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# Assessment of iron sucrose use at a community-based hospital

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## BACKGROUND

- According to the World Health Organization, two billion people (30% of the world's population) suffer from anemia.<sup>1</sup> Iron deficiency is the primary causative factor in half of these cases.
- The standard of care for iron deficiency anemia is oral iron supplementation as it is safe, effective, well tolerated, and inexpensive.<sup>2</sup>
- Parenteral iron therapy is more costly and may cause severe side effects, such as hypotension and anaphylaxis.<sup>3</sup> It is indicated as first line in patients who are unable to tolerate or absorb oral preparations, in those with unresolved bleeding, in those undergoing dialysis, and in pregnant women.
- Within our hospital system, an algorithm has been proposed to limit the first line use of intravenous (IV) iron sucrose (Venofer®).

## OBJECTIVES

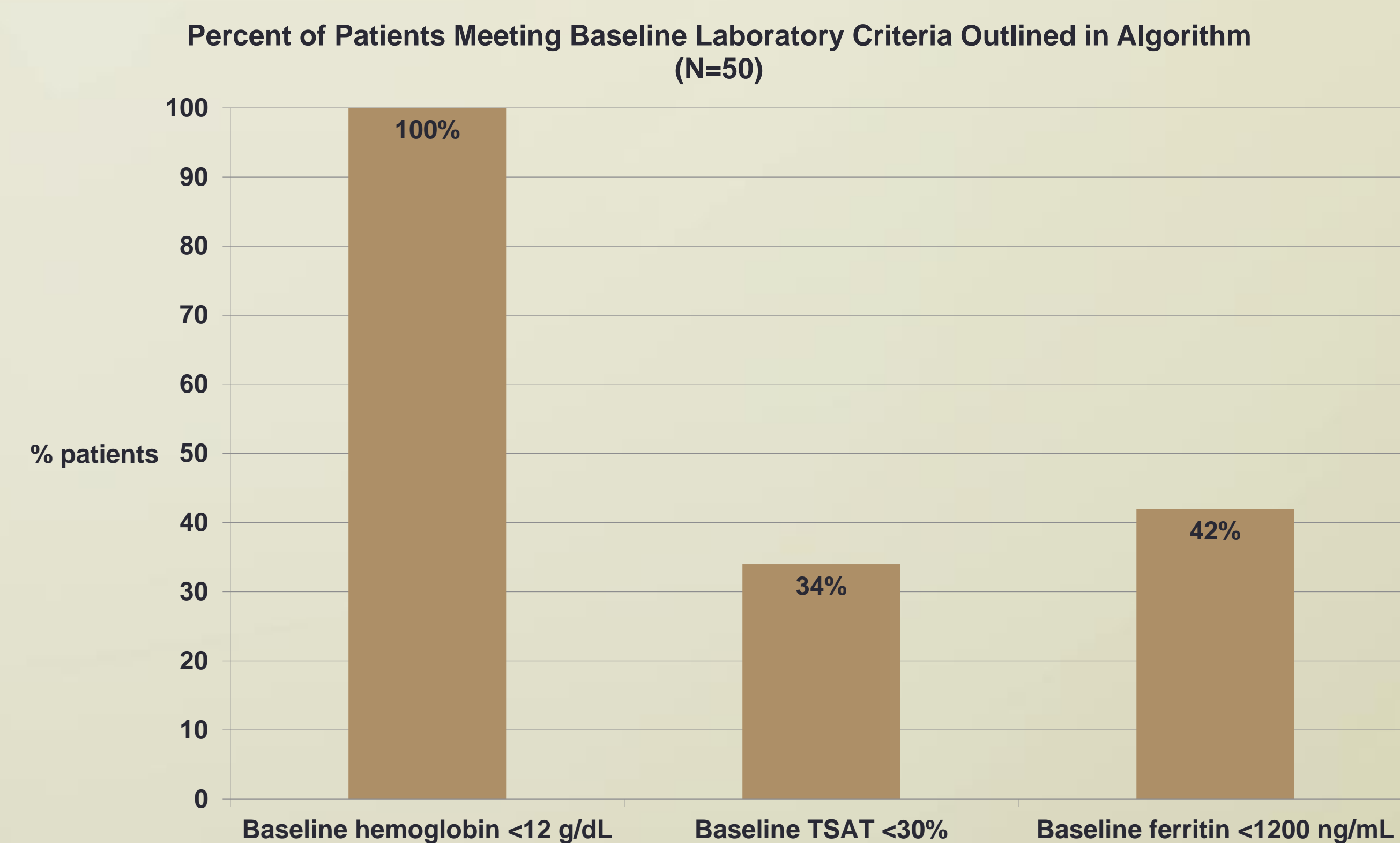
- Determine if patients treated with Venofer® as first line therapy for iron replacement met Baptist Health South Florida (BHSF)'s proposed IV iron algorithm criteria
- Assess if patients had hemoglobin, transferrin saturation (TSAT), and ferritin levels drawn at baseline
- Examine potential cost savings associated with proposed algorithm

