



# DEFENDR

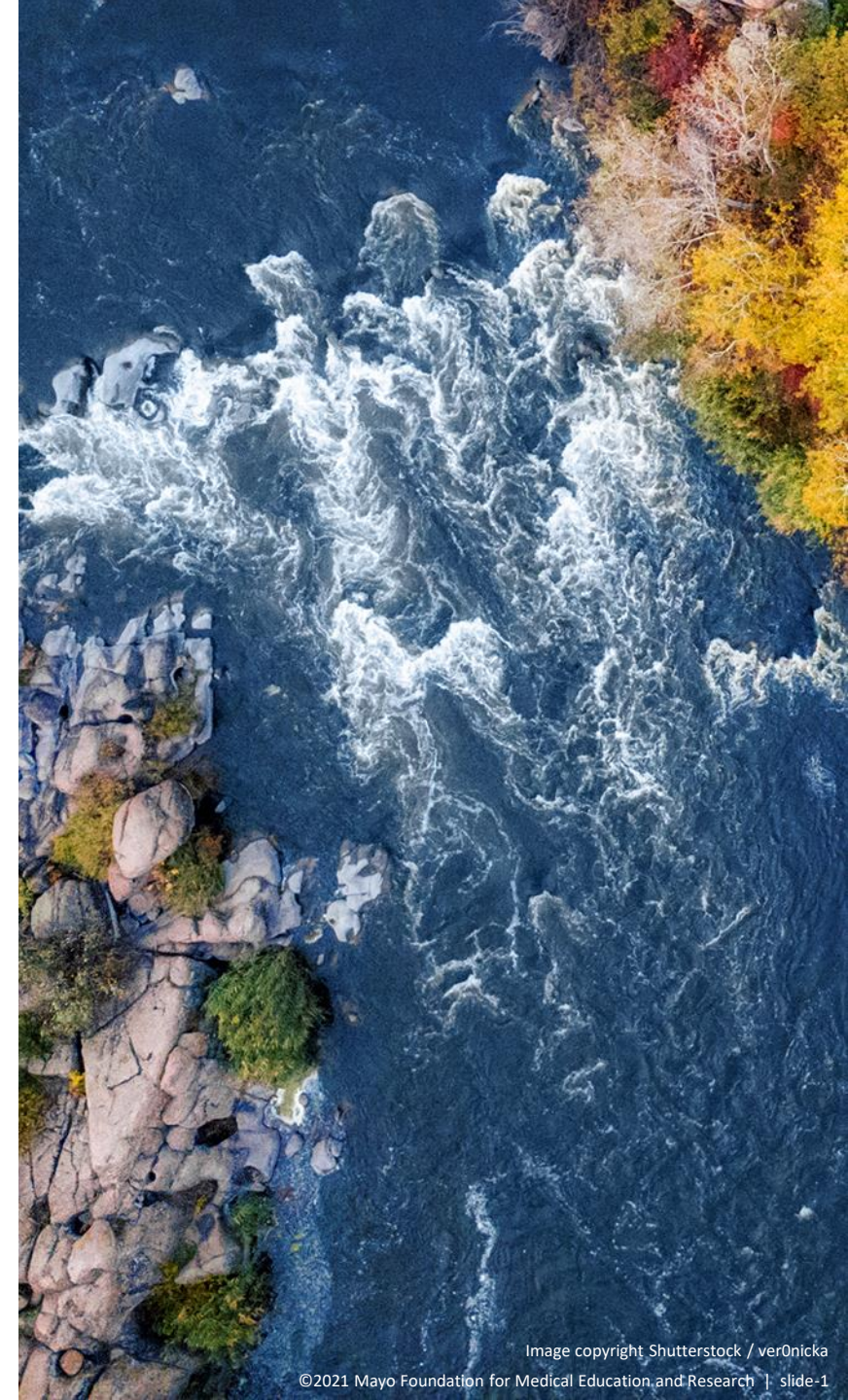
A NEW VISION FOR PATIENTS WITH FEBRILE  
NEUTROPENIA

**Joshua Pritchett, MD**

Assistant Professor, Mayo Clinic

Fellow, Hematology & Medical Oncology

Fellow Scholar, Kern Center for the Science of Health Care Delivery



## **DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIP(S) WITH INELIGIBLE COMPANIES**

- Nothing to disclose

## **REFERENCES TO OFF-LABEL USAGE(S) OF PHARMACEUTICALS OR INSTRUMENTS**

- Nothing to disclose

*All relevant financial relationships have been mitigated.*



# DEFeNDR

Decreasing the burden of

Febrile

Neutropenia through

Dynamic

RPM



# Why febrile neutropenia?

- **Broad impact for patients and practice**
