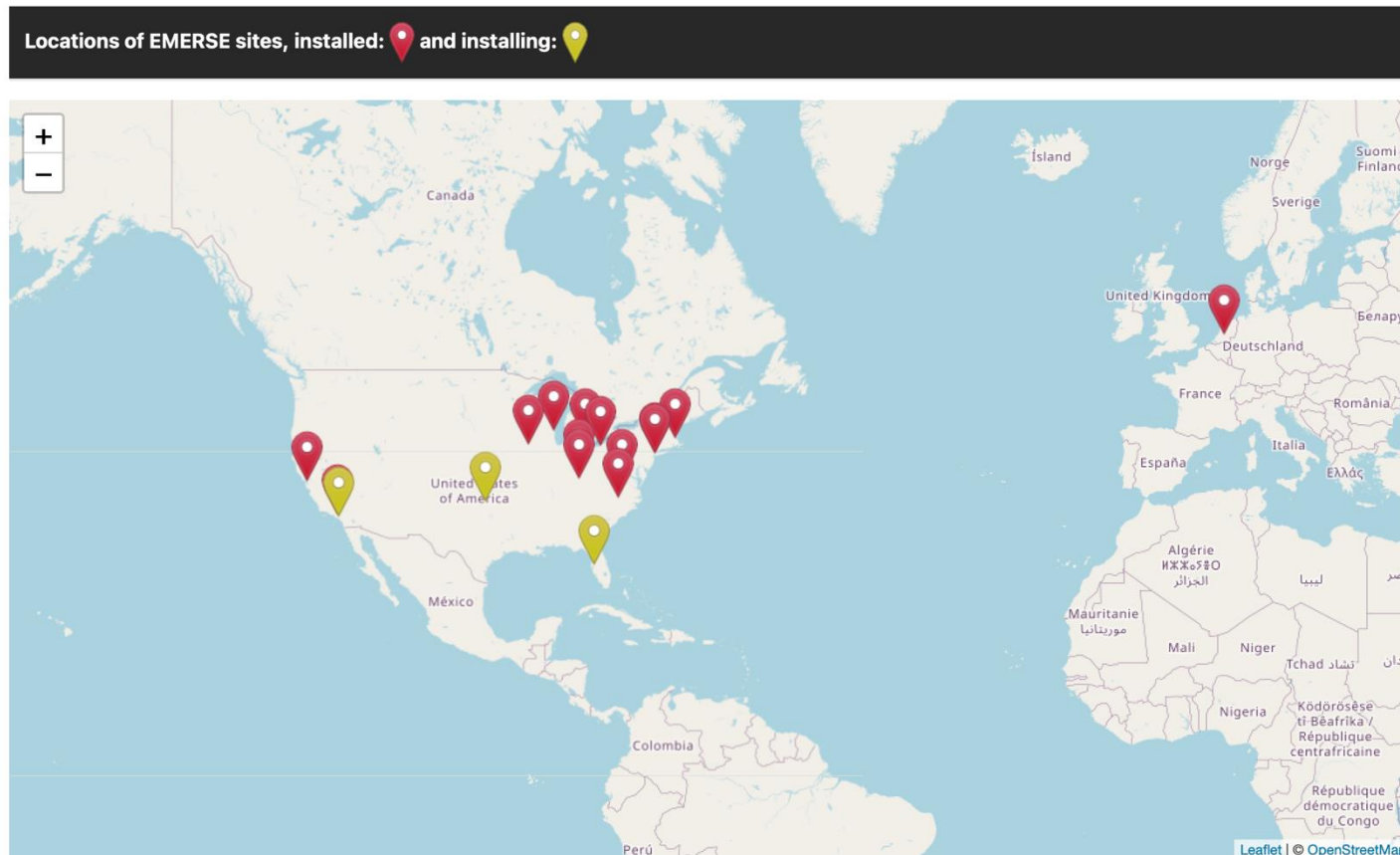
Plan for today

- Welcome and Housekeeping

- Announcements and Updates

- Open Forum

- Adjourn

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Housekeeping

- Zoom *Meeting*
  - More opportunities for interaction
- Please stay muted, unless you would like to ask a question or make a comment
- Feel free to use the chat function to type questions or provide comments
- We will answer questions throughout
- We will record this meeting; it will be available where prior recordings are located:
  - https://project-emerse.org/presentations.html
  - https://project-emerse.org/community.html

