Screening for Heavy Menstrual Bleeding and Associated Iron Deficiency in the LHSC Bleeding Disorders Program

Team 5 - Iron Women:
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AIM Statement: By April 2024, we plan to increase identification of Heavy Menstrual Bleeding to 60-70% of patients with inherited bleeding disorders in the adult Bleeding Disorder Program clinic.

PROBLEM DEFINITION

Through analyzing patient data, 40% of women with inherited bleeding disorders (IBD) admitted in the adult Bleeding Disorders Program (BDP) clinic were diagnosed with Heavy Menstrual Bleeding (HMB), which fell short of the 90% diagnosis rate of women with IBD in the general population (Djambas et al., 2020; James, 2020).

ROOT CAUSE ANALYSIS

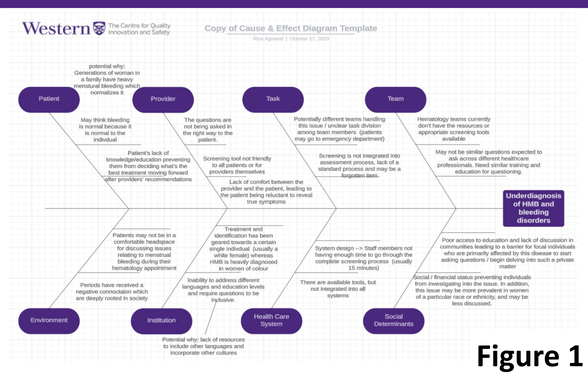

Figure 1

For the first half of the project, the team worked with Thunnisa Shanmugalingam, nurse practitioner in the BDP clinic. Her insights led to the analysis represented in the cause and effect diagram and process map (Figures 1 & 2). The emphasis in this stage was on improving screening measures, which led to our first hypothesis, that implementing the Pictorial Blood Assessment screening tool would improve diagnosis rate. During the second half, the team was able to consult hematologists Dr. Chai, who is the physician in the BDP clinic, and Dr. Gob. As an important stakeholder in diagnosis, Dr. Chai's input redirected the team to analyzing the lab testing component of diagnosis. From here, the team reconsidered the root causes and began an analysis of ferritin test results' impact on diagnosis.

