

# Just a diaper rash? A population health/ social determinants of health case study

---



## Case Study Authors

- Sallie Porter DNP PhD APN Rutgers School of Nursing
- Rubab Qureshi MD PhD Rutgers School of Nursing
- Peijia Zha PhD Rutgers School of Nursing.
- Latoya Rawlins DNP RN-BC CNE Rutgers School of Nursing
- Kimberly Seaman MSN RN-BC CNE Rutgers School of Nursing
- Michele Livich Roberts MSN RN CNE Rutgers School of Nursing
- Cheryl Holly EdD RN ANEF Rutgers School of Nursing

## Editor

- Virginia Allread MPH Rutgers School of Nursing

## Interprofessional Contributors

- Patricia Findley DrPH MSW Rutgers School of Social Work
- Joanne Samuel Goldblum LCSW CEO National Diaper Bank Network
- Grace Ibitamuno MD/PhD Candidate Rutgers Robert Wood Johnson Medical School & Rutgers School of Public Health.
- Manuel Jimenez MD MS FAAP Rutgers Robert Wood Johnson Medical School
- Tameika Minor PhD CRC Rutgers School of Health Professions

## Custom Graphics

- Ariel Saulog Rutgers New Media

*Development of this case study was partially supported by an American Association of Colleges of Nursing Population Health/Social Determinants of Health Case Study award made possible through funding from the Centers for Disease Control and Prevention's Academic Partnerships to Improve Health.*

## Greetings!

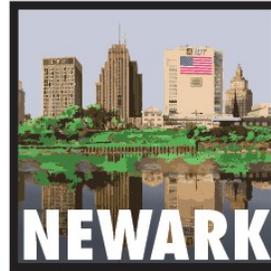
---

*Just a Diaper Rash* is focused on population health and social determinants of health concepts as they regularly present in the primary care setting, at home, and in the community. This case study is designed to assist learners in identifying social determinants of health that affect the health of their individuals and communities, involving community-based and other social services in the care of individuals, and understanding how the decisions and engagement of nurses can influence the health of individuals and populations. There truly is no health or social condition that the involvement of a nurse cannot improve, especially when nurses collaborate with other professionals and prioritize the wishes of community members and key audiences. Nurses who understand the context of their patient's and practice population's lives are well suited to lead and collaborate, create and innovate, implement, and evaluate population health initiatives in their practice population and community as well as the policy arena both locally and nationally.

Thank you to the esteemed children and families who have shared their experiences and priorities with the case study project team over the years. Thank you to the many people at Rutgers and beyond who supported this effort. Thank you learners for literally being the future of nursing.

# Just a diaper rash? A population health/ social determinants of health case study

---



**Learning Aim and Objectives** .....

**Introduction - Population Health** .....

**Introduction - Social Determinants of Health** .....

**Population Health and Social Determinants of Health Glossary** .....

**Case Study Sections** .....

- Part 1 Meet the Hall Family.....
- Part 2 When it is More than Just a Diaper Rash.....
- Part 3 Home Safe Home.....
- Part 4 The Hunger Game.....
- Part 5 Work, Work, Work.....
- Part 6 Babies Like Books.....
- Part 7 No Words and a Worried Mother.....
- Part 8 At Home and in the Community.....
- Part 9 The Nurse in the Mirror.....

**Supplemental Documents**

- Autism Spectrum Disorder Diagnosis and Treatment .....
- Diaper Need Worksheet .....
- Health Literacy Tips for Nurses .....
- Dear Nursing Student: Letter from the National Diaper Bank Network .....
- Low Literacy 'Red Light' Developmental Monitoring .....
- Rehabilitation Counselors: Hidden Gems in Interprofessional Care .....
- Social Determinants of Health Nursing Clinical Practice Process.....
- Social Determinants of Health (SDoH) 'Screening' Tools .....

- Ten Social Work Practice Facts .....
- What is Diaper Rash? .....

## Learning Aim

---

Learner will understand the concepts of population health and social determinants of health as the foundation to ascertaining community concerns, assessing patient and community needs, addressing social determinants of health through nursing intervention, and advocating for individuals and communities to improve health outcomes.