  - Most common urgent complication in cancer care<sup>1</sup>
- **Decades of evidence supports outpatient approach<sup>2,3</sup>**
  - Society guideline recommendations (IDSA, ESMO, ASCO) strongly advocate outpatient management for many patients (MASCC)
- **Continued heavy burden of current practices**
  - USA Nationwide: near-universal hospitalization rate (95%)<sup>4</sup>
  - Mayo Clinic: hospitalization universal standard for all FN episodes
    - Nearly 1000 patients annually across enterprise<sup>5</sup>
      - Median LOS: 5-7 days<sup>6</sup>



1. Rapoport et al, BMC Cancer, 2018

2. Klastersky et al, Ann Oncol, 2016

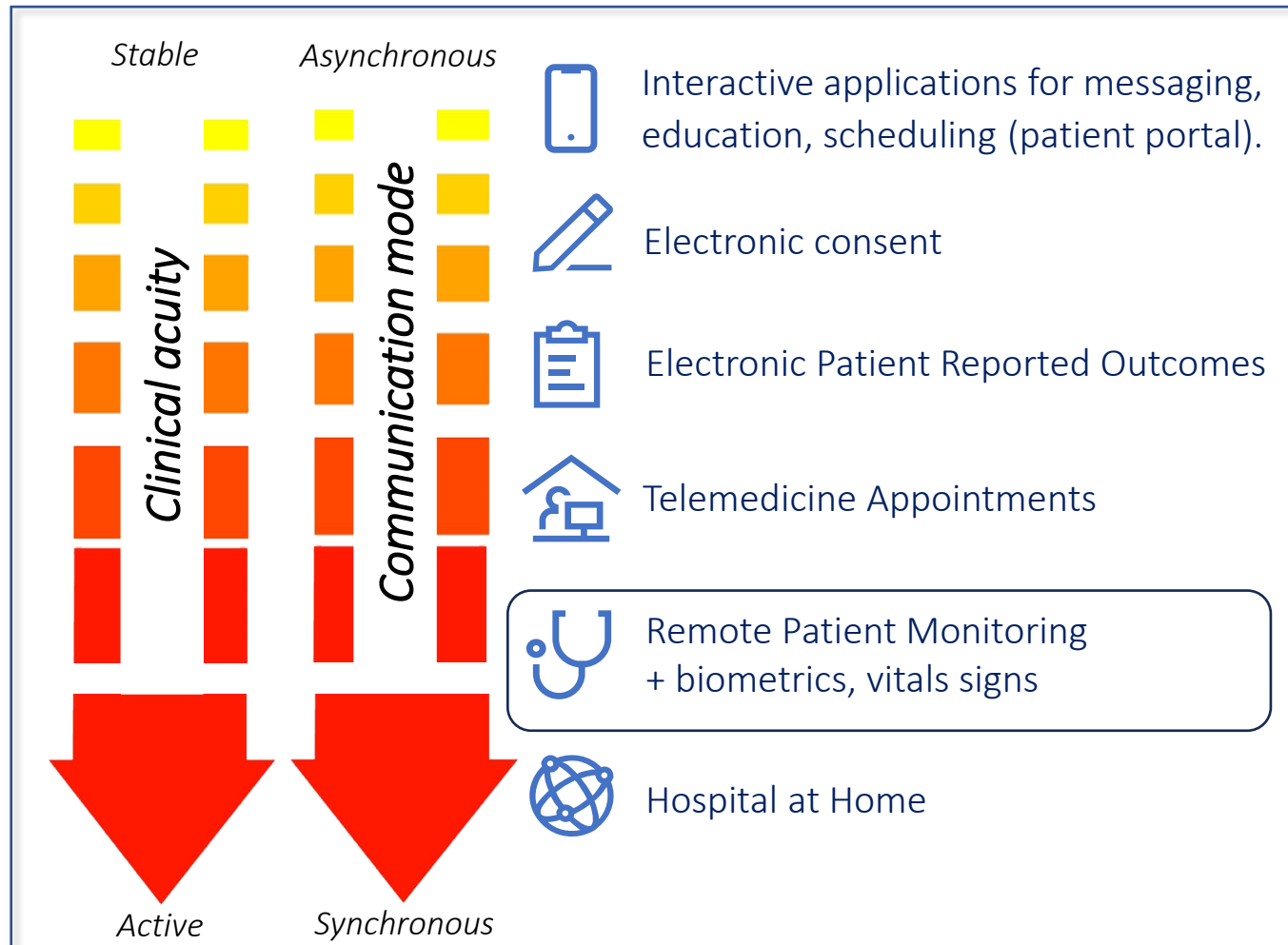
3. Freifield et al, Clin Infect Dis, 2011

