

# Home Telemanagement for Patients with Ulcerative Colitis (UC HAT)

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# Home Automated Telemanagement (HAT)

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- A telemedicine system designed to:
  - Assist health care practitioners treat and monitor their patients
  - Assist clinicians in educating patients
  - Assist patients in following self-care plans

# How Can HAT Improve Outcomes Patients with UC?



- Monitor and improve adherence to medical therapy
- Detection of drug side effects
- Better monitoring of bowel symptoms
  - Early initiation of treatment
- Provide inflammatory bowel disease (IBD)-focused education
- Decrease patient-physician discordance
- Promotes patient self-efficacy

# Chronic Disease Informatics Group Server



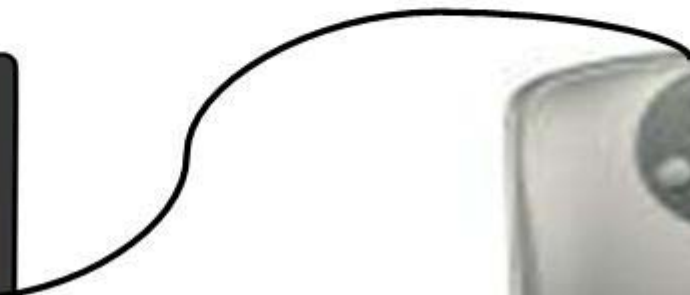
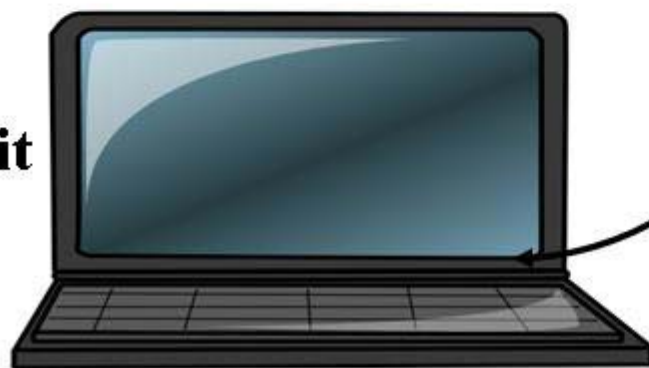
**Provider's PC**



**Electronic Scale**



**Home Unit**



**How many Tablets of Azulfidine have you taken since your last test?**

**14**



**Use arrow keys and then press ENTER**

# Preliminary Data: IBD HAT 6 Month Pilot Study



- Study Design: Pilot study (Pre/Post test)
- Duration: 6 months
- Subjects: Patients with Crohn's disease, indeterminate colitis, and UC
- Intervention: Weekly assessment with IBD HAT
- Primary Outcomes:
  - Feasibility (**80% adherence with system over 6 months**)
  - Patient Acceptance
    - Attitudinal Survey