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Community

- https://project-emerse.org/community.html

Locations of EMERSE sites, installed: 📍 and installing: 📍

Acknowledgements

- EMERSE has been supported by:
  - NCI ITCR program
  - NCATS via MICHR CTSA
  - Michigan Medicine
    - Department of Learning Health Sciences
    - Office of Research
    - Health Information Technology & Services
    - Rogel Cancer Center

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Publications using EMERSE

- Mattingly AS, et al. **Hypocalcemia After Cervical Procedures in Patients with a History of Nonbariatric Gastrojejunostomy**. Ann Surg Oncol. 2025 Sep 5. doi: 10.1245/s10434-025-18197-6. PMID: 40911241

- Brdar NM, et al. **Clinical and demographic characteristics of adolescents, emerging adults, and young adults presenting to an emergency department following a suicide attempt**. JCPP Advances, August 2025.

- Tabarani E, et al. **Enhancing Accurate Delirium Detection in Older Patients With Heart Failure: Integrating Education and an Electronic Health Record Tool for Nurses**. J Dr Nurs Pract. 2025 Feb 18:JDNP-2024-0020.R1. doi: 10.1891/JDNP-2024-0020. Epub ahead of print. PMID: 39965801

- Jha SA, et al. **Fracture Characteristics Among Adults With Intellectual Disabilities and Autism Spectrum Disorders to Inform Fracture Prevention Strategies: A Descriptive Study**. J Intellect Disabil Res. 2025 May 21. doi: 10.1111/jir.13255. Epub ahead of print. PMID: 40399135

- Durgin JS, et al. **Role of single-nucleotide polymorphism microarray in the classification of BAP1-inactivated melanocytic tumours. Histopathology**. 2025 Jul;87(1):110-129. doi: 10.1111/his.15434. Epub 2025 Feb 20. PMCID: PMC12129603. PMID: 39976080

Publications using EMERSE

- Whitney DG. **Prognostic comparison between GMFCS and WCI for 5-year risks of 22 relevant health outcomes for adults with cerebral palsy: Expanding the methodological menu for prognostic model research**. Disabil Health J. 2025 Jul;18(3):101783. doi: 10.1016/j.dhjo.2025.101783. Epub 2025 Feb 11. PMID: 39955248

- Nugent KI, et al. **Pharmacogenetic associations of GATA4 and KCNQ1 with ibrutinib cardiovascular toxicity. Pharmacogenet Genomics**. 2025 Apr 1;35(3):101-109. doi: 10.1097/FPC.0000000000000558. Epub 2025 Jan 21. PMID: 39832190

- Shaikh H, et al. **Outcomes and Prognostic Assessment of Post-Transplant Lymphoproliferative Disorder: 20-Year Experience**. Lymphatics 2025, 3, 5. https://doi.org/10.3390/lymphatics3010005. PMID: Pending

- Carlozzi NE, et al. **Improving Outcomes for Care Partners of Individuals With Traumatic Brain Injury: Results for a mHealth Randomized Control Trial of the CareQOL App**. Arch Phys Med Rehabil. 2025 Apr;106(4):548-561. doi: 10.1016/j.apmr.2024.12.022. Epub 2025 Jan 9. PMCID: PMC11968231. PMID: 39798892

- Diehl JN, et al. **Serious mental illness prolongs hospital admission following lung cancer resection**. J Thorac Dis. 2024 Dec 31;16(12):8450-8460. doi: 10.21037/jtd-24-762. Epub 2024 Dec 28. PMCID: PMC11740033. PMID: 39831237

Publications using EMERSE

- Gupta S, et al. **Simulation-Based Training Improves Developmental Hip Dysplasia Examination and Diagnosis Skills on Newborns**. Acad Pediatr. 2025 May-Jun;25(4):102782. doi: 10.1016/j.acap.2025.102782. Epub 2025 Jan 23. PMID: 39855392

- Hazle MS, et al. **Documenting Pediatric Delirium During Transitions of Care: A Single Site Observational Study**. J Intensive Care Med. 2025 May 13:8850666251339457. doi: 10.1177/08850666251339457. Epub ahead of print. PMID: 40356555

- Kukora SK, et al**. Development and acceptability testing of a tracheostomy decision support video for parents**. PEC Innovation, Volume 7, 2025, 100412, ISSN 2772-6282, https://doi.org/10.1016/j.pecinn.2025.100412. PMID: Pending.

