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How Perioperative Clinics at Duke University Can be Utilized to Narrow the Gap of Health Disparities in African American Populations: A Narrative Review

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Racial Disparities in Medical Care

- An issue often explored in today's social climate is racial inequalities in our healthcare system and the strong negative outcomes it has on minority patient populations.
- This is a result of a combination of social factors not limited to, healthcare resources available to these patients, implicit bias by providers, discrimination of patient population, and a system of healthcare perpetuating continued injustices.
- Research has shown the operating room is no exception, but recent advances in perioperative medicine may be a key to eliminating barriers to equitable healthcare for patients of color.

Impacts in Perioperative Care

- African American have an increased hospital length of stay, post-operative complications, infections, need for transfusion, and mortality within 30 days of surgery.
- Healthy African American children are 3.43 times more likely to die within 30 days of surgery as compared to white children.

Health Disparities/Financial Burdens

- Malnutrition:** is a common disparity that plagues underprivileged and underserved communities driven by food insecurity. Nationwide, African Americans are more likely than whites to suffer from food insecurity and food deserts. Patients malnourished prior to surgery experience post-operative complications and mortality rate within 30 days of surgery.
- Anemia:** African Americans are 3.3-fold more likely to be anemic than white patients (8). Patients with preoperative anemia are at a significant risk for postoperative transfusions, renal failure, and infectious complications.
- Average cost of an elective surgery cancellation in the United States is \$5,000-\$8,000 in losses.

Development of Perioperative Clinics

- The Pre-Anesthesia Surgical Screening (PASS) clinics at Duke University have developed a system of optimizing patients for surgery in the perioperative setting by using risk stratification and creating individualized patient care plans to treat underlying comorbidities shortly after a patient is scheduled for surgery.
- The PASS clinics are operated by a POET, Preoperative Enhancement Team, a multidisciplinary team that receives referrals from surgeons as soon as they declare a patient for elective surgery. The patients are brought into the preoperative clinic as soon as possible to optimize them for anesthesia and surgery.
- To assess for Malnutrition, patients are assessed at the time surgery is declared with a PONS score. If the answer to any of these questions below is yes, or if their lab values come back low, then they are flagged and referred to the POET team and PASS nutrition clinic where they work with a registered dietician. Assessing for anemia is performed at the same time with a hemoglobin level. Abnormally low hemoglobin levels are referred to PASS anemia clinics.

