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Multimodal Needs Assessments for Curricular Refinement – Learner, Expert, EMR

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Multimodal Needs Assessments for Curricular Refinement: Learner, Expert, EMR

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BACKGROUND

- Internal Medicine Residents rotate through two medical ICUs: VCU MRICU and VA MICU
- The fellows and faculty rotate on a schedule separate from the residents; teams dynamically change in the rotation
- Residents have identified standardized curriculum coverage as a key area of need for their ICU learning

OBJECTIVES

- Explore the educational formats and resource preferences of house staff
- Identify ICU topics thought to be important by experts in the field
- Identify clinically relevant ICU topics
- Build an interactive, standardized cognitive aid that serves both as an instructional resource for house staff and a prompt for those teaching

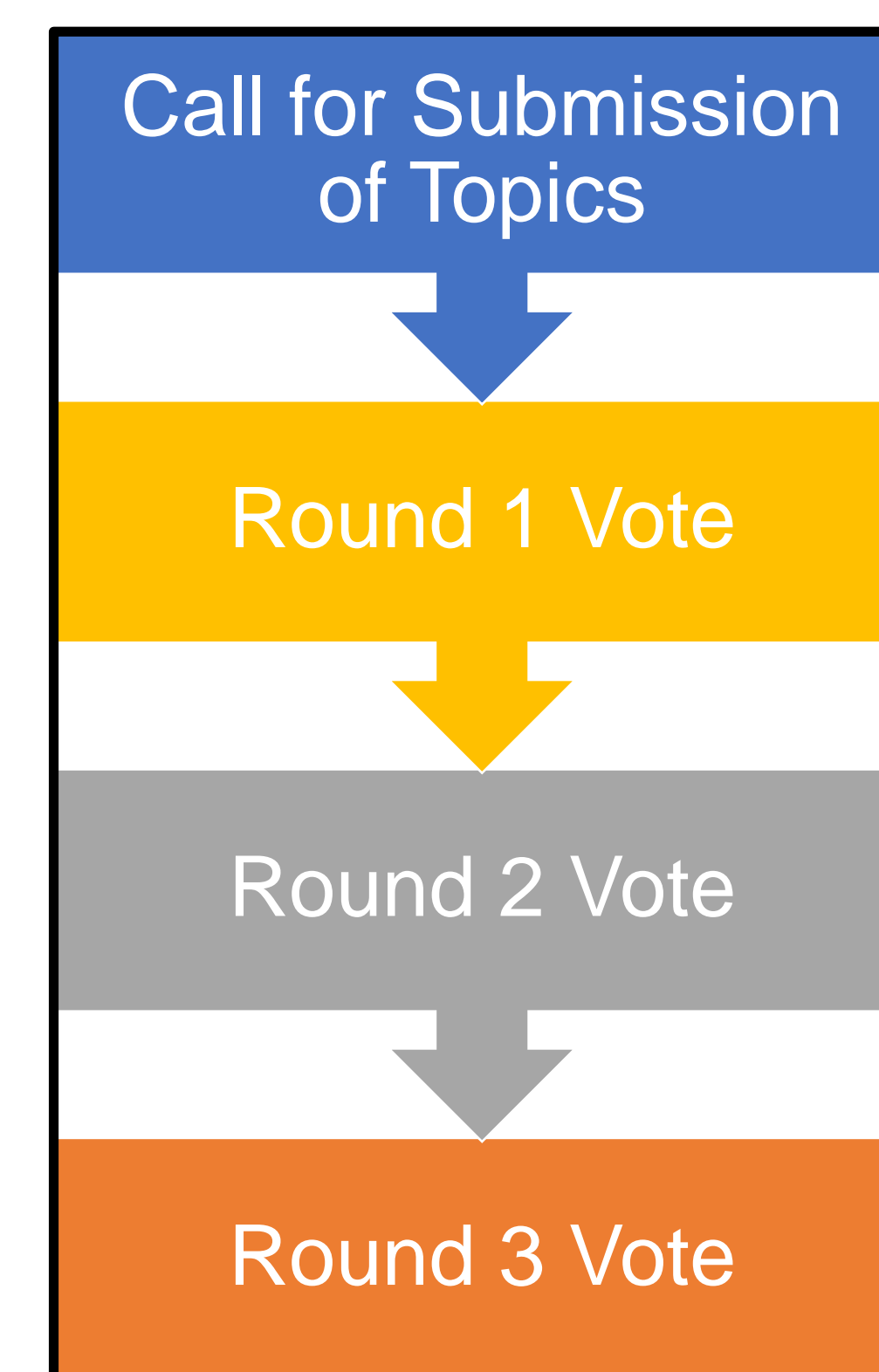
METHODS

- Performed a learner-centered needs assessment exploring educational format preferences of house staff
 - Representative resident sample from different career tracks: generalist, hospitalist, and subspecialist
- Gathered expert opinion to prioritize important ICU learning needs
 - VA MICU and VCU MRICU faculty, fellows, and advanced practice providers
 - Three-round modified Delphi sort^{1,2}
 - 12 topics chosen
- Determined which problems were most frequently encountered in the ICU
 - Collected and quantified 1 year of de-identified EMR data about reasons for MRICU consults
 - Coded by a single reviewer and listed in order of frequency
- Created a standardized document as a cognitive aid and resource for ICU curriculum coverage
 - Combine Expert Delphi and EMR query into one, easy to use resource

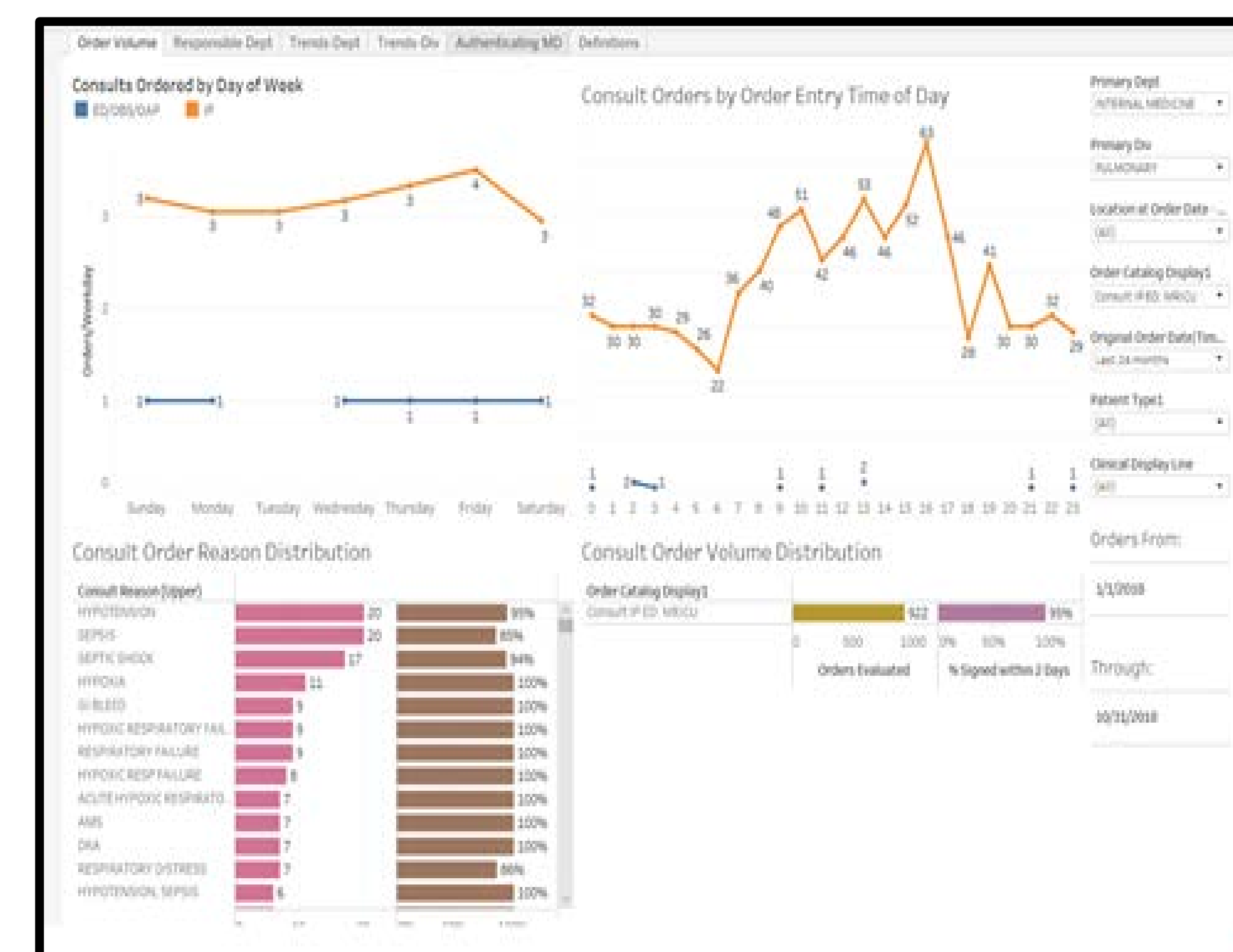
Learner-Centered Needs Assessment:

Chalk Talks: 5-10 minutes in length	Summarized curated articles
Hyperlinked Handouts to Videos & Articles	Team Room Topic List
Use Familiar (existing) Resources	High Yield Fact Sheets (pearls)

Modified Delphi Sort:



EMR Query:



DATA SUMMARY

Resident Assessment	Expert Modified Delphi Sort	EMR Query (in order of frequency)
Short talks preferred	Ventilator Basics	Respiratory Failure (hypoxic & hypercapnic)
Handouts for outside learning	Ventilator Advanced	Sepsis
Shared framework	Sepsis	Shock
Multimedia learning	Shock/Vasopressors	Obstructive Lung Disease
	ICU Toxicology	Alcohol Withdrawal
	Sedation/Delirium	Electrolyte Disorders
	Gastrointestinal Hemorrhage	Gastrointestinal Hemorrhage
	Antibiotics in the ICU	Cirrhosis
	ARDS	Acute Liver Failure
	Acid Base	Diabetic Ketoacidosis
	Palliative Care	Acute Kidney Injury
	Free Space for Rotation specific cases	Altered Mental Status

Final Cognitive Aid:

(embedded hyperlinks to resources omitted)

MRICU Passport			
Shock/ Vasopressors	Ventilator 101	Ventilator 102	Acid—Base
Toxicology	Sedation/ Delirium	Antibiotics	Sepsis
GI Bleed	ARDS	Palliative Care	FREE SPACE

CONCLUSIONS

- We successfully created a teaching curriculum to address a need identified by our residents
- There was a discordance between expert and EMR-identified topics
 - Some topics are taught elsewhere in the learner's residency
 - Many ICU problems develop after admission/initial consult
- A two-week trial of the MRICU passport with non-EMR driven topics was performed
- Resident Feedback:
 - Generally well received
 - Passport would take time to be fully adopted in ICU routine
 - Liked linking the topics to an online education resource
 - Expectations met with short lecture, high yield fact sheets, and links to further information
- Faculty Feedback:
 - Passport served as a reminder of which topics had been covered and which were left to cover

FUTURE DIRECTIONS

- Discordance of topics will be reassessed for opportunities to include EMR-driven, high-yield clinically encountered topics
- Periodically review EMR for changes in practice and relevance
- In-services for faculty and residents will be required to establish standard use as well as buy-in
- Will evaluate the feasibility of launching an EMR query at the VA medical center
- Goal is for this to be adopted as the standard curriculum for teaching across all ICU learning environments

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