- Lu R, et al. **Clinical Delivery of Whole Systems Traditional Chinese Medicine and Impacts Upon Patient Reported Outcomes During IVF**. Glob Adv Integr Med Health. 2025 Jun 4;14:27536130251349116. doi: 10.1177/27536130251349116. PMCID: PMC12138210. PMID: 40475372

- Shapiro JN, et al**. Brain MRI Lesions in Alexia Without Agraphia: A Case-Control Study**. J Neuroophthalmol. 2024 Nov 25. doi: 10.1097/WNO.0000000000002263. Epub ahead of print. PMID: 39582117

AMIA Meeting November 2025

Identifying Barriers in Implementing EMERSE Network Functionality: Findings from a Multi-Site Collaboration

David A. Hanauer, MD, MS[1], Donald E. Brown, PhD, MS, ME[2], Lisa Ferguson, MS[1], Daniel R. Harris, PhD[3], Jong C. Jeong, PhD[3], Jason L. Keller, BBA, MS[4], Karthik Natarajan, PhD[5], Janie Weiss, BS [5]

[1]University of Michigan, Ann Arbor, MI; [2]University of Virginia, Charlottesville, VA; [3]University of Kentucky, Lexington, KY; [4]University of Cincinnati, Cincinnati OH; [5]Columbia University, New York, NY

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EMERSE version 7.1

- Current version
- New features in 7.1:
  - A few bug fixes
  - Synonyms counting in background
  - Collapsible navigation panel
  - Query Writer
  - Control over Boolean (AND/OR) options
  - Searches without terms

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Work in progress: UI Framework

- Updating backend UI framework
  - Removing Clarity UI (not Epic Clarity)
  - Will allow us to update Angular, reduce potential security issues
  - May speed up the interface
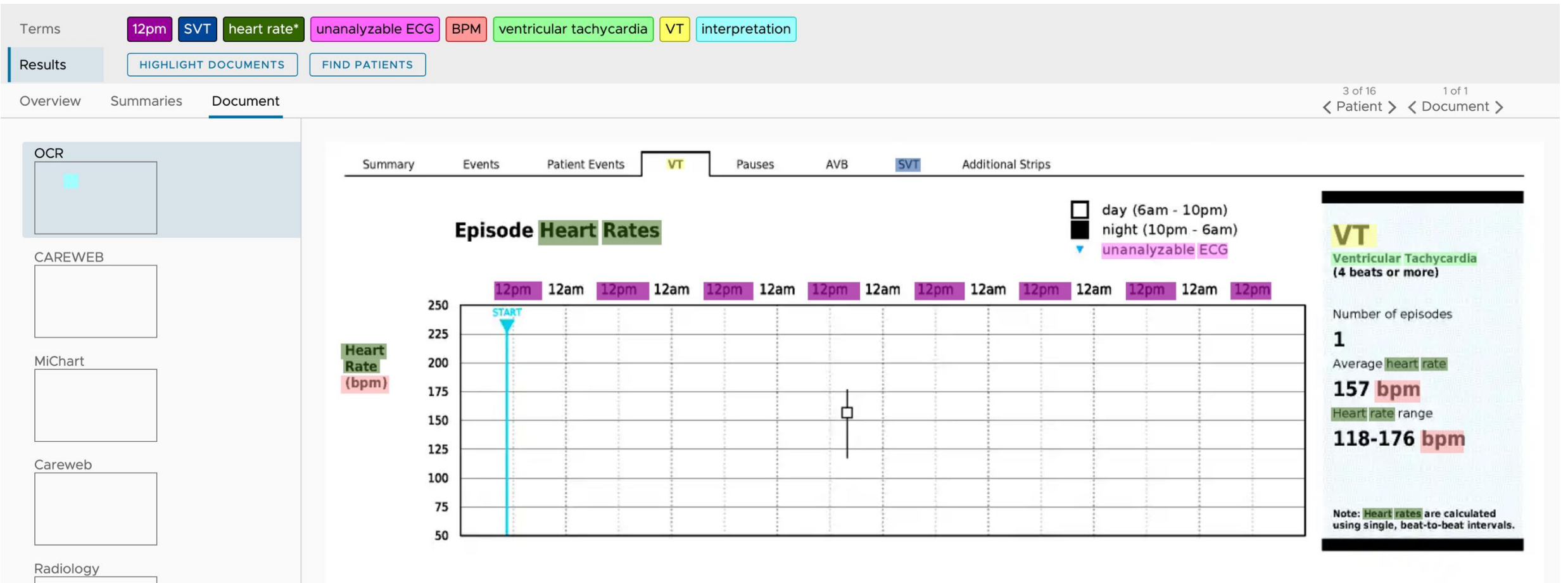 - Lots of work, but will be mostly invisible to the users

