GEMs
GOOD EVIDENCE MATTERS

GEMs of the Week

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What's in this week's issue?

Week of September 18 - 22, 2023

SPOTLIGHT: Are Prolonged Courses of IV Antibiotics for Blood and Bone Infections Based on Outdated Dogma?

Are Prolonged Courses of IV Antibiotics for Blood and Bone Infections Based on Outdated Dogma?

Oral Is the New IV. Challenging Decades of Blood and Bone Infection Dogma: A Systematic Review

Wald-Dickler N, Holtom PD, Phillips MC, et al. Oral Is the New IV. Challenging Decades of Blood and Bone Infection Dogma: A Systematic Review. *Am J Med*. 2022;135(3):369-379.e1. doi:10.1016/j.amjmed.2021.10.007

KEY TAKEAWAY: In non-vertebral osteomyelitis, bacteremia, and endocarditis, oral antibiotic step-down therapy is at least as safe and effective, and reduces hospitalization times, compared with prolonged IV only. This data strongly indicates a need for shifting clinical practice.

STUDY DESIGN: Systematic review of prospective randomized controlled trials (RTC):

- 10 RTCs for bacteremia (N=685)
- Eight RTCs for osteomyelitis (N=1,321)
- Three RTCs and one quasi-experimental study for endocarditis (N=815)

LEVEL OF EVIDENCE: STEP 1

BRIEF BACKGROUND INFORMATION: The dogma that prolonged courses of IV antibiotics are necessary for bacteremia, osteomyelitis, and endocarditis is based on low-quality literature from the 1940s. This was prior to the widespread use of more modern antibiotics with better bioavailability. Oral antibiotic step-down therapy may provide non-inferior treatment of these conditions with fewer adverse events.

PATIENTS: Patients with osteomyelitis, bacteremia, or endocarditis

INTERVENTION: Oral antibiotic step-down regimens

CONTROL: IV only antibiotic regimens

PRIMARY OUTCOME: Successful therapy (lack of clinic indicators of infection)

METHODS (BRIEF DESCRIPTION):

- Systematic review of the literature for prospective, interventional studies comparing IV-only vs oral antimicrobial therapies.
- Specific Populations:
  - Bacteremia: Adults, children, and neonates with bacteremia from a variety of sources
  - Osteomyelitis: Adult patients with non-vertebral osteomyelitis
  - Endocarditis: Adult patients with infective endocarditis of both native and prosthetic valves
- Treatment: Various antibiotic regimens were used tailored to the condition and infective organism.
- Outcomes:
  - Primary: Successful treatment was defined as the absence of clinical indicators of infection (specific indicators not listed separately)
  - Secondary: Rate of adverse events, mortality, duration of hospitalization, and relapse rates. Specific indicators varied from study to study.

INTERVENTION (# IN THE GROUP):

- Bacteremia: 403
- Osteomyelitis: 607
- Endocarditis: 637 (233 in RTC and 404 in quasi-experimental)

COMPARISON (# IN THE GROUP):

- Bacteremia: 282
- Osteomyelitis: 651
- Endocarditis: 652 (241 in RTC and 411 in quasi-experimental)

FOLLOW-UP PERIOD: Not available

RESULTS:

Primary Outcome –

- All 21 studies showed non-inferiority or superiority for successful treatment for oral vs IV:
  - Bacteremia: 81% (oral) vs 77% (IV); + 7% treatment difference (95% CI, –1% to +15% difference)
  - Osteomyelitis: 84% (oral) vs 83% (IV); + 1% treatment difference (95% CI, –3% to +5% difference)
  - Endocarditis: 78% (oral) vs 68% (IV); + 8% treatment difference (95% CI, 3%–14% difference)

LIMITATIONS:

- Different antibiotic regimens were used across studies. Therefore, there is no high-powered evidence that certain oral regimens may be inferior to IV only.
- Individual studies were of low quality. However, the group analysis offsets this to a large degree.

- The amount of IV antimicrobial therapy that was administered prior to initiation of oral therapy varied dramatically across the trials.

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Will Spironolactone Become the New Alternative Therapy for Acne Vulgaris?

Effectiveness of Spironolactone for Women with Acne Vulgaris (SAFA) in England and Wales: Pragmatic, Multicentre, Phase 3, Double-Blind, Randomised Controlled Trial

Santer M, Lawrence M, Renz S, et al. Effectiveness of spironolactone for women with acne vulgaris (SAFA) in England and Wales: pragmatic, multicentre, phase 3, double-blind, randomised controlled trial. *BMJ*. 2023;381:e074349. Published 2023 May 16. doi:10.1136/bmj-2022-074349

KEY TAKEAWAY: Spironolactone as an alternative therapy for acne vulgaris improved patients' symptom scores at 12 and 24 weeks.

