

# Using Fundamental Interventions To Address Social Determinants of Health

**PTs can use a socio-ecological model to look beyond intrapersonal factors in evaluating and treating patients and clients.**

Feature

**Date:** Tuesday, March 1, 2022

**Author:** Keith Loria

During the pandemic, the alarming health inadequacies influenced by social factors came into focus in all areas of health care, and social determinants of health, already an area of concentration for many in the health care community — physical therapists included — reappeared at the forefront.

While physical therapist services traditionally have focused on individual-level considerations, addressing SDOH requires looking not only at such intrapersonal factors as one's education level and economic stability, but also considering patients on interpersonal, institutional, community, and societal or policy levels as well. Together, these five levels of influence that can impact health make up what's known as the socio-ecological model.

In an October 2021 perspective article published in PTJ: Physical Therapy & Rehabilitation Journal, authors Dana McCarty, PT, DPT, and Meghan Shanahan, PhD, MPH, explored how PTs can and should use the socio-ecological model to treat and motivate their patients. In the article, titled "[Theory-Informed Clinical Practice: How Physical Therapists Can Use Fundamental Interventions to Address Social Determinants of Health](#)," the authors describe the five "rings" within the model that start at the center and move outward, each having influence on the success or failure of patient outcomes. (See "The Rings of the Socio-Ecological Model" below for descriptions of each.)



In response to the factors within the socio-ecological model, the authors recommend that PTs and PTAs should consider "fundamental interventions" within their plans of care. Fundamental interventions can best be described as "interventions that address a wide range of social factors related to the root cause of the disability or illness," according to McCarty, who is assistant

professor, division of physical therapy, at the University of North Carolina at Chapel Hill. "In clinical practice," McCarty and Shanahan write in the PTJ article, "the first fundamental intervention must be to recognize and measure SDOH and their potential impact on our patients."

"Most PTs are familiar with the International Classification of Function model, and in this context, fundamental interventions are ones that would address 'contextual factors,' — either environmental or personal — that influence a patient's outcome," McCarty says. "The process of identifying contextual factors and the fundamental interventions to address them begins at the patient's evaluation when the PT collects subjective information including medical history, living situation, resources, and motivations for therapy." (See Page 37 for an illustration of how the socio-ecological model and fundamental interventions overlay with the ICF model.)

Some information may be readily available in the medical chart or patient intake forms. For example, because occupation and insurance status (say, Medicaid versus private insurance) often indicate socioeconomic status, the PT may have a starting point from which to build their understanding of the social and societal factors their patient experiences, steering the direction of the questions they might ask.

## Addressing Patients' Needs

---

To be successful, a PT needs to address patient needs in the intra-personal, interpersonal, institutional, community, and policy realms, as they all impact how well the patient will progress with whatever condition they're being treated for, according to McCarty.



She notes that the key to addressing patient needs in various realms of the socio-ecological model relies on the therapist's ability to establish rapport and trust with their patient.

"It could be quite daunting — and potentially inappropriate — to try to learn in one session all the relevant aspects of your patient's life that impact their progress," she says. "Instead, PTs should try to establish a relationship at the initial evaluation and then build upon that knowledge during

subsequent sessions, updating the plan of care as needed."

Additionally, she notes, it's important for PTs to remember that a great number of patients, especially those inhabiting multiple marginalized identities — such as people of color, those with less education, and those who are transgender — might take more time to develop trust if they have had negative or traumatic experiences in the health care system.

McCarty describes a scenario of a 43-year-old male referred to an outpatient practice to be evaluated and treated for low back pain. Upon review of the intake form, the PT notices that the referral has been given by an emergency department physician.

When meeting the patient, the PT asks if he has ever received any previous therapy for this issue and he replies, "No. I haven't been to therapy before. Sometimes they prescribe some pain meds when I go to the ED." With additional inquiry, he tells the PT that he has been to the ED three times in the last six months because of his debilitating back pain. The PT asks him about any other medical providers following him, specifically primary care.