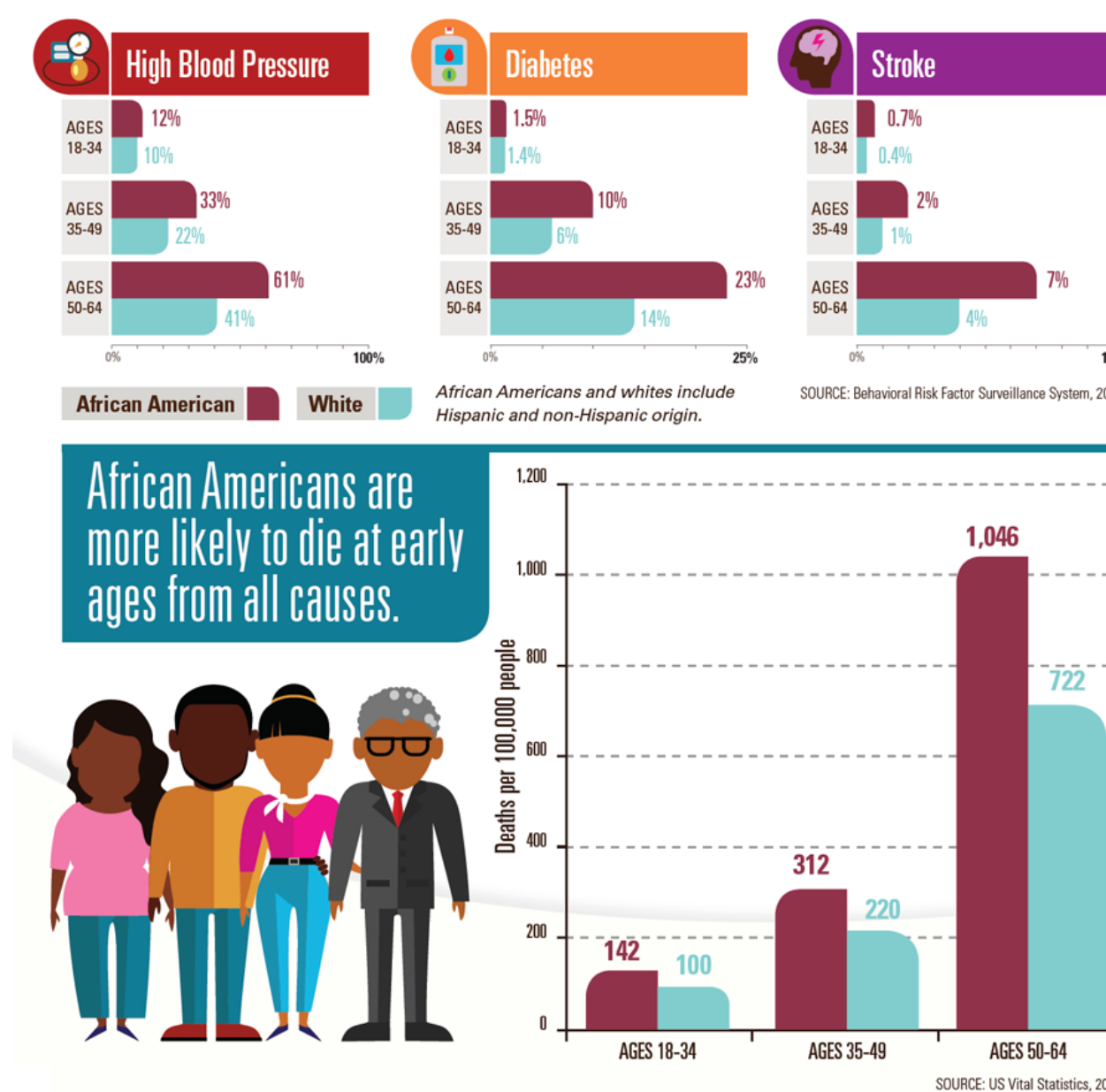


Figure 2. Health Disparities amongst African American Patients versus white Patients, Source: CDC