## Learning Objectives

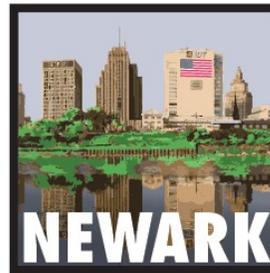
---

1. Describe the concept of population health
2. Summarize the concept of social determinants of health
3. Cite social determinants of health and the key influencing factors per Healthy People 2020\*
4. Articulate how social determinants of health may precede and exacerbate health conditions
5. Demonstrate how population data informs clinical practice
6. Relate how social determinants of health are connected
7. Explain how social determinants of health may have a greater impact on certain key populations than on the general population
8. Illustrate upstream and downstream approaches to population health within a social determinants of health framework
9. Devise strategies to identify and address priorities of key populations
10. Analyze how governmental and institutional policies affect individual's health and well being
11. Reflect on the nurse's role in population health

\*Do note that Healthy People 2030 <https://health.gov/healthypeople/objectives-and-data/social-determinants-health> is now available

## Introduction: Population Health

---



At its core, population health is about achieving the best possible **health outcomes** for a group of individuals, a community, or a nation. Nash et al (2021) defined population health as the:

- Distribution of health outcomes within a population,
- The determinants that influence distribution, and
- The policies and interventions that affect the determinants.

### Health outcomes

In population health, the term “health outcomes” often refers to length and quality of life. Conversely, poor health outcomes would refer to someone (or a population) dying at an earlier age or living with disease or illness.

Kindig and Stoddart (2003) defined population health as “the health outcomes of a group of individuals, including the distribution of such outcomes within the group.”

Per Storfjell (2017) “population health is broadly used to describe collaborative activities for the improvement of a population’s health status. The purpose of these collaborative activities, including interventions and policies, is to reduce inequities that influence the social determinants of health. Accountability is shared, since outcomes arise from multiple upstream factors that influence the health of a group or community. Population health requires system thinking. It means doing business differently, including clinical and community prevention and working across disciplines and sectors. Population management and population focused care are pathways to achieve population health.”

### What is a population?

A particular ‘population’ may be determined using different denominators such as ethnicity, medical diagnosis (e.g., people who are diabetics, people with HIV), employment conditions (e.g., people who work in mines, people who are truck drivers), locale (e.g., all New Yorkers, all people in Japan), or service provider (e.g., all individuals using a particular clinic or hospital, all high school students). Individuals may fit into more than one population group. The population of focus could also be defined by age, health insurance source such as Medicare, service needs, or social condition.

Any population health approach that aims to positively affect health outcomes would engage residents, consumers, employees, advocates, and family members as well as academia, philanthropic foundations, health care providers and institutions, industry, public health, and local government entities along with other stakeholders to determine and formulate actions (Centers for Disease Control and Prevention).

## Who drives population health decisions?

Population health tends to focus on health outcomes of care, so who best defines these outcomes is important. Population health includes the input of a wide range of disciplines, from nurses and physicians, to therapists, engineers, farmers, and policy specialists. As important, population health seeks out the point of view, perspective, and priorities of those whose health is most directly affected and being measured. This interdisciplinary, collaborative approach is customizable using innovative partnerships among different segments of the community or population of focus (also referred to as population of interest).

## Upstream, midstream, and downstream approaches

Population health interventions focus on upstream and midstream approaches to prevention and a targeted downstream approach to improve access to evidence-informed interventions (Salmond & Allread, 2019).

- **Upstream** approaches involve enacting policies that can affect large populations through regulation (e.g. tobacco or fast food industries), increased access (such as through universal health care, prenatal care, health insurance, or on-demand treatment), or economic incentives (e.g. payments to hospitals that reduce readmission rates).
- **Midstream** interventions occur within organizations (e.g. providing employees access to gym membership or 24/7 access to healthy food options) or populations (e.g., supporting healthy eating or exercise through education and/or policy).
- **Downstream** interventions involve individual-level behavioral modification approaches for prevention or disease management (e.g. low salt diet for those with hypertension or smoking cessation support) (Brownson, Seiler & Eyer, 2010).

## Nurses and population health

Nursing is the protection, promotion, and optimization of health and abilities, prevention of illness and injury, facilitation of healing, alleviation of suffering through the diagnosis and treatment of human response, and advocacy in the care of individuals, families, groups, communities, and populations (American Nurses Association, 2015). As highly trusted professionals, nurses who understand the context of their patient's and practice population's lives and how that context affects health outcomes, are well-suited to collaborate and lead, create and devise, implement, and evaluate population health initiatives in their practice population, community, and also statewide and nationally.