## METHODOLOGY

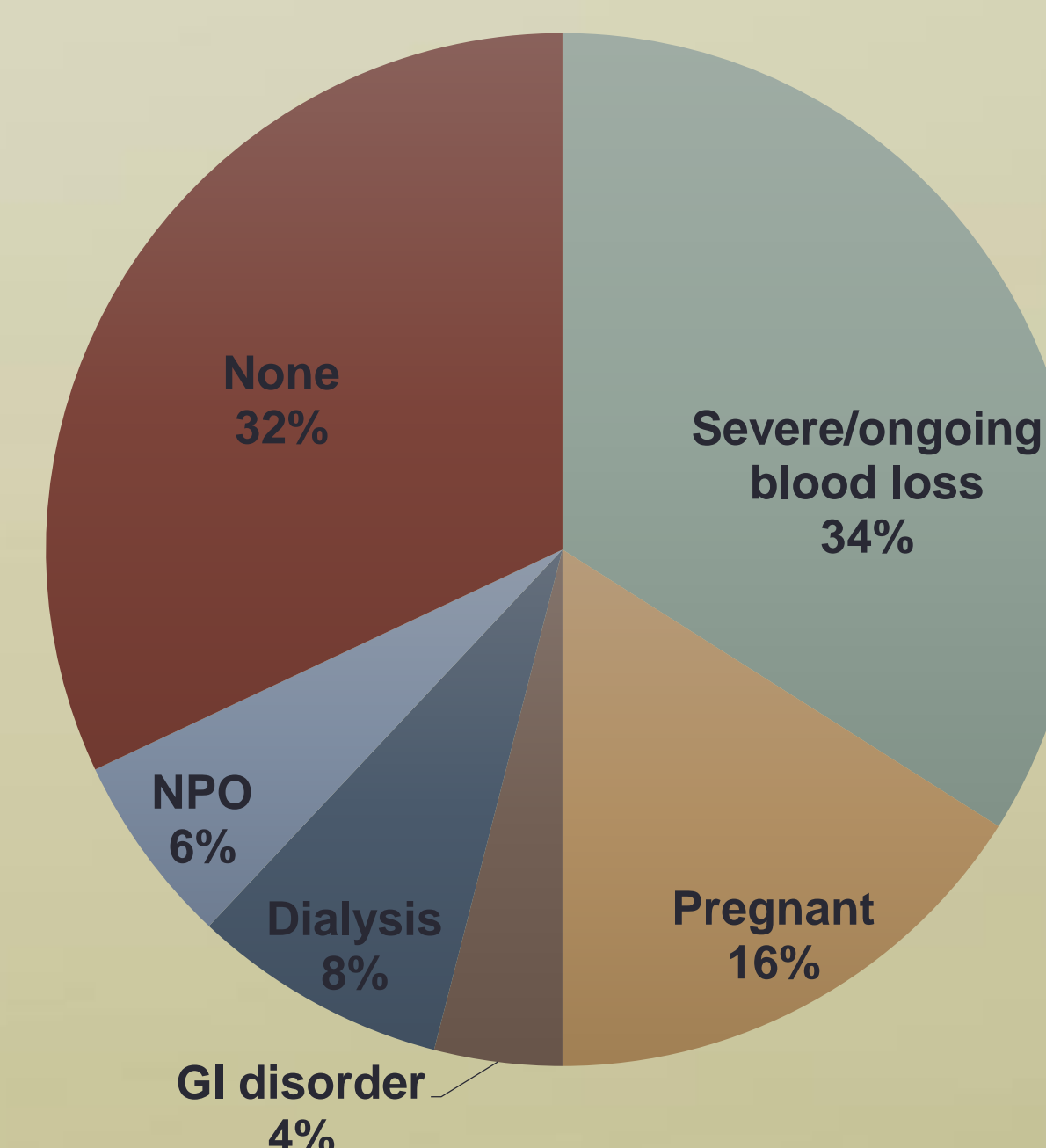
- This retrospective study was approved by the BHSF Institutional Review Board.
- An electronic report of all inpatients who received Venofer® in June 2016 was generated by our pharmacy systems specialist.
- Patients <18 years old and those who first received oral iron supplementation were excluded.
- Of the resultant records, fifty charts were chosen at random to determine if they met the following criteria outlined in BHSF's proposed algorithm:
  - Baseline hemoglobin <12 g/dL, TSAT <30%, ferritin <1200 ng/mL
  - Patient types:
    - Dialysis
    - Pregnant women
    - Gastric surgery
    - Patients with gastrointestinal (GI) disorders
    - Patients with malabsorption syndromes
    - Patients with severe/ongoing blood loss
    - Patients who cannot receive oral intake (NPO)
- For patients who did not meet the above criteria, the total cost of Venofer® doses was calculated.

