Rescheduling Pediatric Endoscopy Procedures After COVID-19 Pandemic

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- **Goals:**
  - To share a single-institution strategy to triage new and COVID-19 Pandemic cancelled **non-urgent** Pediatric Gastrointestinal Endoscopy Procedures
  - To support development of a rationally devised procedure prioritizing framework
- Disclosures: no relevant disclosures

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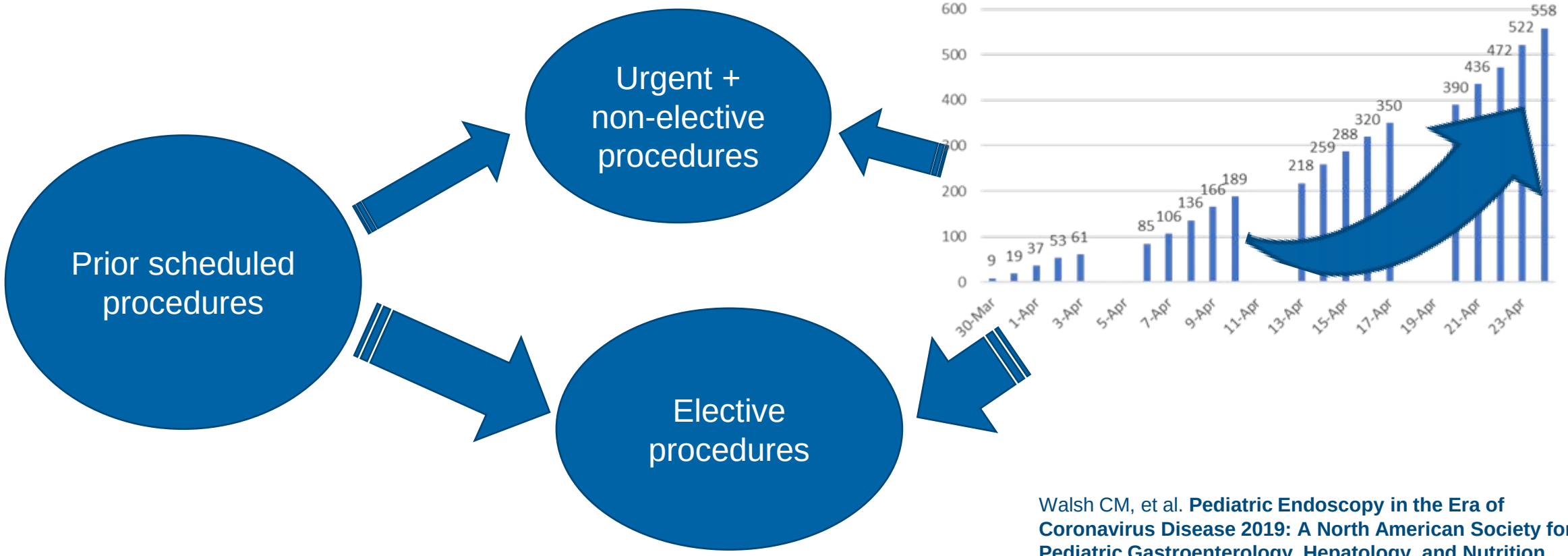
- Surgeon General advises hospitals to cancel elective surgeries
- CDC: Reschedule elective surgeries as necessary

https://www.politico.com/news/2020/03/14/surgeon-general-elective-surgeries-coronavirus-129405
https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-hcf.html

Procedures



Walsh CM, et al. **Pediatric Endoscopy in the Era of Coronavirus Disease 2019: A North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition Position Paper.** J Pediatr Gastroenterol Nutr. 2020 Apr 14.

- The more stringent the criteria for defining non-elective procedures, the greater the number of cases to be rescheduled

- The greater the number of cases to be rescheduled the more heterogenous the indications and level of acuity of the cases

→ *a spectrum of patients awaiting procedures; spanning those procedures likely to influence management in the short term to those that can be safely rescheduled for months later*

How to prioritize non-urgent procedures

- Depending on procedure backlog, section attributes physician review and consensus likely difficult, inefficient, non-objective

- Objective parameters that can be applied by nursing screening can be devised to prioritize the group.