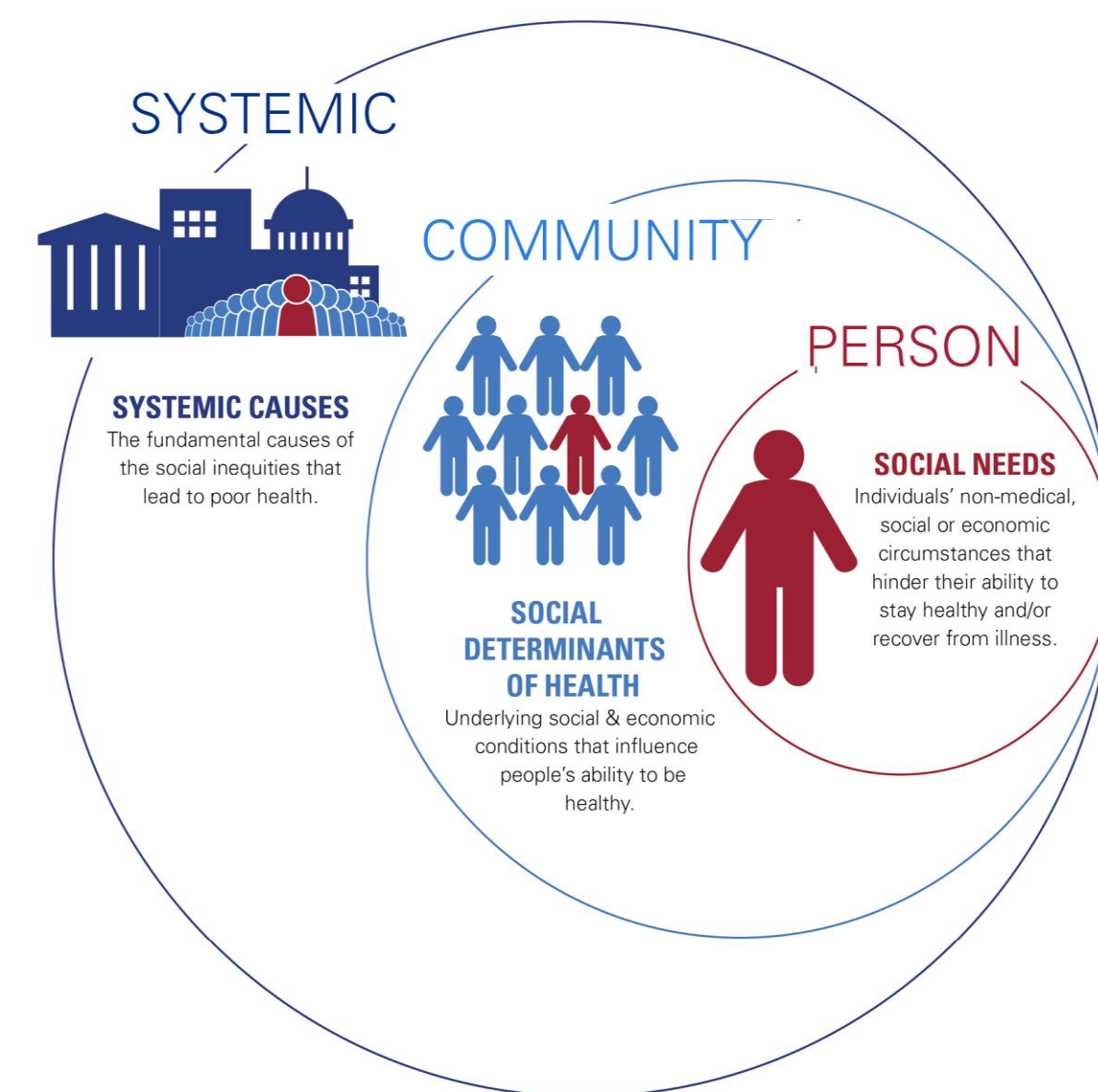


Figure 1. Societal Factors That Influence Health: A Framework for Hospitals
Source: American Hospital Association

Preoperative Nutrition Screen Score (PONS) Assessment

- Is your BMI less than 18.5, or less than 20 for a patient aged 65 or older?
- Have you lost more than 10% of your weight in last 6 months?
- Have you eaten less than 50% of your typical intake in last week?

In addition, 2 Lab Values are obtained:

-Albumin, less than 3g/dL is flagged for abnormal

-Vitamin D, less than 20mg/mL is flagged for abnormal

Table 1. PONS assessment collected after patient is declared for surgery to assess for risk of malnutrition

