Integrating Social Determinants of Health into Pathophysiology and Pharmacology Courses

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### BACKGROUND

- In health professions curricula, SDoH often are introduced and explained conceptually as a separate topic, recognizing SDoH as contributors to the development and outcomes of various diseases (Grant, 2022; Havranek, 2015) and as influential in the outcomes of pharmacologic therapy (Wilder, 2021).
- SDoH traditionally are not integrated into specific topics in pathophysiology and pharmacology courses, creating a gap between the concept and realworld application.

### **OBJECTIVES and METHODS**

- Integrate topic-specific SDoH content into at least 60% of the topics in the author's undergraduate pathophysiology and pharmacology courses. Focused literature searches, revision of course materials.
- 2. Assist other faculty to integrate topic-specific SDoH specifically into their courses. Made collections of pathophysiology and pharmacologyspecific SDoH resources available to faculty in the 17 Oregon Consortium for Nursing Education (OCNE) schools.

### RESULTS

- Topic-specific apects of SDoH now are in 86% of pathophysiology topics and 70% of pharmacology topics in the author's courses.
- Over 145 topic-specific SDoH journal articles are available to OCNE faculty.

# Bridge the gap between concept and its practical clinical application with **Topic-Specific Social** Determinants of Health.

### **Education Access and Quality**

Any Topic SDoH aspect: Verbal or written patient teaching may not match a person's language, level of literacy, and level of health literacy.

### Insulin

SDoH aspect: Poor numeracy skills interfere with insulin dosage calculation or use of a sliding scale.

### **Economic Stability**

### Hypertension

SDoH aspect: Being in debt is associated with sustained hypertension in African American women.

### Antidiabetics

SDoH aspect: Economic instability can lead to insulin rationing, food-insecurity related hypoglycemia, and underground sharing of insulin and equipment.

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### Social and Community Context

### **Depression, Schizophrenia, Other Psychiatric Diagnoses** SDoH aspect: Stigma by association often affects family members living with people diagnosed with mental illness.

### Antidiabetics

SDoH aspect: A person who has diabetes and observes Ramadan has high risk of episodes of hyperglycemia and hypoglycemia, unless IDF-DAR Diabetes and Ramadan Practical Guidelines are used to adjust the timing of antidiabetics during Ramadan and guide patient teaching.

### **Examples of Topic-Specific Aspects of Social Determinants of Health** from the Author's Pathophysiology and Clinical Pharmacology Courses

Words: Linda Felver, Ph.D., R.N.; Graphic Design: Jenna Geracitano, M.S. Circular graphic source: Healthy People 2030, U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Retrieved 1/13/2023, from https://health.gov/healthypeople/objectives-and-data/social-determinants-health

### Healthcare Access and Quality

### Any Disease Prevention, Screening, or Treatment

SDoH aspect: Hourly workers who cannot afford to miss work often lack access to health care; increased distance to pharmacy ("pharmacy deserts") decreases immunization rates.

### Any Medication

SDoH aspect: Lack of insurance causes people not to fill their prescriptions; large co-pays cause them to refuse their prescriptions at the pharmacy when they learn the price.

### **Neighborhood and Built** Environment

### **CV** Disease

SDoH aspect: Adherence to lifestyle interventions is difficult without access to a safe place to exercise, easy access to grocery store ("food deserts"), and available refrigeration for fresh fruits and vegetables; convenience store foods have high sodium content.

**Medications that Need Scheduled** Laboratory Monitoring (warfarin, lithium, others) SDoH aspect: Lack of transportation or childcare prevents travel to laboratory appointments.

• Grant, T. (2022). Asthma and the social determinants of health, Ann Allergy Asthma Immunol, 128(1): 5. • Havranek, E. (2015). Social determinants of risk and outcomes for cardiovascular disease: a scientific statement from the American Heart Association, Circulation, 132:873; Wilder, M. (2021). The impact of social determinants of health on medication adherence: a systematic review and meta-analysis, J Gen Intern Med, 36:1359. • World Health Organization. (2022). Social determinants of health, <u>https://www.who.int/health-topics/social-</u> determinants-of-health#tab=tab\_1

# WHAT ARE SOCIAL DETERMINANTS **OF HEALTH (SDoH)?**

SDoH are "conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life" (WHO, 2022).

### **EXAMPLES OF TOPIC-SPECIFIC SDOH**

- Hypertension: Perceived
- discrimination is shown to incease blood pressure.
- **Diuretics:** People without access to safe, accessible toileting facilities may not take their prescribed diuretics.
- See the graphic for more examples.

## **DISCUSSION** and **IMPACT**

- Student response and application have been positive.
- Faculty have expressed appreciation.
- Next, need to make these resources
  - available beyond OCNE faculty.
- Improves health sciences education by
- viewing topics through an inclusive
- lens that facilitates effective care for
- all, including people with limited
- resources and those who do not live in
- safe supportive environments.

## **ASK YOURSELF:** How do SDoH interface specifically with topics that I teach or study?

### REFERENCES

