

CARE: Clinical Analytics for Reliable Evaluation

Eric Christenson, Cesar Dori

MIT Sloan School of Management

VEG Advisors: Jeremy Kimmelstiel, Ariel Wilpon, Theodore Dawson

Faculty Advisor: Chara Podimata



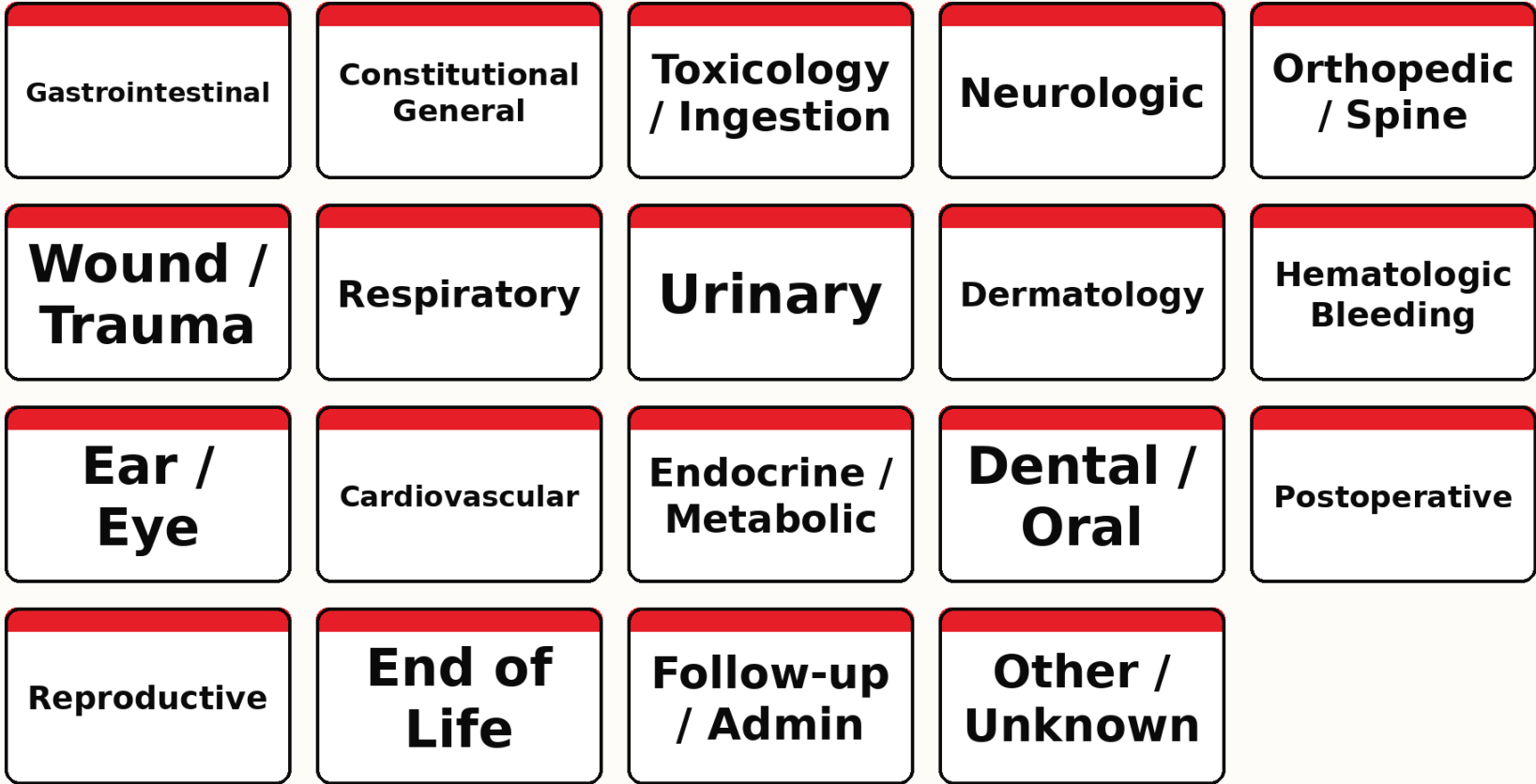
Introduction/overview

VEG ER for Pets operates 137 veterinary hospitals across the US and Canada. Each hospital consists of one medical director alongside a team of veterinarians and nurses. To provide coach-able opportunities, each medical director (MD) pulls 10 cases to review with every vet in their hospital each month. **The problem is that MDs have no easy way to sort through a vet’s cases so they rely solely on intuition and past issues right now.**