## Discussion

Identify a population of interest to you:

- How would you define population health within the context of this population using one denominator of population health? ("Denominator" is defined above.)
- How large is the population you defined?
- Describe the factors that may influence health outcomes in the selected population.

## References/Resources

1. Aetna. (2020). The secrets of Japan's high life expectancy. <https://www.aetnainternational.com/en/about-us/explore/living-abroad/culture-lifestyle/the-real-secrets-behind-japans-high-life-expectancy.html>
2. American Nurses Association. (2015). *Nursing: Scope and Standards of Practice, 3rd Ed*
3. Brownson, R. C., Seiler, R., & Eyster, A. A. (2010). Peer Reviewed: Measuring the Impact of Public Health Polycys. *Preventing Chronic Disease*, 7(4).
4. Centers for Disease Control and Prevention. What is population health?  
<https://www.cdc.gov/pophealthtraining/whatis.html>
5. Kindig D. & Stoddart G. (2003). What is population health?. *Am J Public Health*. 2003;93(3):380-383. doi:10.2105/ajph.93.3.380
6. Nash, D., Skoufalos, A., Fabius, R., & Oglesby, W. (2021). *Population Health: Creating a Culture of Wellness. Third Edition*. Burlington, MA: Jones & Bartlett Learning
7. Population health in Nursing and the response to COVID-19  
<https://campaignforaction.org/population-health-in-nursing-and-the-response-to-covid-19/>
8. Reliefweb. (2011). A state of silent crisis.  
<https://reliefweb.int/report/central-african-republic/state-silent-crisis#:~:text=The%20Central%20African%20Republic%20has,and%20a%20poor%20health%20system.>
9. Salmond, S. & Allread, V. (2019). A population health approach to America's opioid epidemic. *Orthopedic Nursing*. March/April 2019 38 2 95-108.
10. Storfjell, J., Winslow, E., and Saunders, J. (2017). Catalysts for change: Harnessing the power of nurses to build population health in the 21<sup>st</sup> century. Robert Wood Johnson Foundation. <https://campaignforaction.org/resource/catalysts-change-harnessing-power-nurses-build-population-health-21st-century/>

## Acknowledgement

Thank you to Leah Pandian for providing valuable feedback on this section.

# Introduction: Social Determinants of Health

Per Healthy People 2020 Social Determinants of Health are conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks. Healthy People 2020 identifies five key areas (social determinants) along with factors that influence each of the key areas/social determinants.



## Social determinants of health and key influencing factors

Key Areas/Social Determinants of Health	Influencing Factors
Economic Stability	<ul style="list-style-type: none"> <li>• Employment</li> <li>• Food insecurity</li> <li>• Housing instability</li> <li>• Poverty</li> </ul>
Education	<ul style="list-style-type: none"> <li>• Early childhood education and development</li> <li>• Enrollment in higher education</li> <li>• High school graduation</li> <li>• Language and literacy</li> </ul>
Health and Health Care	<ul style="list-style-type: none"> <li>• Access to health care</li> <li>• Access to primary care</li> <li>• Health literacy</li> </ul>
Neighborhood and Built Environment	<ul style="list-style-type: none"> <li>• Access to foods that support healthy eating patterns</li> <li>• Crime and violence</li> <li>• Environmental conditions</li> <li>• Quality of housing</li> </ul>
Social and Community Context	<ul style="list-style-type: none"> <li>• Civic participation</li> <li>• Discrimination</li> <li>• Incarceration</li> <li>• Social cohesion</li> </ul>
<p>There are determinants beyond the social factors listed above that may drive health. These factors include genetics and biology, the physical environment, and lifestyle behaviors.</p>	

The social determinants of health and their associated influencing factors are interrelated. For example, institutional-level discrimination by one system (e.g., criminal justice) may lessen an individual's trust in other institutions including health care and education. Consider, as another example, the individual who

lives in poverty: this person is likely less educated and less able to command a well-paying job; he is also less likely to access health care when needed because of a fear of incurring costs. Moreover, those who are less educated are less likely to participate in civic life and more likely to be incarcerated (in fact, those who did not complete high school are 3.5 times more likely to be arrested than high school graduates).