(GI proc. nurse contact – phone call as part of follow up on patients with rescheduled procedures)

Therapeutic vs Diagnostic procedures

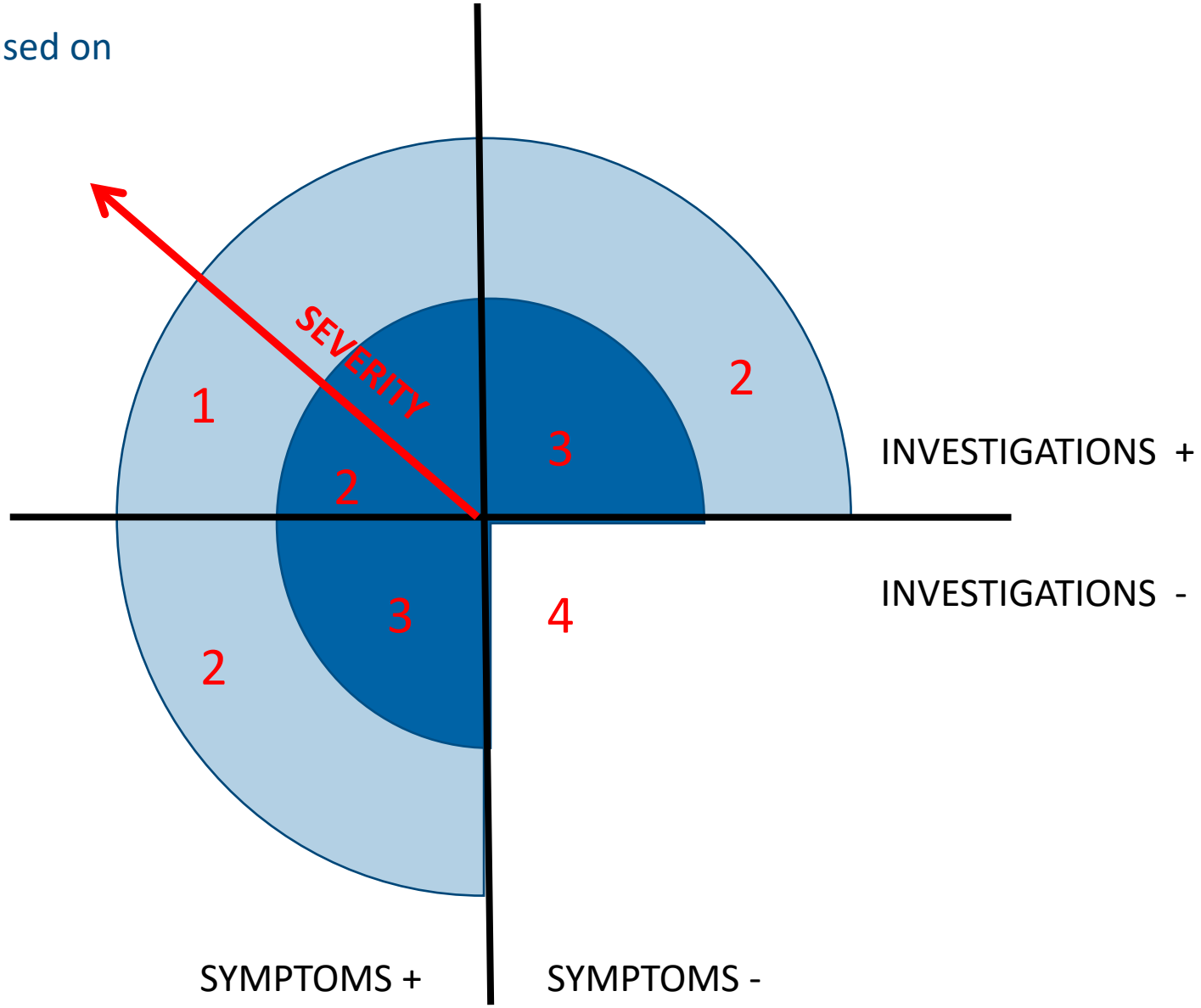
- Therapeutic procedures that if delayed can result in medical or surgical emergencies
    - EGD +/- variceal banding
    - EGD with planned esophageal dilation
    - RSB in patients with concerning BE
- Diagnostic procedures by impact of anticipated findings on outcome and QOL
    - Background: limited script nurse – patient phone call