The patient explains that he has never established a primary care physician for regular checkups. When he is sick or in pain he goes only to the ED, because he doesn't qualify for Medicaid and his hourly wage job does not provide benefits.

The PT is aware of a pro bono clinic offering free or reduced-fee primary care services in the county where he resides. "The PT briefly explains the benefits of establishing a primary care physician and provides information on how to make an appointment," McCarty says. "Additional education includes how the PT and patient would plan to coordinate with the newly established primary care physician to create a multidisciplinary, comprehensive plan of care to manage his low back pain through pain reduction strategies, prevention of further injury, pharmacological management (as needed), and wellness goals."

## Physical Activity Within the Socio-Ecological Model

---

Ericka Merriwether, PT, DPT, PhD, assistant professor in the Department of Physical Therapy and in the Department of Medicine, and director of the Inclusive and Translational Research in Pain Laboratory, at New York University; and Mark Vorensky, PT, DPT, rehabilitation sciences PhD candidate at NYU Steinhardt and a physical therapist at NYU Langone Health, offer an example that features physical activity and exercise interventions as part of management for many conditions that PTs may encounter in different clinical settings. In that context, the duo has narrowed the scope of some of the PT's questions to zero in on physical activity, which is the focus of a manuscript they are preparing to submit for publication.

"If we're talking about building patients' confidence in engaging in physical activity, then a critical first step is to have more comprehensive questions about why they are not engaging in physical activity," they told APTA Magazine in both individual and joint responses to an interview.

These questions should include asking about self-limiting beliefs about ability (intrapersonal), fear of injury, reinjury, or pain exacerbation (intrapersonal), past experiences with physical therapy and health care in general (interpersonal), experiences with discrimination (intrapersonal and interpersonal) exercise partners and support systems (interpersonal and community), access to safe spaces for physical activity engagement (community and macro), and insurance coverage for physical therapy and exercise services (macro).

"To address patient needs, we need to gain a better understanding of what those needs are," Merriwether says. "It is critically important that we establish a safe space in which the patient can comfortably share information across socio-ecological levels. Developing a strong patient-PT relationship and trust may take time. As a result, discussing and determining the patient's needs on each socio-ecological level may take time as well."

The two also recently partnered on a November 2021 blog post about the socio-ecological model and physical activity. ["Using a Socio-Ecological Model Can Identify Barriers to Physical Activity"](#) appears on APTA's website.

While still in the context of physical activity, additional insights they shared with APTA Magazine on fundamental interventions and the socio-ecological model are applicable beyond that.

"We would characterize a fundamental intervention as a strategy used in rehabilitation that is a core component of the PT's plan of care," Merriwether says. "A plan of care can involve a number of different strategies that aim to help facilitate positive change in the direction of the patient's specific goals. A large

bulk of what we do, and what is most clear as clinicians, focuses on the intrapersonal and interpersonal levels or rings."

Therefore, it is crucial for fundamental interventions to promote a safe, collaborative, reassuring, and informative environment for the patient.

For example, clinicians may use a number of communication styles and strategies, Merriwether says. Some of these may include motivational interviewing or techniques that comprise psychologically informed physical therapy.



"However, based on our review of the literature and clinical experiences, patients fundamentally want to feel physically and emotionally safe, as if they have agency, and are provided an honest outlook on their rehabilitation trajectory,"

Merriwether says. "From an interpersonal level in the clinic, preventing social strain is just as important as providing social support. Clinical interactions that are not culturally or trauma-informed may lead to frustration, mistrust, and pain or ability-related stigmatization that can be extremely detrimental to a patient's self-beliefs in their abilities to recover or remain physically active."

Vorensky adds that as clinicians, PTs and PTAs can leverage other interpersonal support systems available to patients outside of the clinic to help establish a support structure at home.

"As much as clinicians aim to promote self-management, rehabilitation often takes team management," he says. "Identifying current and potential teammates with the patient in other areas of health care and in the community is a fundamental interpersonal strategy."