# IBD HAT Secondary Outcomes

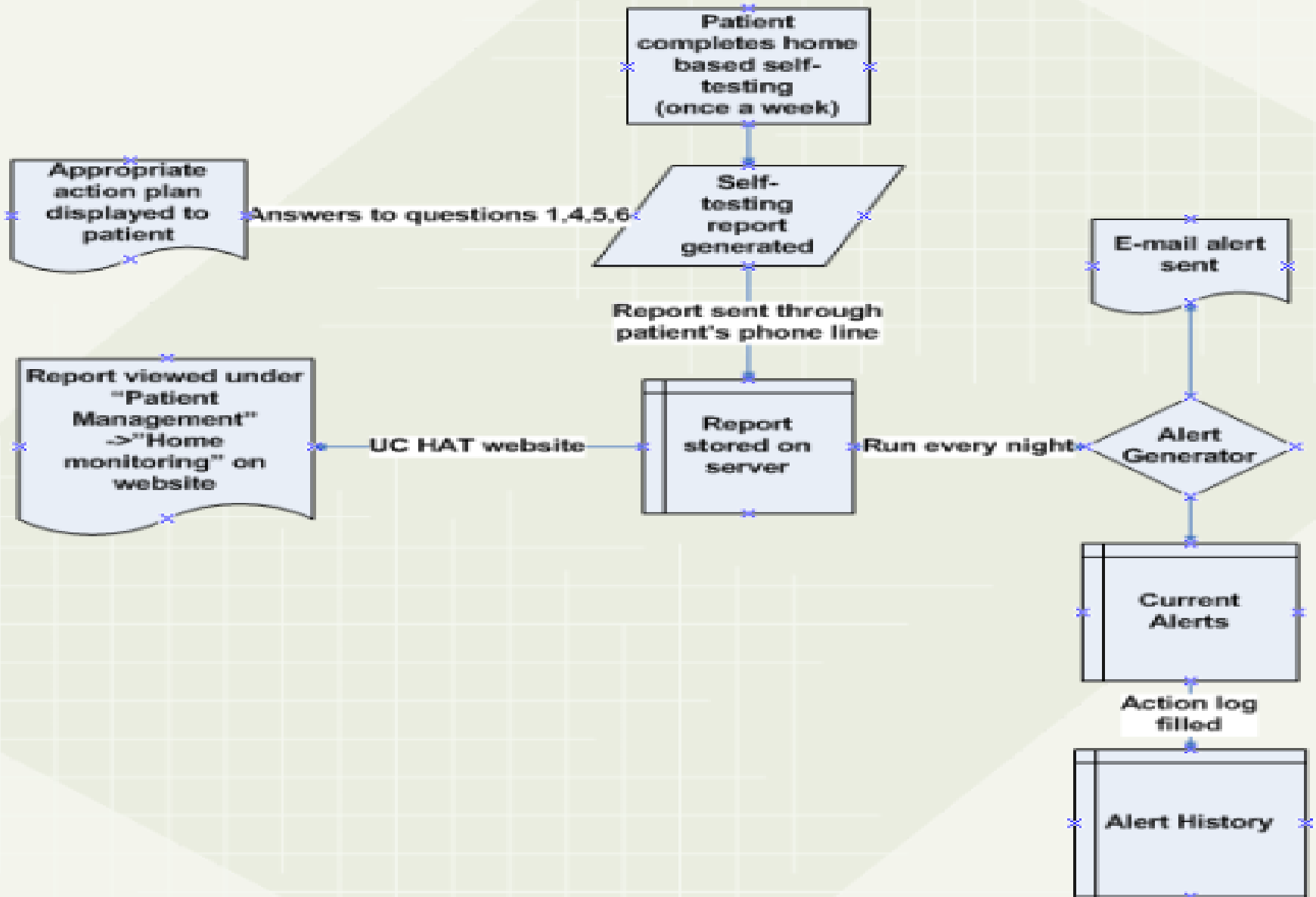
End Point	Variable	Baseline	6-month Visit	p value
<b>Clinical Disease Activity</b>	<i>Harvey Bradshaw Index</i>	3.8+/-4.3	2.2+/-3.6	0.09
<b>Disease-Specific Quality of Life</b>	<i>Short Inflammatory Bowel Disease Questionnaire</i>	49.2+/-15.1	55.6+/-14.5	0.06
<b>Patient Knowledge</b>	<i>Crohn's and Colitis Knowledge Questionnaire</i>	9.2+/-5.3	12+/-4.4	0.0007

# HAT for UC: Modifications

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- Modification of symptom diary and alerts for UC
- Development of self-management plans or “action plans”
- Development of messaging system
- Addition of cellular phone platform

# UC HAT Self-Testing



# UC Action Plans: Yellow Zone

Yellow Zone	Symptoms	Actions
Moderate Symptoms	Overall health poor	Continue your current medications; it can take a few weeks to take effect
	4-6 BM's/day	Take one Canasa suppository nightly
	1-3 nocturnal awakenings	Take one Rowasa enema nightly
	More than trace blood in stool	Double the dose of Asacol
		Start prednisone 20 mg daily
		Call our office to schedule infliximab
		Call our office

# UC HAT Action Plans: Red Zone

Red Zone	Symptoms	Actions
Severe Symptoms	Overall health very poor or terrible	Continue your current medications; it can take a few weeks to take effect
	>7 BM's/day	Start prednisone 40 mg daily
	>3 nocturnal awakenings	Call our office to schedule infliximab
		Call our office
		Report to the emergency room

# UC HAT Results of Attitudinal Survey



How complicated were the self-test procedures?	Very complicated 0 (0%)	Moderately complicated 0 (0%)	Slightly complicated 0 (0%)	Not complicated at all 10 (100%)
How difficult was working with the computer?	Very difficult 0 (0%)	Moderately difficult 0 (0%)	Slightly difficult 0 (0%)	Not difficult at all 10 (100%)
How much of your time did the self-testing take?	Very significant amount 0 (0%)	Considerable 0 (0%)	Little 3 (30%)	Very Little 7 (70%)
What is the maximum frequency of self-testing you think you can tolerate?	Once a week 4 (40%)	Twice a week 2 (20%)	Three times a week 2 (20%)	Four times a week 2 (20%)
Would (Did) you feel safer while monitored by the system?	Significantly safer 4 (40%)	Moderately Safer 2 (20%)	Slightly safer 1 (10%)	Same as Usual 3 (30%)
Would you like to use this self-testing program in the future?	Certainly Yes 7 (70%)	Maybe 2 (20%)	Unlikely 1 (10%)	No 0 (0%)

# UC HAT Study Design

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- Randomized, controlled trial
- 12 months
- Intervention
  - Weekly HAT
  - Best available care
    - Written action plans
    - Educational fact sheets from CCFA
- Subjects
  - 50 in each arm from UM and Baltimore VAMHCS
  - Stratified for disease activity at baseline