Defining a prioritizing process for diagnostic pediatric GI endoscopy

- Goals:
  - Prioritize highest patients with greatest impact of reasonably anticipated findings from endoscopy
  - Prioritize lowest patients with alternative diagnostic options or least theoretical risk of disease or distress from delay

- Multidisciplinary team:
  - Pediatric gastroenterologists
  - Pediatric Psychologist
  - Pediatric GI nursing

Rescheduling template based on symptom / investigation abnormality



Symptom Classification – Severity

Severe Symptoms:

- vomiting blood (hematemesis)
- rectal bleeding (hematochezia) +/- diarrhea
- black tarry stool (melena)

Symptom severity based on Scoring

- difficulty swallowing (dysphagia)
- pain on swallowing (odynophagia)
- abdominal pain

Non-severe symptoms

- reflux / heartburn
- bloating
- Non bloody diarrhea
- nausea
- Vomiting
- Weight loss / poor weight gain
- Food refusal

Abdominal pain / QOL / Use of CALI-9 Parent Report

- Child Activity Limitations Interview: ● ***youth with chronic pain*** ● brief 9 item ● proxy-report by parents ● pain-related activity limitations

Holley AL, Zhou C, Wilson AC, Hainsworth K, Palermo TM. Pain. 2018

- Highest population tertile defined as severe subgroup
  - Subjective definition / compensates for Pandemic – restrictions effect on scoring
  - **Not a surrogate for symptoms tracked in egs. IBD activity scores / focus on functional impairment from disease**
  - Final determination only at completion of phone-calls / interval determinations possible

Symptom Severity – Abdominal Pain Scoring

CALI – 9: Parent Report Think about your child's activities over the last four weeks. Please rate how difficult or bothersome doing these activities was for your child **because of pain**.

	Not very difficult	A little difficult	Somewhat difficult	Very difficult	Extremely difficult
Sports	0	1	2	3	4
Doing things with friends	0	1	2	3	4
Sleep	0	1	2	3	4
Eating regular meals	0	1	2	3	4
Schoolwork	0	1	2	3	4
Running	0	1	2	3	4
Riding in the school bus or car	0	1	2	3	4
Walking 1-2 blocks	0	1	2	3	4
Being up all day (without a nap or rest)	0	1	2	3	4

Symptom Severity – Dysphagia

	Abnormal	Markedly Abnormal
Pain or trouble swallowing	Present anytime	Daily / every other day

Laboratory and Radiology Abnormality Scoring

	Abnormal	Markedly abnormal
Calprotectin	Outside ref. range	≥250 ug/gm
Lactoferrin		≥500 ug/mL
Albumin		≤3 gm/dL
ESR		≥35 mm/dL
CRP		≥2 mg/dL
Hemoglobin		≤10 gm/dL
Hct.		≤30%
tTG IgA		≥10 x ULN

	Abnormal	Markedly abnormal
CT abdomen / CT enterography	Isolated inflammatory changes	Stricture / dilation / fistula / perineal abscess
MRE / MRI abdomen		Mass