4. Baugh et al, PLOS ONE, 2019

5. I2B2 Database, Mayo Clinic, 2019

6. Daniels et al, Support Cancer Care, 2019

# “RPM”: one of the many digital tools reshaping cancer care delivery...



Addition of devices to facilitate biometric data monitoring, uploaded to care teams in real-time to guide clinical decision-making in settings of higher acuity

Image: ASCO 2023 Education Book

Pritchett JC, Patt D, Thanarajasingam G, Schuster A, Snyder C.

Patient-Reported Outcomes, Digital Health, and the Quest to Improve Health Equity.

Am Soc Clin Oncol Educ Book. 2023 Jun;43:e390678. doi: 10.1200/EDBK\_390678. PMID: 37290027.

# DEFENDR Program: impact opportunities

Overall program objective:

Decrease burden of care for patients & practice

- **Anticipated benefits for patient**
  - Increased quality of life (time at home/living outside hospital)
  - Decreased hospital-associated complications (infections, falls, etc)
  - Decreased delays/interruptions in treatment
  - Decreased cost & burden of care



# DEFENDR Program: impact opportunities

Overall program objective:

Decrease burden of care for patients & practice

- **Anticipated benefits for practice**
  - Decreased inpatient census (major practice priority)
  - Improved quality metrics (hospital-associated complications, patient satisfaction, readmissions)
  - Decreased overall cost & burden of care
  - Improve current standard of cancer care delivery





# DEFENDR Program: impact opportunities

Overall program objective:

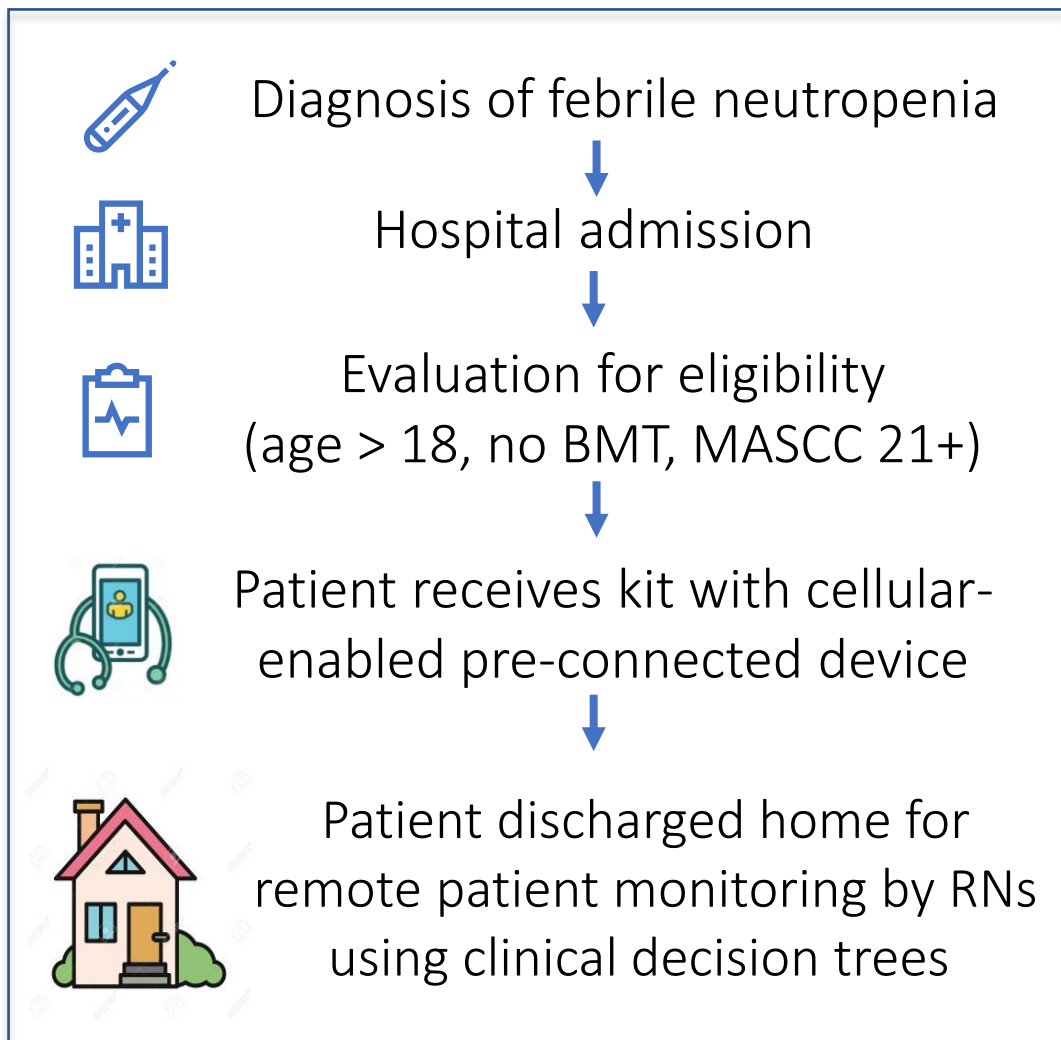
Decrease burden of care for patients & practice

- **Opportunities for care delivery advancement and innovation**
  - Risk score development
  - Early identification & intervention modelling
  - Real-world investigation of digital barriers & digital literacy

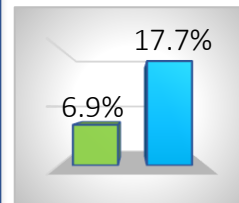


# The Mayo Clinic “DEFENDR” Program

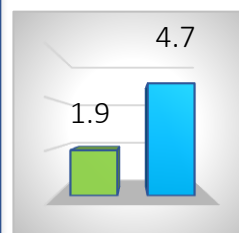
*Decreasing the burden of Febrile Neutropenia through Dynamic RPM*



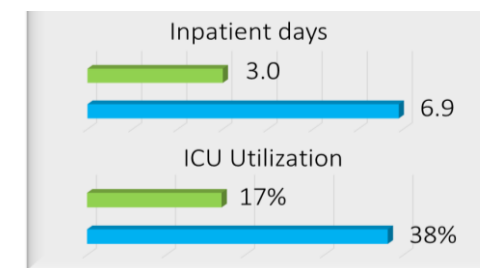
- ❖ Goal discharge within 24 hours of eligibility
- ❖ 30-day monitoring period: BID vitals, symptoms
- ❖ Pilot Implementation: patients participating in the DEFENDR program experience:



- ❖ Decreased proportion of days spent inpatient



- ❖ Decreased inpatient days overall



- ❖ When readmitted:
  - ❖ Decreased ICU
  - ❖ Decreased prolonged hospitalizations