Institutional, community, and macro-level strategies are continuing to emerge in rehabilitation literature and clinical practice, and a patient may encounter multiple institutions over the course of their rehabilitation.

"Work is an example of an institution that can vary widely across the patients we see every day, and may present distinct health-related challenges," Vorensky says.

For example, a patient may need to work the night shift, or may need to work multiple jobs to support their family. The only job available may require manual labor or long hours of physical and potentially hazardous activity.

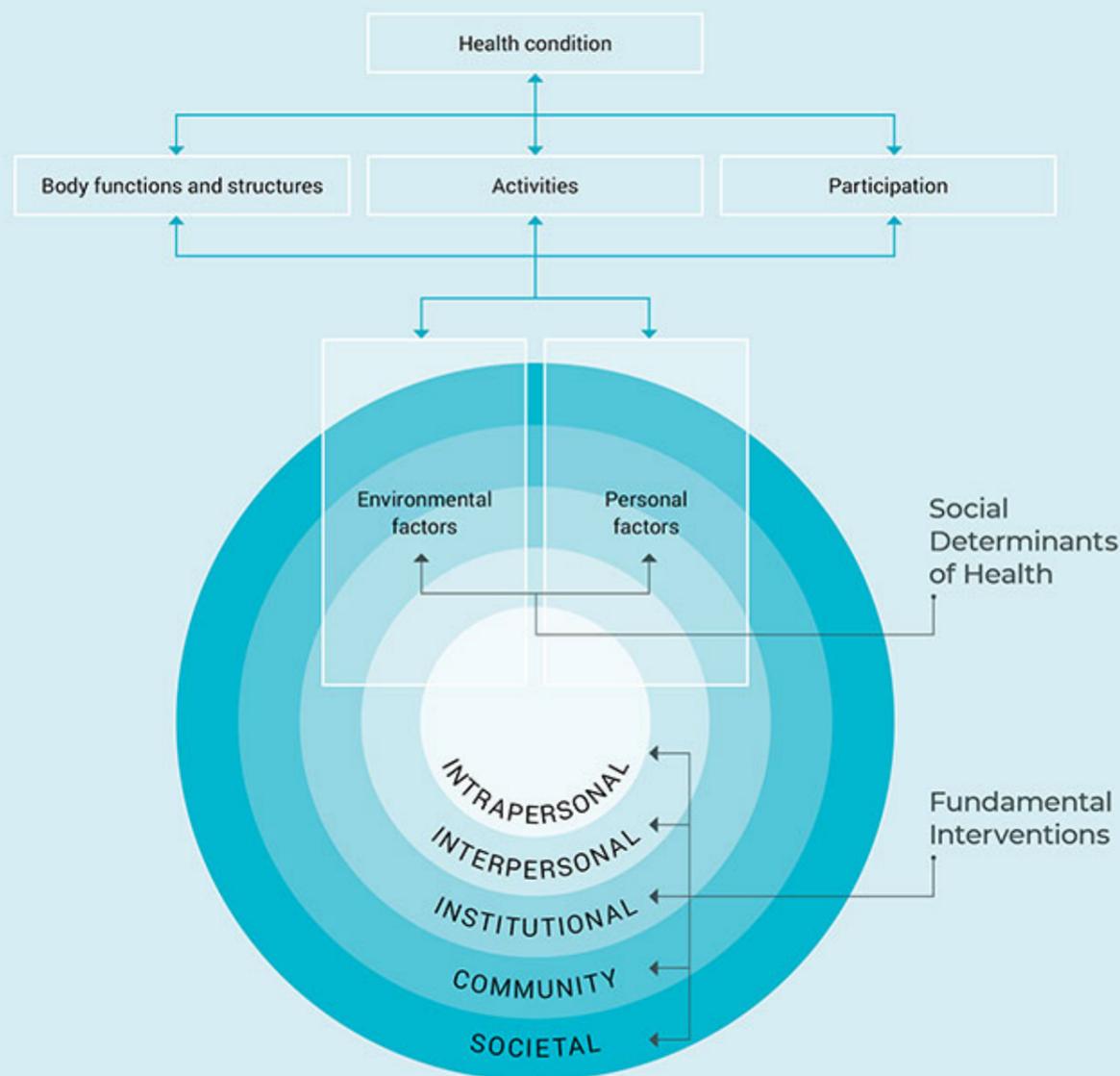
"It is critical for us as clinicians to listen to potential institutional challenges and to enact an approach that is flexible and patient-centered," he says. "Five home exercises may not be feasible based on work demands. The key is to ask and adapt."