STUDY DESIGN: Randomized controlled trial

LEVEL OF EVIDENCE: STEP 2

BRIEF BACKGROUND INFORMATION: Acne vulgaris is a condition that warrants frequent healthcare visits in adolescents and young women. Current treatment guidelines restrict the use and duration of therapy; therefore, the need for an effective alternative treatment is significant.

PATIENTS: Women with acne vulgaris (SAFA) in England and Wales

INTERVENTION: Oral Spironolactone 50 mg/day until week six, then 100 mg/day until week 24

CONTROL: Placebo

PRIMARY OUTCOME: Improvement in Acne-QoL symptoms subscale

Secondary Outcome: Overall improvement

METHODS (BRIEF DESCRIPTION):

- Multicenter, double-blind, randomized trial
- They included patients diagnosed with acne vulgaris for at least six months, with severity ranging from mild to moderate per investigators' global assessment.
- Randomized to either oral spironolactone 50 mg/day for six weeks or matching placebo, with dose adjustment to 100 mg/day and matching placebo intervention, and continued until week 24.
- Patients continued the use of topical agents.
- During week 24, patients were unblinded and continued with follow-ups until week 52.
- Primary outcome was measured using the Acne-QoL symptoms subscale (1–30; higher scores equal improved symptoms).
- The power of the study and the number of participants were determined based on seeking a difference of two points (on a 30-point scale) on the symptom score.

INTERVENTION (# IN THE GROUP): 176

COMPARISON (# IN THE GROUP): 166

FOLLOW-UP PERIOD: Six weeks, 12 weeks, 24 weeks, 52 weeks

RESULTS:

Primary Outcome –

- Patients in the intervention group showed improvement at weeks 12 and 24 with spironolactone.
  - At week 12, Acne-QoL symptoms subscale greater in the spironolactone group (19 vs 18; mean difference [MD] 1.3; 95% CI, 0.070–2.5).
  - Larger improvement was seen at week 24 with an Acne-QoL symptom subscale (21 vs 17; MD 3.5; 2.2–4.8).

Secondary Outcome –

- Overall improvement was reported by patient self-assessment on a six-point Likert scale by week 24 (odds ratio 2.7; 95% CI, 1.5–4.9; NNT 5).

LIMITATIONS:

- The study was completed during the COVID-19 pandemic.
- The study utilized remote follow-ups.
- There was decreased data availability by investigators.
- The study relied on self-reported results from weeks 12–24.
  - There was a reduced rate of follow-up.

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Very Low-Carbohydrate vs DASH Diets: Which Diet Improves Patient's Blood Pressure, A1c, and Weight?

Comparing Very Low-Carbohydrate vs DASH Diets for Overweight or Obese Adults with Hypertension and Prediabetes or Type 2 Diabetes: A Randomized Trial

Saslow LR, Jones LM, Sen A, et al. Comparing Very Low-Carbohydrate vs DASH Diets for Overweight or Obese Adults With Hypertension and Prediabetes or Type 2 Diabetes: A Randomized Trial. *Ann Fam Med.* 2023;21(3):256-263. doi:10.1370/afm.2968

KEY TAKEAWAY: The Very Low-Carbohydrate (VLC) diet shows more improvement in blood pressure, weight, and A1c compared to the Dietary Approaches to Stop Hypertension (DASH) diet.

STUDY DESIGN: Randomized control trial

LEVEL OF EVIDENCE: STEP 2

BRIEF BACKGROUND INFORMATION: Hypertension, prediabetes or type 2 diabetes, and obesity are very prevalent in the US; 47% of American adults have hypertension, approximately 50% have prediabetes or type 2 diabetes, and 42% are obese. There are no previous studies comparing DASH to the VLC diet to improve these medical conditions.