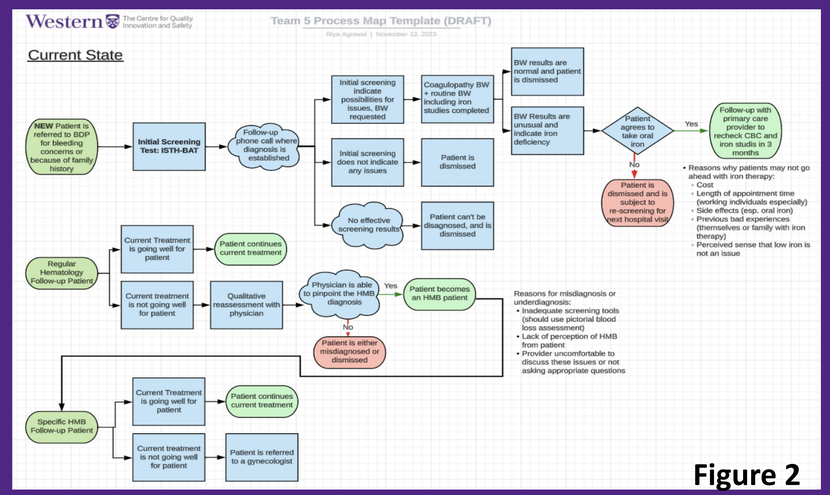

Figure 2

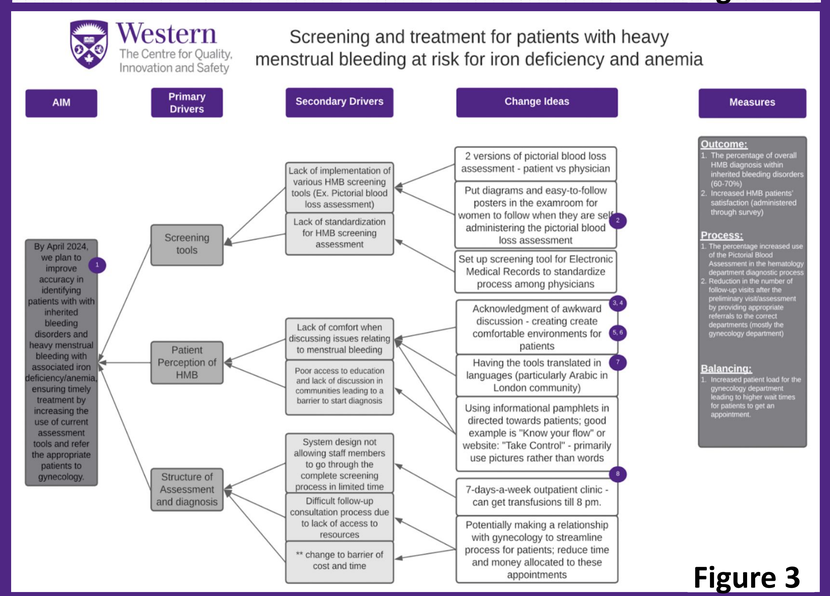

Figure 3

Case	ApptType	ReasonForVisit	Date	ApptUnit Name	Age	Ferritin level testing	Hemoglobin Testing	Coagulation Testing
Case 1	HEMPH Followup	PFT B2 lab test center - BW only	3/12/24 0:00	V-HEMPH	18	No Yes - 2023/09/19 (21.7)	Yes	Yes
Case 2	HEMPH Followup	Review	10/10/23 0:00	V-HEMPH	26	Yes (H-225.0) 10/10/2023	Yes	yes
Case 3	HEMPH Followup	Review	8/1/23 0:00	V-HEMPH	31	No Yes - 2023/08/01 (47.3)	No	No
Case 4	HEMPH Followup	Blood work	2/22/23 0:00	V-HEMPH	20	yes (103.0)	Yes	yes
Case 5	HEMPH Followup	follow up	11/21/23 0:00	V-HEMPH	26	No yes- 2023/03/07 (72.4)	Yes	yes
Case 6	HEMPH Followup	Review	11/7/23 0:00	V-HEMPH	21	Yes- (90.8)	Yes	Yes
Case 7	HEMPH Followup	Review	10/11/22 0:00	V-HEMPH	21	Yes- (52.5) Yes - (118)2022/10/11	yes	No
Case 8	HEMPH Followup	6 mth fup	10/17/23 0:00	V-HEMPH	27	Yes- (52.8) Yes - (14.9) 2023-04-04	No	No
Case 9	HEMPH Followup	Review	8/29/23 0:00	V-HEMPH	27	No Yes -(19.5) 2023-08-29	Yes	Yes
Case 10	HEMPH Followup	Review	8/29/23 0:00	V-HEMPH	30	No Yes-(27.4) 2023-08-29 Yes - (21.2) 2023-03-27	No	No

Figure 4

IMPLEMENTATION

PDSA #1 - Implementation of Pictorial Blood Assessment

a. Key Steps: Conduct a physician survey to understand their opinion on the efficacy of the proposed solution
b. Outcome: Shifting the focus from implementing the to analyzing ferritin test administration

PDSA #2 - Standardize Ferritin Test Administration

a. Key Step: Analyzing how many patients currently receive the test
b. Outcome: Understanding that all patients receive a ferritin test and that only 40% of patients have results that indicate HMB.

PIVOTING & ANALYSIS OF DATA

Patient data was pulled and audited for women aged 18-35 with IBD who visited the adult BPD clinic (n=10) (Fig 4). The patients had all undergone ferritin testing, with four patients receiving a score below 30, aligning with Thunnisa's initial findings. All patients were treated appropriately, with iron supplementation or referred to gynecology. This differed from what was hypothesized, since it was assumed that there would be underdiagnosis from standardized tests and insufficient management.

FUTURE OUTLOOK

Project Lead will confirm the new proposed hypothesis: 40% of the London population with IBD have HMB.

1. Compare how HMB is diagnosed in-clinic to the study used. Helping indicate if there is a potential diagnosis gap and implement consistent diagnosis process.
2. Conduct HMB diagnosis analysis, based off findings from step 1, with all IBD patients from 2023 to understand what percentage of patients have HMB.
3. Compare the number of patients that have HMB to how many have been actually diagnosed to confirm whether the 40% diagnosis rate is appropriate.