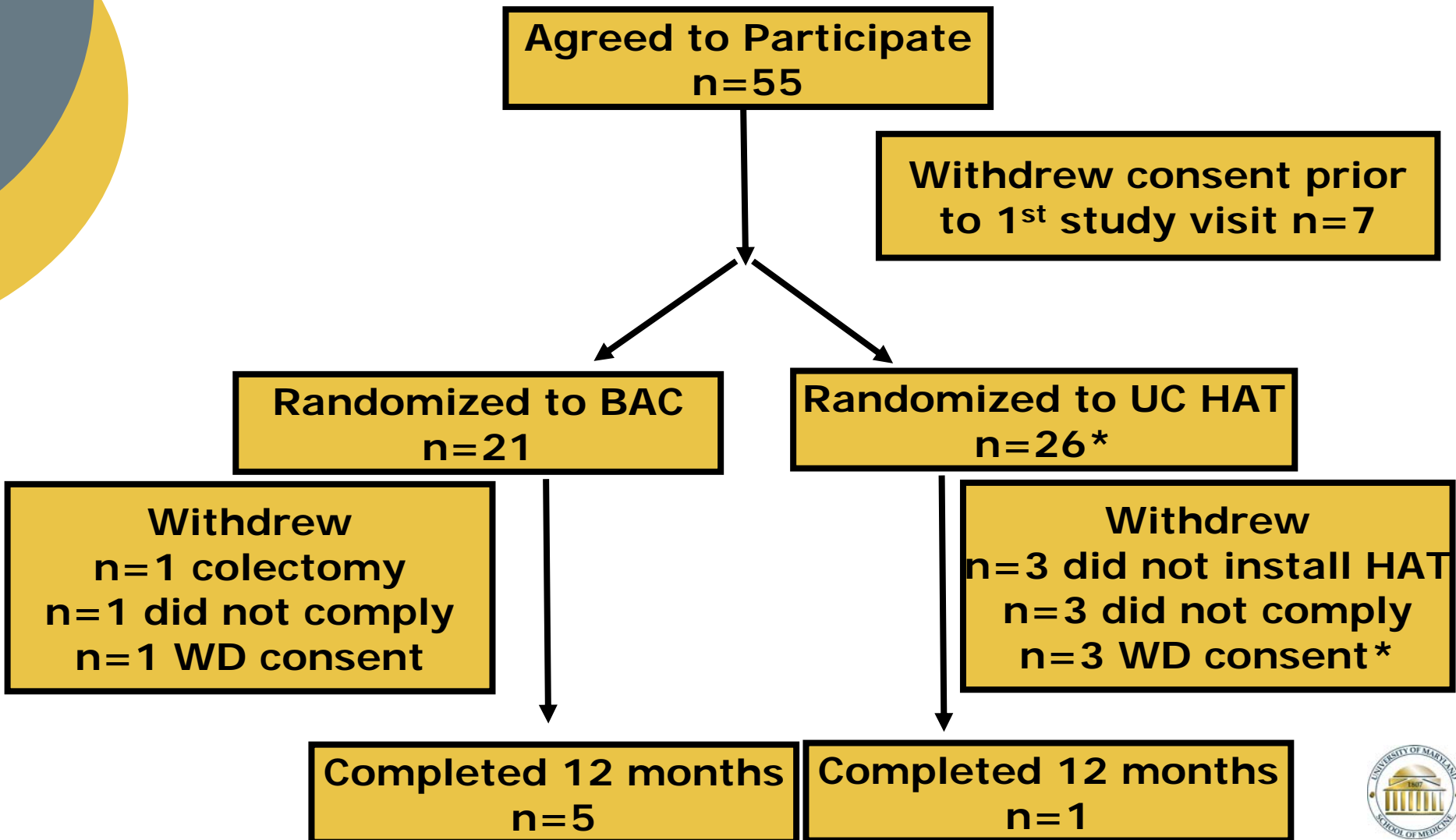


# UC HAT Study Design



Variable	Baseline	4 months	8 months	12 months
Seo index	X	X	X	X
ESR	X	X	X	X
CRP	X	X	X	X
IBDQ	X	X	X	X
MMAS	X	X	X	X
Refill data	X	X	X	X
ER visits	X	X	X	X
Hospitalizations	X	X	X	X

# UC HAT Trial: Enrollment and Group Assignment



# Conclusions

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- Multiple barriers to successful treatment outcomes exist in patients with UC
- Telemedicine may improve the delivery of care to patients with UC
- Preliminary data suggest that patients with IBD and UC are accepting of HAT, can adhere to self-testing, and may have improved clinical outcomes
- RCT ongoing to evaluate if UC HAT improves outcomes compared to best available care

# Acknowledgements

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