Laboratory
Abnormality Scoring: References

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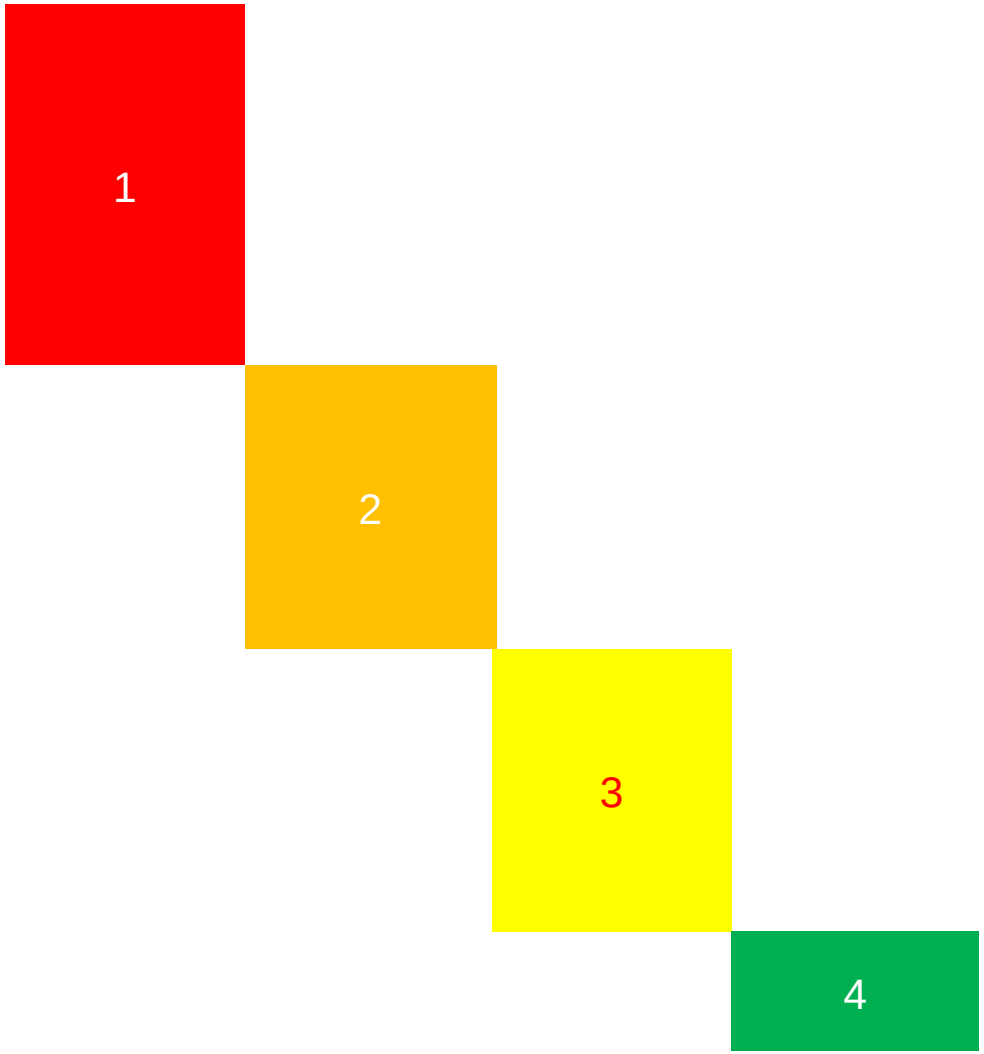
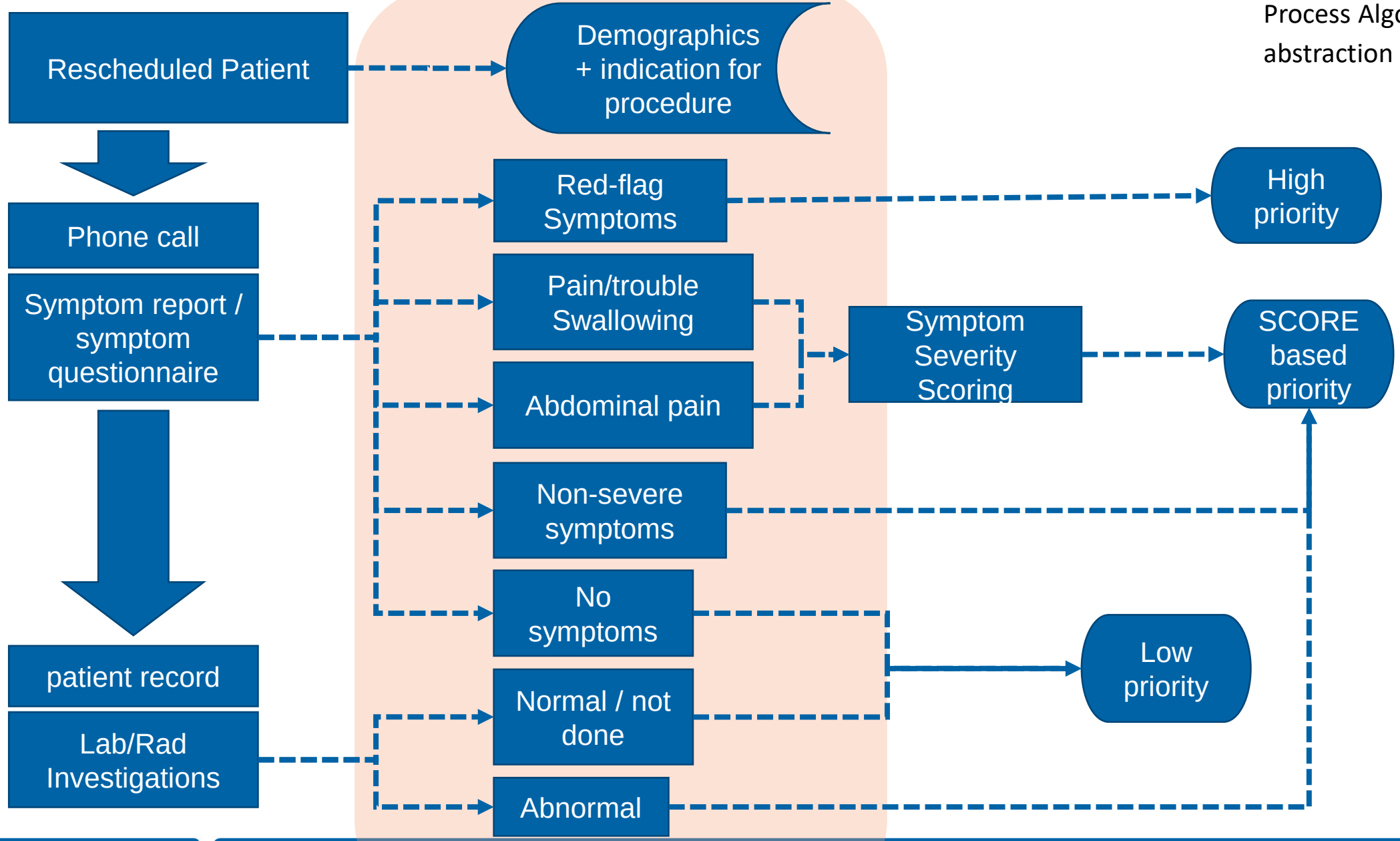