Future Directions

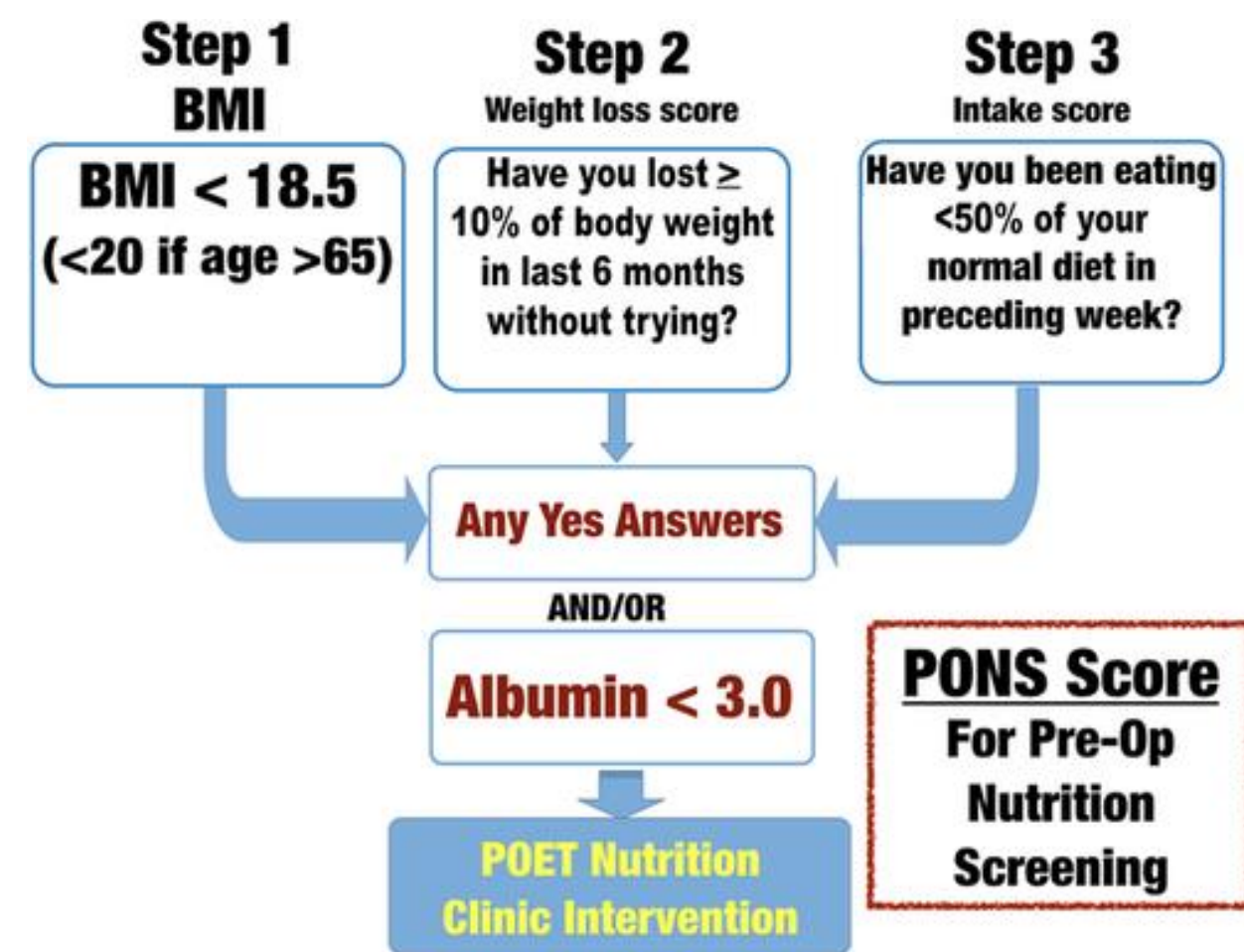
- Because minority populations are more at-risk, future research should retrospectively examine whether the PASS model helps narrow the gap of racial health disparities and provide equitable healthcare.
- Quantitative analysis of outcomes from perioperative clinics could objectively compare African American vs non-African American patient populations in terms of postoperative complications, hospital LOS, need for transfusions, mortality, etc.
- Future projects could also add additional questions to the nutrition status questionnaire developed by Duke to help identify specific food insecurity in at-risk patients.
- More awareness is needed to the development and success of perioperative clinics.

Conclusions

- Racial discrimination against African American patients is one of the major causes of health disparities (10). Using risk stratification, like the methods of PASS clinic has become a positive step towards using objective data to make clinical decisions and avoid the limitations of physician bias.
- The early management of underlying comorbidities in the perioperative setting would provide better surgical outcomes for African American Patients.
- The need for postoperative transfusions decreased 5-fold after the implementation of perioperative anemia clinics.

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HAVING SURGERY? GOOD NUTRITION MAKES A DIFFERENCE

WHAT CAN GOOD NUTRITION DO FOR YOU?
Good nutrition before and after surgery can help you heal faster, fight infection and get home sooner.
Below are some topics you might want to discuss with your doctor.

TELL YOUR DOCTOR IF

- You've recently lost or gained weight
- You've lost your appetite or are having trouble eating

QUESTIONS TO ASK YOUR DOCTOR BEFORE SURGERY

- Should I consult with a dietician?
- Will my current weight impact the outcome of my surgery?
- How can nutrition help me prepare for and heal from my surgery?
- What role should exercise play as I prepare for and recover from surgery?

Good nutrition can help prevent some of these common complications:

- 3 DAYS OF BED REST** following surgery can result in
- 10% LOSS OF LEG MUSCLE** in older adults
- BEING MALNOURISHED** before surgery results in **3X HIGHER RISK** of complications*

NUTRITION INTERVENTION CAN

- Reduce infection by 40%¹
- Decrease length of hospital stay by 2 days²

ONLY 1 IN 5 malnourished patients receives nutrition supplementation before surgery!

1 OUT OF 3 patients is at high risk for being malnourished!

2 OUT OF 3 patients having gut surgery are malnourished!

NO PATIENT SHOULD UNDERGO SURGERY WITHOUT NUTRITION SCREENING
BE SURE TO ASK TO SPEAK WITH THE DUKE POET PRE-OPERATIVE NUTRITION CLINIC RD PRIOR TO SURGERY