Our solution provides new tools and uses deep analytics to surface cases that are relevant to MDs and speeds up their review process. We also flag cases with possible over or undercharging, providing serious revenue capture opportunities to VEG.

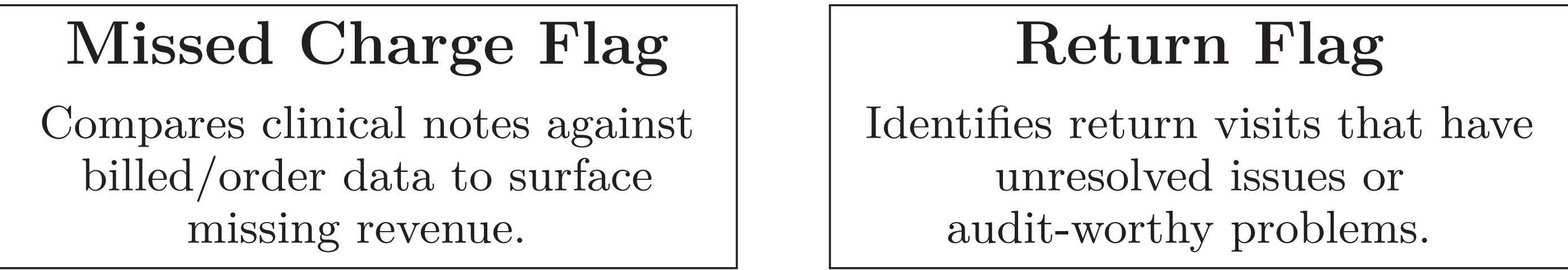
Methodology

1. Group cases into complaint categories:

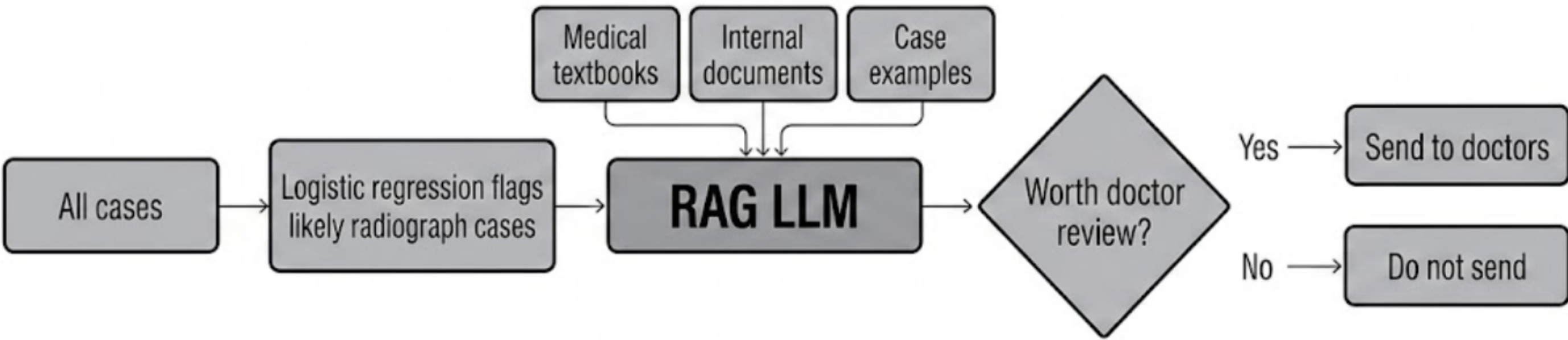


Cases are grouped into broad presenting complaint categories to make audit selection more consistent and easier to review. REGEX and LLM pipelines help categorize cases based on their unstructured notes.