Symptom severity and Investigation Abnormality
Severe symptoms AND markedly abnormal investigations OR Severe symptoms and non-markedly abnormal investigations OR non-severe symptoms AND markedly abnormal investigations
Non-severe Symptoms AND non-markedly abnormal investigations OR severe symptoms ALONE OR markedly abnormal investigations ALONE
Non-severe symptoms OR non-markedly abnormal investigations
Asymptomatic AND No abnormal investigations

Process Algorithm – case abstraction



Considerations

- Focused on a single section's unique circumstances
- Multiple factors (*geographic, COVID related, resources, PPE availability, staff*) factor in speed of revamp of service
- Practice decisions on role of endoscopy re. need of bx to confirm CD Dx, urgency of confirmatory endoscopy in IBD, alternative approaches for surveillance in IBD

Limitations – not a validated tool

- A-priori definition of therapeutic endoscopy as higher priority
- Functional impairment from abdominal pain is not a substitute for symptom scoring in IBD
- Subjective cut-off for severity definition based on population performance (CALI) or extrapolated (Labs)
- Atypical / extra-intestinal symptoms
- No consideration of impact of adherence on disease activity / severity

Practical Limitations

- Time consuming 15 – 20 mins per record
- High proportion of failure to contact (33-40%) → incomplete scoring
- Difficult to find labs / radiologic findings (outside records)

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Slides & RedCAP:

www.childrensmercy.org/GIConnect

Thank You