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Work in progress: Solr Cloud

- Exploring this as a way to scale up resources for improved performance

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Work in progress: OCR

- Optical character recognition (OCR)
  - We are building in general capabilities, but local implementations may vary
  - At Michigan we are settling for now on Apple Vision
    - Cost of hardware, no per page costs
    - Other cloud options exist (AWS, Google), but pay per page
  - Converting scanned documents, including PDFs into images, which will be stored in the index
  - At a minimum, a site would need the extract text and the X,Y coordinate of the text on the image
  - Will support highlighting terms within documents
  - Pros/cons of spelling correction is still unclear

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Work in progress: OCR

Work in progress: Download Data

- Request from UCSF
- Offers authorized users ability to download large dataset of notes for use in downstream applications
- Would be off by default, controlled through privileges

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Work in progress: Download Data

File Name   Enter download file name

CREATE DOWNLOAD JOB

Use the following options to select which documents to download. When your datasets are ready to be downloaded, they will appear in a table at the bottom of this window:

Select patients:

- ● All patients in the active Patient List (ignore tags)
- ○ Tagged patients in the active Patient List
- ○ Untagged patients in the active Patient List

☐ Apply the current Patient Demographics filters to the Patient List to narrow the selection of patients

Select documents:

- ○ All documents
- ● Documents containing at least one of the active Search Terms

☐ Apply the active document filters to narrow the selection of documents
☐ Remove HTML markup when present

Additional options:

- ☑ Download note metadata (e.g, note type, service, etc)
- ☐ Include the search terms appearing in the notes

Export format:

- ● TSV – Each note will be stored in its own file, and a TSV will be generated with all metadata for all notes
- ○ JSON – Each note will be stored in its own file, along with all metadata for that individual note.

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Work in progress: Flowsheets

- Enabled by an updated indexing pipeline that allows for both standard and custom annotations/NLP indexing simultaneously
- This would have to be customized by each site as part of data loading pipeline
- Take structured flowsheet data and create a table
  - Label certain components using custom NLP pipeline
- Would allow user to search only within a flowsheet, or certain parts of a flowsheet
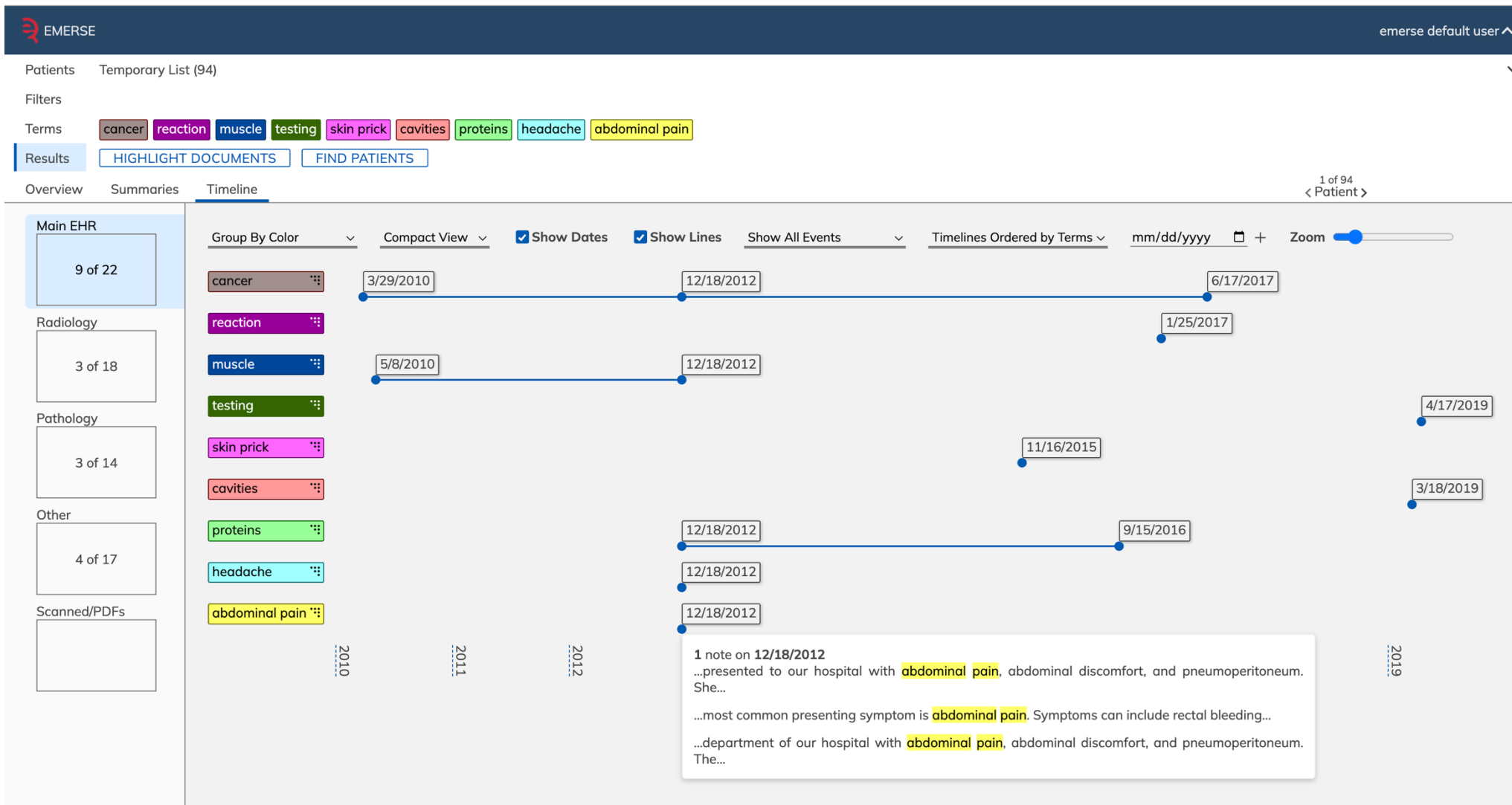
Work in progress: Flowsheets