PATIENTS Adults with metabolic risk factors for cardiovascular disease

INTERVENTION: VLC diet

CONTROL: DASH diet

PRIMARY OUTCOME: Change in mean systolic blood pressure (SBP)

Secondary Outcome: HgA1c and body weight changes from baseline to post-intervention

METHODS (BRIEF DESCRIPTION):

- The study included patients in the US 21–70 years old with A1c >5.7, a BMI of 25–50 kg/m^2, able to engage in light physical activity, and a SBP ≥130 mmHg.
- Patients were excluded for severe renal, cardiac, or heart disease, pregnant or planning pregnancy in the next 12 months, using insulin or weight loss medication, or consuming >30 alcoholic drinks per week.
- Participants received access to a weekly, four-month online program (with 16 weekly sessions), with email-based coaching at least every two weeks, and encouragement for all participants to self-monitor their nutritional intake, weight, and SBP.
- Participants also received recommendations for physical activity and sleep hygiene beginning at six weeks.
- Intervention: Participants received education about the VLC diet (non-fiber carbohydrate not exceeding 35 g per day).
- Control: Participants received education about the DASH diet (<2.3 g salt per day, fat intake 20–30% of calories/day), per their allocation.
- Two additional groups (one group in each dietary allocation) received extra support to include information about mindful eating, emotional regulation, social support strategies, and food preparation skills.
    - This includes 23 out of the 45 people in the intervention group and 25 out of the 49 people in the comparison group who received additional support.
- All participants received an Omron 5 or 10 BP cuff to measure their BP at home.
    - This was done to prevent white-coat hypertension.
- All participants received a body weight scale (BodyTrace Inc.) as a home-based scale.
- All outcome assessors were blinded to randomization.

INTERVENTION (# IN THE GROUP): 45

COMPARISON (# IN THE GROUP): 49

FOLLOW-UP PERIOD: 16 weeks

RESULTS:

Primary Outcome –

- Mean SBP was significantly reduced in the VLC group compared to the DASH diet group (9.7 mmHg vs 5.2 mmHg, respectively; *P*=.046).

Secondary Outcome –

- HbA1c was significantly reduced in the VLC group compared to the DASH diet group (0.35 vs 0.14, respectively; *P*=.034).
- Body weight was significantly reduced in the VLC group compared to the DASH diet group (19 lbs vs 10 lbs, respectively; *P*=.0003).

LIMITATIONS:

- This study had a small sample size of only 94 participants.
- Only 24.5% of the population was non-White.

- Dietary adherence was self-reported and varied allowing for recall bias as well as confounding variables.

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Early Long-Acting Insulin Shortens Diabetic Ketoacidosis

Evaluation of Early Insulin Glargine Administration in the Treatment of Pediatric Diabetic Ketoacidosis

Welter KJ, Marquez JL, Marshik PL, Yao MV, Bickel ES. Evaluation of Early Insulin Glargine Administration in the Treatment of Pediatric Diabetic Ketoacidosis. *J Pediatr Pharmacol Ther*. 2023;28(2):149-155. doi:10.5863/1551-6776-28.2.149

KEY TAKEAWAY: Pediatric patients admitted for diabetic ketoacidosis (DKA) require less time on intravenous (IV) insulin when insulin glargine is administered within six hours of admission.

STUDY DESIGN: Retrospective cohort study

LEVEL OF EVIDENCE: STEP 3

BRIEF BACKGROUND INFORMATION: For children with T1DM, DKA is the leading cause of mortality with a rate of up to 0.3% that resulted in nearly 189,000 admissions in 2014. The standard of care for management of DKA is to first treat with IV insulin, and then administer long-acting insulin once DKA has resolved. However, there have not been many studies evaluating the efficacy of administering long-acting insulin prior to the resolution of DKA.

PATIENTS: DKA pediatric patients

INTERVENTION: Early insulin glargine administration

CONTROL: Late insulin glargine administration

PRIMARY OUTCOME: Median time on IV insulin

Secondary Outcome: Time to DKA resolution, length of hospital stay, incidence of hypoglycemia, incidence of hypokalemia

METHODS (BRIEF DESCRIPTION):

- This study was a retrospective chart review of patients admitted to the University of New Mexico Children's Hospital pediatric intensive care unit (PICU) from July 2014 to September 2020.
- Inclusion criteria:
  - Patients 2–21 years old (mean of 12 years old)
  - Admitting diagnosis of moderate or severe DKA
  - Moderate DKA was defined as pH 7.11–7.2 or serum CO_2 6–10 mmol/L.
  - Severe DKA was defined as pH <7.10, CO_2 <5 mmol/L.
- Exclusion criteria:
  - Patients who received systemic steroids during hospital admission
- Patients were divided into two groups:
  - Early administration: Those who received insulin glargine within six hours of admission
  - Late administration: Those who received insulin glargine after six hours of admission
  - These were defined as the time from admission to the first dose of insulin glargine.
- Time to resolution of DKA was defined as pH >7.30, serum bicarbonate >15mmol/L.
- Incidence of hypoglycemia was defined as blood glucose <60 mg/dL.
- Incidence of hypokalemia was defined as serum potassium <3.5 mEq/L.