Social determinants of health are important in population health. Addressing, or modifying, social determinants of health through upstream policy initiatives may reduce health inequity, which in turn supports improved population health outcomes. For example, the provision of universal quality early childhood education and development programs starting prenatally and extending through five years of age reduces the need for special education, reduces the number of children retained in a school grade, and increases high school graduation rates. Investing in early childhood education helps prevent the achievement gap by building the cognitive and social skills necessary for school readiness. It is widely recognized that those with higher educational attainment live healthier and longer.

## **Nurses and social determinants of health**

Nurses should understand how social determinants of health contribute to incidence, prevalence, and outcomes of health conditions. Nurses want to understand how to ascertain, assess, address, and advocate for social determinants of health concerns with individuals, community, and beyond. Improving social determinants of health realities is not a one-time activity, but rather requires on-going sustained effort and investment.

## **References/Resources**

1. Berger-Jenkins, Monk, C. et al. (2019). Screening for both child behavior and social determinants of health in pediatric primary care. *Journal of Developmental Behavioral Pediatrics*.  
<https://pubmed.ncbi.nlm.nih.gov/31318781/>
2. Centers for Disease Control and Prevention Social Determinants of Health  
<https://www.cdc.gov/socialdeterminants/index.htm>
3. Health in all policies <https://www.cdc.gov/policy/hiap/index.html>
4. Healthy People 2020 Social Determinants of Health <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>
5. Healthy People 2030 <https://health.gov/healthypeople/objectives-and-data/social-determinants-health>
6. The Heckman Equation <https://heckmanequation.org/>
7. Online resources for assessing and measuring social determinants of health  
<https://www.naccho.org/uploads/downloadable-resources/SDOH-resources.pdf>
8. Marmot M, Allen JJ. Social determinants of health equity. *Am J Public Health*. 2014;104 Suppl 4(Suppl 4):S517-S519. doi:10.2105/AJPH.2014.302200
9. Robert Wood Johnson Social Determinants of Health  
<https://www.rwjf.org/en/our-focus-areas/topics/social-determinants-of-health.html>
10. World Health Organization Social Determinants of Health  
[https://www.who.int/social\\_determinants/en/](https://www.who.int/social_determinants/en/)
11. Zha, P, Qureshi R, Sickora, C., Porter, S., Chase, S., & Chao, Y-Y. (2020). Development of a patient-nurse trust scale in underserved community setting. *J Community Health Nurs*. 2020;37(1):9-18. doi:10.1080/07370016.2020.1693093