2. Flag missed charges and hospital returns:



3. Custom RAG model to flag missing treatment:



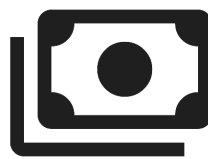
Data



Vitals



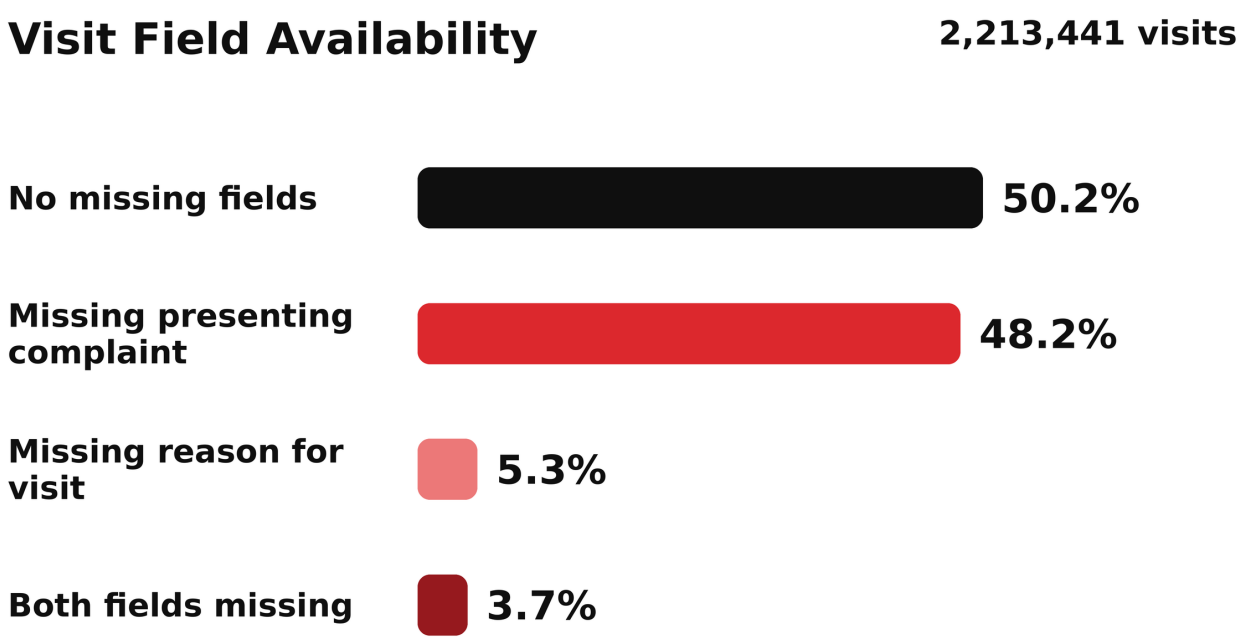
Clinical Notes



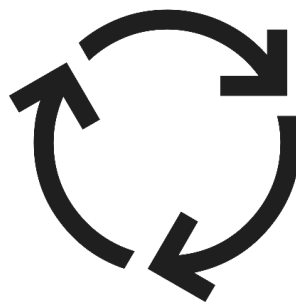
Payments

Most provided data is **unstructured** with missing values

Missing Fields



Validation



Doctor in the Loop feedback

- 85% correctly classified case types
- 10% missed ultrasound charge signal
- 5% problematic return signal

Results and Business Impact

REVENUE CAPTURE
\$3.93M
annual opportunity

TIME SAVED
4,000 hrs
returned to leadership

KEY TAKEAWAY
Prioritized audit selection
returns MD time and surfaces missed revenue opportunities.

Future Work

1. Extending Radiograph RAG methodology to other tests and procedures
2. Beta testing product with a sample of medical directors

Contact Info

Eric’s Email: ericchri@mit.edu
Cesar’s Email: cesar_d@mit.edu