INTERVENTION (# IN THE GROUP): 58

COMPARISON (# IN THE GROUP): 132

FOLLOW-UP PERIOD: Duration of hospitalization (no prolonged follow up)

RESULTS:

Primary Outcome –

- Patients who received early insulin glargine had a significantly lower median time on IV insulin compared to the patients who received late insulin glargine (17 vs 23 hours, respectively; *P*=.0006).

Secondary Outcome –

- Patients who received early insulin glargine had a significantly faster time to DKA resolution (13 vs 18 hours, respectively; *P*=.005).
- There were no significant differences in hospital stay, incidence of hypoglycemia, or incidence of hypokalemia.

LIMITATIONS:

- There was possibly a selection bias because there were almost twice as many patients in the control group compared to the intervention group.
- There was a significant difference in mean Hgb A1c between the two patient groups at the baseline.

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reflecting the views of the US Air Force Medical Department, the Air Force at large, or the Department of Defense.

Nirogacestat: A Promising Treatment for Desmoid Tumors

Nirogacestat, A γ-Secretase Inhibitor for Desmoid Tumors

Gounder M, Ratan R, Alcindor T, et al. Nirogacestat, a γ-Secretase Inhibitor for Desmoid Tumors. *N Engl J Med*. 2023;388(10):898-912. doi:10.1056/NEJMoa2210140

KEY TAKEAWAY: Nirogacestat reduces the progression and improves the quality of life in patients with progressing desmoid tumors.

STUDY DESIGN: Phase 3, international, double-blind randomized control trial

LEVEL OF EVIDENCE: STEP 2

BRIEF BACKGROUND INFORMATION: Desmoid tumors are rare connective tissue tumors. Although not metastatic with a relatively high survival rate, locally aggressive progressing tumors can cause significant morbidity and mortality. Surgical removal used to be the main treatment; however, this has fallen out of favor due to the high rate of complications and post-surgical recurrence. There are no standardized medical therapies due to the variation in disease presentation. Nirogacestat, a γ-secretase inhibitor, is a promising treatment to reduce the tumor progression rate and improve overall survival.

PATIENTS: Adults with progressing desmoid tumors

INTERVENTION: Nirogacestat treatment

CONTROL: Placebo

PRIMARY OUTCOME: Progression-free survival
Secondary Outcome: Patient-reported outcomes including pain, functional level, burden of symptoms, quality of life, tumor response rates, and medication side effects.

METHODS (BRIEF DESCRIPTION):

- Patients 18 years old and older were selected from 37 sites across the U.S. Canada, and Europe. Participants were required to have a progressing tumor at baseline, defined as greater than 20% progression based on the Response Evaluation Criteria in Solid Tumors (RECIST) version 1.1. Criteria had to be met 12 months prior to screening.
- Eligible patients were either treatment-naïve for tumors that were not suitable for surgery or had recurrent or refractory tumors after at least one line of therapy (surgery, radiation, chemotherapy, or other molecular therapy).
- Most patients were White and non-Hispanic/Latino. Patients were closely matched based on age, gender, location, number of tumors, previous treatments, family history of Familial Adenomatous Polyposis (FAP), and presence of somatic mutations. Age and sex demographics were similar between the two groups.
- Patients were randomly assigned to receive Nirogacestat 150 mg PO twice daily or placebo tablets twice daily in 28-day cycles for a total of 24 cycles. Progression-free survival was defined as the time from the start of treatment until the date of imaging-based or clinical-based progression or death compared to baseline.
- MRI or CT scans were obtained at treatment onset, at cycle four, and at every third cycle thereafter. Clinical-based progression was defined as the onset or worsening of symptoms leading to deterioration of health status.
- Secondary outcomes were assessed starting at cycle 10 and used patient-reported questionnaires assessing overall health, pain, quality of life, physical and role functioning. Complete or partial tumor response rate was based on the RECIST version 1.1 criteria.
- Nirogacestat or placebo was discontinued if one of the following occurred: death, trial completion, image-based or clinical-based progression, intolerable adverse event, nonadherence to the trial protocol, patient, or investigator request for discontinuation.
- For some persistent but tolerable adverse events (diarrhea, nausea, vomiting, hypophosphatemia, rash), the Nirogacestat dose was reduced to 100 mg PO twice daily.