# DEFeNDR

Decreasing the burden of  
Febrile  
Neutropenia through  
Dynamic  
RPM

ASCO Quality  
Care Symposium

October 27–28, 2023  
Boston, MA & Online

#ASCOQLTY23

**CONQUER** CANCER<sup>®</sup>  
THE ASCO FOUNDATION

**MERIT  
AWARD**

## Upcoming presentation October 28 [Abstract 572]:

- Data from first 62 patients
- Updated clinical outcomes
- Impact on practice & care utilization
- Patient satisfaction & utilization analysis

## DEFeNDR next steps:

- Expanded to AZ (pre-hospital pilot, 8/23)
- Bringing to community settings
- Randomized, controlled pragmatic trial

# DEFENDR: multidisciplinary project team

Role	Name
Physician Champion(s)	<ul style="list-style-type: none"> <li>• Joshua Pritchett, MD (Hematology/Oncology Fellow, Kern Scholar)</li> <li>• Jonas Paludo, MD (Hematology)</li> <li>• Tufia Haddad, MD (Oncology, RPM)</li> </ul>
Administrative/Operations Champion(s)	<ul style="list-style-type: none"> <li>• Steve Viker (Hematology)</li> <li>• Amy Jasik (Medical Oncology)</li> <li>• Pamela Bowman (Department of Medicine, REMODi)</li> <li>• Jessica Homan (OA Research Services)</li> </ul>
Nursing Champion(s)	<ul style="list-style-type: none"> <li>• Michelle Hedin (Nurse administrator, Medical Oncology)</li> <li>• Shelby Bielke (Nurse manager, Hematology)</li> <li>• Jeanne Voll (CNS, Hematology)</li> <li>• Dominick Pahl (RPM RN Manager)</li> <li>• Penny McCarty (Nursing Informatics)</li> </ul>
Desk Operations Champion(s)	<ul style="list-style-type: none"> <li>• Heidi Wald (RMH DOS Supervisor)</li> </ul>
APP Champion(s)	<ul style="list-style-type: none"> <li>• Allison McClanahan (APRN, Hematology HBOP)</li> <li>• Megan Spychalla (PA-C, Hematology)</li> <li>• Rachel Eiring (PA-C, Oncology)</li> <li>• Jean Stahl (APRN, Oncology)</li> <li>• Andrea Beltran (PA-C, Hospital Internal Medicine)</li> </ul>
Provider subject matter experts (SME)	<ul style="list-style-type: none"> <li>• Dr. Wilson (Infectious Diseases)</li> <li>• Dr. Yetmar (Infectious Diseases)</li> <li>• Dr. McCoy (Community Internal Medicine)</li> <li>• Dr. Ryu (Hospital Internal Medicine, Digital Health)</li> <li>• Dr. Phelan (Hospital Internal Medicine)</li> <li>• Dr. Aaron Leppin (Kern Center, Implementation scientist)</li> <li>• Lindsey Sangaralingham (Kern Center, Data Strategy)</li> </ul>
REMODi Champions	<ul style="list-style-type: none"> <li>• Jay Doughty (Senior Project Manager, Strategy)</li> <li>• Karen Reinschmidt (Principal Health Systems Engineer, Strategy)</li> <li>• Eric Cleveland (Operations Administrator, DOM)</li> </ul>
CDH RPM Champions	<ul style="list-style-type: none"> <li>• Angela Leuenberger (Principal Implementation Coordinator)</li> <li>• Sarah Phillips (Implementation Coordinator)</li> <li>• Dominic Pahl (CDH Nurse Lead)</li> <li>• Kris Pearson (CNS)</li> <li>• Sam McColley (Nursing Informatics)</li> <li>• Erin Schulenberg (RPM Operations)</li> </ul>

# QUESTIONS & ANSWERS

Joshua Pritchett, MD  
Pritchett.Joshua@Mayo.edu  
Twitter/X: @JPritchettMD