## Population Health/Social Determinants of Health Glossary

---

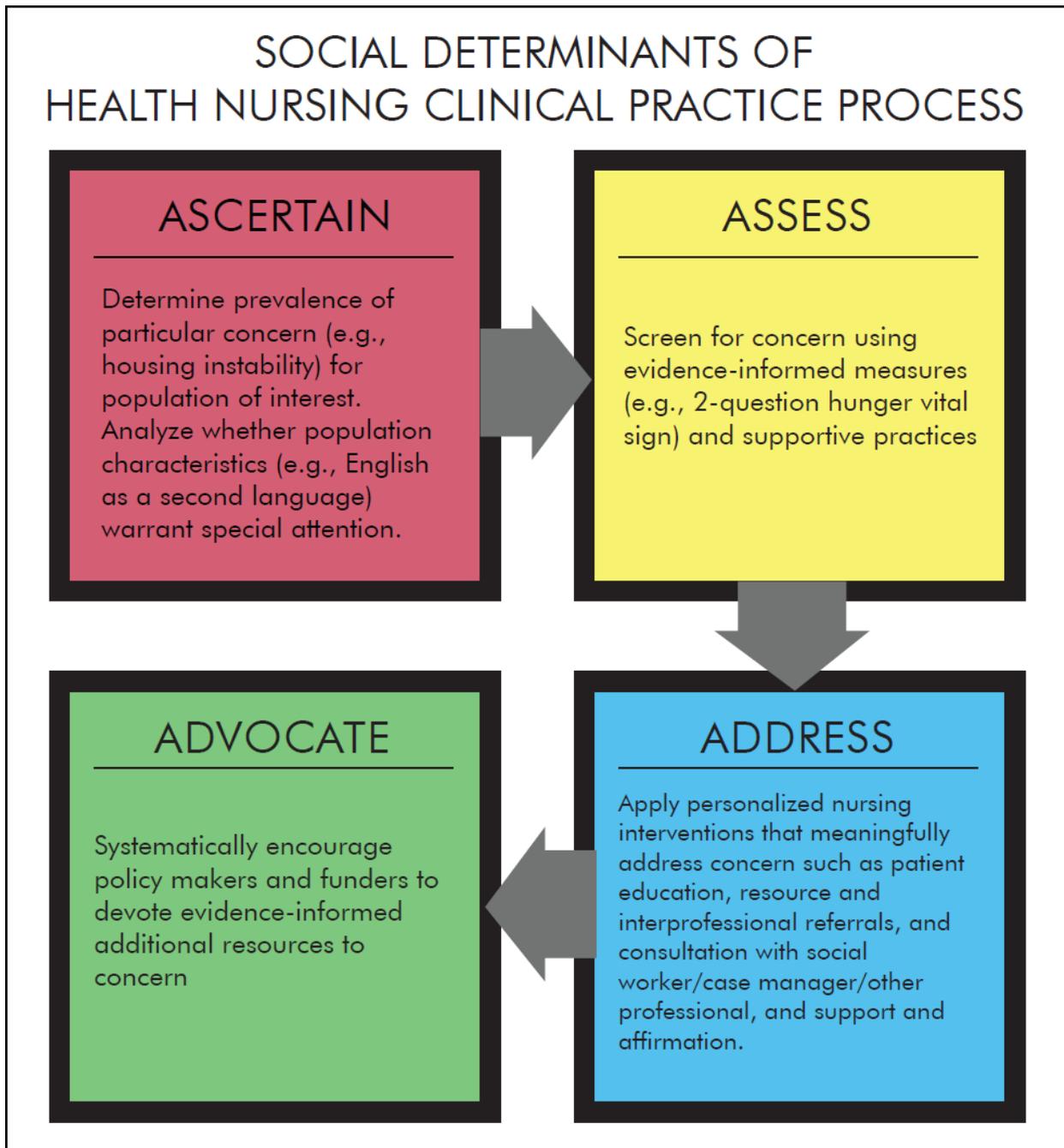
Term	Definition
Built environment	<ul style="list-style-type: none"> <li>All the physical parts of where we live and work (e.g., homes, buildings, streets, open spaces, and infrastructure (Centers for Disease Control and Prevention)).</li> </ul>
Civic participation	<ul style="list-style-type: none"> <li>Community members working together to address an issue of concern in the community.</li> </ul>
Discrimination	<ul style="list-style-type: none"> <li>Federal statutes prohibiting discrimination (i.e., the unjust or prejudicial treatment of different categories of people) on the basis of race, color, sex, disability, religion, familial status, and national origin exist. Discrimination may occur toward other groups as well. Structural racism is historical and contemporary policies, practices, and norms that create and maintain white supremacy (Urban Institute). Implicit bias also negatively affects certain groups.</li> </ul>
Early childhood education and development	<ul style="list-style-type: none"> <li>Includes education, health, nutrition, and parenting investments for infants and young children through age five. Quality early childhood education significantly benefits low-income children. The best return on investment is achieved with interventions during the prenatal and infant periods.</li> </ul>
Economic stability	<ul style="list-style-type: none"> <li>Household income and financial stability that supports overall health and well-being. Poverty, unemployment, food insecurity, and housing insecurity adversely affect economic stability.</li> </ul>
Food insecurity	<ul style="list-style-type: none"> <li>Household-level economic and social condition of limited or uncertain access to adequate food (U.S. Department of Agriculture).</li> </ul>
Green space	<ul style="list-style-type: none"> <li>Land that is partly or completely covered with grass, trees, shrubs, or other vegetation. Green space includes parks, community gardens, and cemeteries (U.S. Environmental Protection Agency EPA Region 1).</li> </ul>
Health disparity	<ul style="list-style-type: none"> <li>A health difference that is closely linked with social, economic, or environmental disadvantage (Healthy People 2020). Often used interchangeably with the terms health inequality or health inequity.</li> </ul>
Health literacy	<ul style="list-style-type: none"> <li>The degree to which an individual has the capacity to obtain, communicate, process, and understand basic health information and service to make appropriate health decisions (Patient Protection and Affordable Care Act).</li> </ul>
Housing insecurity	<ul style="list-style-type: none"> <li>High housing costs in proportion to income, poor housing quality, unstable neighborhoods, overcrowding, or homelessness. (U.S. Department of Health and Human Services)</li> </ul>
Incarceration	<ul style="list-style-type: none"> <li>Incarcerated population is the population of inmates confined in a prison or a jail. This may also include halfway-houses, boot camps, weekend programs, and other facilities in which individuals are locked up overnight (Department of Justice). Incarceration status also affects non-incarcerated family members and overall incarceration rates affect community members.</li> </ul>