INTERVENTION (# IN THE GROUP): 70

COMPARISON (# IN THE GROUP): 72

FOLLOW-UP PERIOD: 2 years

RESULTS:

Primary Outcome –

- The intervention group had a 71% lower risk of disease progression or death compared to the

control group (HR 0.29; 95% CI, 0.15–0.55) however, the median progression-free survival time could not be calculated for the intervention group due to the lower number of adverse events compared to the control (12 vs 37).

- The probability of being progression-free after one year was 85% (95% CI, 73–92) for the intervention group and 53% (95% CI, 40–64) for the control group.
- The probability of being progression-free after two years was 76% (95% CI, 61–87) for the intervention group and 44% (95% CI, 32–56) for the control group.

Secondary Outcome –

- Tumor response rates based on the RECIST criteria were higher in the intervention group compared to the control (41% vs 8%, *P*<.001).
- Patients in the intervention group reported improvements in pain, symptom severity, quality of life, and functional levels when compared to the control group.
- Nirogacestat adverse events included diarrhea, nausea, fatigue, hypophosphatemia, rash, and ovarian dysfunction. These events were considered low-grade.
- 14 patients in the intervention group and one patient in the control group stopped participating due to adverse events.

LIMITATIONS:

- The study had a small sample size.

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The opinions and assertions contained herein are those of the authors and are not to be construed as official or as reflecting the views of the U.S. Navy Medical Department, the Navy at large, or the Department of Defense.

Using Polygenic Risk Factors to Help With the Prediction of Coronary Heart Disease

Predictive Utility of a Validated Polygenic Risk Score for Long-Term Risk of Coronary Heart Disease in Young and Middle-Aged Adults

Khan SS, Page C, Wojdyla DM, Schwartz YY, Greenland P, Pencina MJ. Predictive Utility of a Validated Polygenic Risk Score for Long-Term Risk of Coronary Heart Disease in Young and Middle-Aged Adults. *Circulation*, 2022;146(8):587-596
doi:10.1161/CIRCULATIONAHA.121.058426

KEY TAKEAWAY: Polygenic risk scores have little efficacy for long-term coronary heart disease (CHD) prediction when used with a traditional risk factor model.

STUDY DESIGN: Prospective cohort study

LEVEL OF EVIDENCE: STEP 4 (downgraded due to limited generalizability)

BRIEF BACKGROUND INFORMATION: CHD is caused by plaque build-up leading to blockage of coronary arteries. Smoking, hypertension, elevated cholesterol, diabetes, and family history are known risk factors, but genetics may also play a role in CHD risk. The authors sought to understand the accuracy of polygenic risk scores (PRS) in predicting long-term CHD risk**.**

PATIENTS: Adults without CHD

INTERVENTION: Polygenic risk score

CONTROL: Standard risk factors

PRIMARY OUTCOME: Accuracy for predicting incident CHD

METHODS (BRIEF DESCRIPTION):

- Data from 9,757 adults 20–59 years old who were free from CHD from the Framingham Offspring Study (FOS) and the Atherosclerosis Risk in Communities (ARIC) were analyzed.
- Individuals who self-reported as White were included.
- The sample was stratified by age and cohort:
  - Young: FOS, 20–39 years median 30 years
  - Early midlife: FOS, 40-59 years, median 43 years
  - Late midlife: ARIC, 45-59 years, median 52 years
  - Most had few CHD risk factors
- Two prediction tools, a 30-year traditional risk factor score, and a genome-wide PRS, were applied to each cohort to determine predictive ability.
- Hazard ratios were calculated for the association between each risk estimate and incident CHD.
- Predicted and observed rates of CHD were compared to assess discrimination for each model individually and together with the optimism-corrected C-index.

INTERVENTION (# IN THE GROUP): Not Available

COMPARISON (# IN THE GROUP): Not Available

FOLLOW-UP PERIOD: 35 years

RESULTS:

Primary Outcome –

- Both risk scores were significantly associated with incident CHD.
  - Traditional risk score:
    - Young: hazard ratio (HR) 2.6 (95% CI, 2.1–3.3)
    - Early midlife: HR 2.1 (95% CI, 1.8–2.4)
    - Late Midlife: HR 2.1 (95% CI, 2.0–2.3)
  - PRS:
    - Young: HR 2.0 (95% CI, 1.7–2.3)
    - Early midlife: HR 1.6 (95% CI, 1.5–1.8)
    - Late midlife: HR 1.2 (95% CI, 1.2–1.3)
- Discrimination was similar or better for the traditional risk factor score compared to an age and sex-adjusted PRS.
  - Traditional risk score:
    - Young: C index 0.74 (95% CI, 0.70–0.78)
    - Early midlife: C index 0.70 (95% CI, 0.67–0.72)
    - Late midlife: C index 0.72 (95% CI, 0.70–0.73)
  - PRS:
    - Young: C index 0.73 (95% CI, 0.69–0.78)
    - Early midlife: C index 0.66 (95% CI, 0.62–0.69)
    - Late midlife: C index 0.66 (95% CI, 0.64–0.67)
- There was no significant ΔC index when PRS was added to the traditional risk factor score.
  - Young: 0.03 (95% CI, 0.001–0.05)
  - Early midlife: 0.02 (95% CI, −0.002 to 0.037)
  - Late Midlife: 0.002 (95% CI, −0.002 to 0.006)

LIMITATIONS:

- The study did not assess the impact of lifestyle factors on the development of CHD.
- The study was based on data from mainly European ancestry.
- PRS did not predict CHD in a small cohort of participants identifying as Black in the ARIC study.

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Priority Discharge? Haste Makes Waste (-ed Effort)

Discharge in the A.M.: A Randomized Controlled Trial of Physician Rounding Styles to Improve Hospital Throughput and Length of Stay

Burden M, Keniston A, Gundareddy VP, et al. Discharge in the a.m.: A randomized controlled trial of physician rounding styles to improve hospital throughput and length of stay. *J Hosp Med.* 2023;18(4):302-315. doi:10.1002/jhm.13060

KEY TAKEAWAY: Prioritizing early rounding does not lead to clinically significant early discharge, nor does it reduce the length of stay.

STUDY DESIGN: Multi-site randomized control trial (RCT)

LEVEL OF EVIDENCE: STEP 2

BRIEF BACKGROUND INFORMATION: In times of high demand for hospital beds, many health systems encourage prioritizing discharge early in the day for patients who are eligible as a tactic to increase hospital throughput. However, there are no prior controlled studies to assess the impact of this approach.

PATIENTS: Internal medicine attending physicians rounding on hospitalized patients

INTERVENTION: Priority discharge (early rounding)

CONTROL: Usual rounding practice style

PRIMARY OUTCOME: Time of discharge order placement

Secondary Outcome: Time of actual discharge, length of stay (LOS)

METHODS (BRIEF DESCRIPTION):

- Study conducted across three unaffiliated hospitals from February 9–July 30, 2021:
  - Quaternary care center, 678 beds, approximately 12,000 discharges annually
  - Safety net hospital, 550 beds, approximately 10,500 discharges annually
  - Academic medical center, 420 beds, approximately 11,000 discharges annually
- Groups were assigned based on a single randomization schedule for all three sites, organized in random permuted blocks of four physicians and equally allocated across both groups.
- Inclusion: Internal medicine practitioners with 75% or higher clinical time to ensure adequate number of discharges and patient encounters. Patients included were at least 18 years old, admitted to a medicine service, and assigned to a hospitalist team.
- Physicians in the intervention group were encouraged to enter the discharge order as soon as possible, based on clinical judgment, and were compared to an active control group who rounded in their usual practice style.
- Patient data was collected as a part of standard clinical care and was extracted retrospectively following patient discharge from the hospital.

INTERVENTION (# IN THE GROUP): 30 physicians; 864 patients discharged

COMPARISON (# IN THE GROUP): 29 physicians; 982 patients discharged

FOLLOW-UP PERIOD: Physicians participated from February 9–July 30, 2021. Each individual patient was followed from hospital admission to discharge.

RESULTS:

Primary Outcome –

- No difference in discharge order time (13:03 ± 2 h:31 min vs. 13:11 ± 2 h:33 min, *P*=.11)

Secondary Outcome –

- No difference in actual discharge time (15:22 ± 2 h:50 min vs. 15:21 ± 2 h:50 min, *P*=.45)
- No difference in LOS (75 h [IQR: 45, 141] vs. 78 h [46, 144], *P*=.42)

LIMITATIONS:

- A small number of physicians were randomized.
- Crossover was fairly common; some physicians in the intervention arm were already inclined to prioritize their discharges, and those in the control arm showed higher rates of discharge prioritization after enrolling in the study.
- Behavior change can be difficult to adopt and sustain.
- Timing of discharge is a complex variable likely influenced by many factors which may change over time, and it is possible that any effect of this intervention could be outweighed by other factors.

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