## RESULTS

Demographics	
N=50	
Gender	
Male	21 (42%)
Female	29 (58%)
Age	
Mean (years)	58
Baseline Laboratory Parameters	
N=50	
Hemoglobin	50 (100%)
TSAT	18 (36%)
Ferritin	23 (46%)



Percent of Patient Types Outlined in Algorithm (N=50)



## RESULTS

Analysis of Inadequate Venofer® Therapy	
n=16 (32%)	
Total	
Doses administered	36
Milligrams administered	10,700
Potential Cost Savings	
Total cost	\$3,168

## DISCUSSION

- Out of 50 patients reviewed, 16 (32%) did not fall into the proposed patient types who may receive IV iron first line.
- All patients had a baseline hemoglobin level (100%), 18 (36%) had baseline TSAT values, and 23 (46%) had baseline ferritin levels.
- All baseline hemoglobin levels were <12 g/dL (100%). However, only 17 patients (34%) had baseline TSAT <30% and only 21 patients (42%) had baseline ferritin <1200 ng/mL.
- On average, inappropriate therapy lasted about 2 days.
- Based on our facility's acquisition cost of \$29.61 for one 100 mg vial of Venofer®, the cost of inappropriate parenteral therapy totaled \$3,168.
- Limitations: Brief study period, small sample size, evaluation of only inpatients, and retrospective data collection that depended on what was documented in the electronic medical record.

## CONCLUSIONS

- The criteria outlined in our hospital system's proposed algorithm can greatly streamline the use of parenteral iron therapy.
- Since these implications translate into safe and cost effective treatment, a system wide initiative will be implemented to promote the use of oral iron supplementation.

## REFERENCES

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## DISCLOSURES

Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation:

- Ada S. Jalice: Nothing to disclose
- Mercedes Frías: Nothing to disclose
- Yarelys Garcia: Nothing to disclose