Term	Definition
Literacy	<ul style="list-style-type: none"> <li>The ability to use printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential (National Assessment of Adult Literacy).</li> </ul>
Limited English proficiency	<ul style="list-style-type: none"> <li>Individuals who do not speak English as their primary language and who have a limited ability to read, speak, write, or understand English (U.S. Department of Energy).</li> </ul>
Neighborhood	<ul style="list-style-type: none"> <li>The proximal area surrounding a particular person, family, or community.</li> </ul>
Population health	<ul style="list-style-type: none"> <li>The health outcomes of an aggregated large group of individuals based on distribution of determinants, interventions, and policies.</li> </ul>
Poverty	<ul style="list-style-type: none"> <li>Poverty frequently equates to material hardship. Link to federal poverty guidelines that determine eligibility for certain federal assistance programs: <a href="https://aspe.hhs.gov/poverty-guidelines">https://aspe.hhs.gov/poverty-guidelines</a>.</li> </ul>
Primary care	<ul style="list-style-type: none"> <li>The provision of integrated, accessible health care services by clinicians who are accountable for addressing the large majority of personal health care needs, developing a sustained partnership with individuals/families, and practicing in the context of family and community (Institute of Medicine).</li> </ul>
Social and community context	<ul style="list-style-type: none"> <li>Social context is a person's direct experience shaped by family, social support, and social networks and community context is how an individual interacts with larger community and institutional systems for good or ill. Healthy People 2020 lists civic participation, discrimination, incarceration, and social cohesion as critical elements of the social and community context.</li> </ul>
Social cohesion	<ul style="list-style-type: none"> <li>The willingness of a group of people to work together to achieve common goals.</li> </ul>
Social determinants of health	<ul style="list-style-type: none"> <li>Conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks (Healthy People 2020).</li> </ul>

*Adapted from Porter, S., Qureshi, R., Chase, S., Allread, V., & Salmond, S. (2017). Addressing the Effects of Psychological Trauma in a Community Using a Social Determinants of Health Approach: A Case Study. Rutgers School of Nursing, Association for Prevention, Teaching and Research & Office of Disease Prevention and Health Promotion. <http://www.teachpopulationhealth.org/psychtraumasdohcases.html>*

# Social Determinants of Health Nursing Clinical Practice Process

Sallie Porter, DNP PhD APN, Rutgers School of Nursing



## Social Determinants of Health (SDoH) ‘Screening’ Tools

---

Healthcare agencies and individual nurses interested in assessing a person or family’s social determinants of health as a first step towards meeting unmet social needs, will find multiple tools available to them, including those listed below. Do note the accuracy of Social Determinants of Health screening tools is largely unevaluated (Sokol et al, 2019).

1. The Accountable Health Communities Health-Related Social Needs Screening Tool
2. Children’s HealthWatch survey
3. Health Leads survey
4. IHELLP (Income Housing Education Legal status Literacy Personal safety)
5. iScreen
6. Medical-Legal Advocacy Screening Questionnaire (MASQ)
7. The Online Advocate (Help Steps Tool)
8. Single question Hunger Screen
9. Social Behavioral Determinants of Health Screening Bundle
10. Social Determinants of Health Assessment Tool
11. Social Environment Inventory (SEI)
12. Social History Template
13. Survey of Wellbeing of Young Children (SWYC) Family questions
14. Two-item Food Security Screen
15. US Food Security Scale
16. US Household Food Security Survey Model 6-item short form
17. Well Child Care Evaluation Community Resources Advocacy Referral Education (WE CARE) survey
18. WellRx

### Reference

Sokol R, Austin A, Chandler C, et al. Screening Children for Social Determinants of Health: A Systematic Review. *Pediatrics*. 2019;144(4):e20191622. doi:10.1542/peds.2019-1622).