Work in progress: Flowsheets

- This capability raises new possibilities
- If a site can label document sections (history, exam, assessment, plan, etc) those can become elements to limit searches to those specific sections

Work in progress: Timelines

Summary	Report Id	Report Date ↓	Document Type	Admission Date	Pro
...Trustworthy CPGs development followed by testing on the first five pilot...	docid_2_...	04/17/2019	Admission Note	04/15/2019	W
...Te5) into ultra-small cavities of gap-plasmon resonators... ...fields within the ultra-small cavities. More interestingly, the THG signals...	docid_3_...	03/18/2019	Discharge Note	03/03/20...	Ra
...but its role in oral cancer remains unclear... ...on the progression of oral cancer cells in vitro, and we...	docid_2_...	06/17/2017	Laboratory Report	06/16/2017	Ca Ka
...A general [4 + 1] cyclization reaction of carbonyl nucleophiles with 2... ...unprecedented asymmetric version of such reaction is also realized via chiral...	docid_1_4...	01/25/2017	Nutrition Note	01/03/2017	Ha Br
...with polydopamine from the adhesive proteins in mussels. It was successfully...	docid_7_...	09/15/2016	Nursing Note	08/16/2016	Lu Ma
...based on the results of skin prick test (SPT...	docid_1_2...	11/16/2015	Nutrition Note	10/18/2015	W Ab
...presented to our hospital with abdominal pain, abdominal discomfort, and pneumoperitoneum... ...most common presenting symptom is abdominal pain. Symptoms can include rectal bleeding... ...department of our hospital with abdominal pain, abdominal discomfort, and pneumoperitoneum... ...a family history free of cancer, and the last time she... ...associated with production of monoclonal proteins. These malignancies include monoclonal gammopathy... ...Mutations in genes encoding these proteins, such as P53, play a... ...Common complaints include swelling, headache, nasal discharge, epistaxis, nasal obstruction... ...or destruction of adjacent bone, muscle, and fat; and vascular encasement...	docid_8_...	12/18/2012	Consent Form	11/22/2012	Gr

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Work in progress: Timelines

Work in progress: AI Integration

- Integrating ChatGPT or similar tools
- Much work to be done
- Will reach out to site leads soon
- Will try to survey users at sites
- If you have ideas on use cases, or specific functions in EMERSE, let us know

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Questions/Comments

- Any thoughts about work in progress?

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Discussion topics

- Any sites using EMERSE for non-research work (e.g., quality?)

- Large language model integration

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Wrap-up

- Thanks for attending!
- Next Meeting: TBD (Spring 2026)
- Please complete meeting survey:
- https://bit.ly/emerse-nov-2025

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