Merriwether and Vorensky note that a second institution to consider is the physical therapy practice itself.

"A clinic may provide one-on-one care or may treat multiple patients at once," they say. "The clinic may be accessible and promote a culture that supports individuals of all ability levels or only the abilities of a select few. These institutional decisions have the potential to influence a patient's self-perceptions, the patient-provider interactions and therapeutic alliance, and ultimate outcomes."

FIGURE 1

## Interaction Between the ICF Model, the Socio-Ecological Model, and Social Determinants of Health



(ADAPTED WITH PERMISSION FROM PTJ: PHYSICAL THERAPY AND REHABILITATION JOURNAL, VOL. 101, ISSUE 10, OCTOBER 2021, FIGURE 1.)

[Download this image.](#)

The idea is that listening to patients' past medical experiences may provide initial institutional insights.

"Reflecting and gaining feedback on the strengths and weaknesses of our own clinical environments promote positive institutional change for our future patients and provide agency to patients as a part of the institution," they say.

Fundamental strategies at the community level involve first increasing the understanding of potential barriers and facilitators to physical activity, and advocating for accessible resources. Questions on the community level may include access to green space, how walkable or safe the community is, and the patient's past experiences with community resources.

"Access to parks or green space is key for physical activity and general health," the pair say. "If a patient notes that there is an available and safe park in their community, a potential strategy may be discussing a plan to travel to the park for physical activity or to complete their rehabilitation exercises. Travel to a park or green space may be challenging based on proximity, if there are even sidewalks in the community, or if traffic or crime safety are concerns. These are real issues that need to be discussed to promote safe, successful, and enjoyable physical activity."

Additionally, there may be community centers or departments that offer free programs to the public that promote physical activity and wellness. For example, the New York City Department of Parks and Recreation offers an array of inclusive recreational activities all around the city. Patients may not be aware of the potential resources available in their community that provide an important opportunity to encourage physical activity and social interaction beyond the rehabilitation process.



At the macro level, Vorensky notes that PTs can identify how policy may implicate the lower levels. For example, policy surrounding payment rates may compel a physical therapy clinic to have their clinicians treat more than one patient at a time, resulting in strained interpersonal relationships.

Another macro-level issue that influences lower levels is systemic or structural racism and its bearing on health inequities in the United States. For example, historically underserved communities have endured greater health risks as a result of less funding for green spaces, transportation, and infrastructure; lingering social behaviors rooted in racism that promote restricted access to community swimming pools and beaches have impeded people's ability to engage in physical activity.

## SDOH and Physical Therapy

---

Evidence in medicine suggests that SDOH account for up to 80% of health outcomes, with the remaining 20%, or less, attributed to clinical care (["County Health Rankings: Relationships Between Determinant Factors and Health Outcomes"](#) by Hood and colleagues and published in 2015 in the American Journal of Preventive Medicine is cited in several reports and subsequent studies).

"We are seeing significantly higher rates of hospitalization and death from COVID-19 in individuals with lower education levels and/or who are living in poverty," McCarty says. "In physical therapy, for any patient and condition we are working to rehabilitate, we could see these downstream effects lead to worse outcomes despite employing our best plans of care."

SDOH also can impact access to services such as physical therapy. For instance, McCarty cites a [systematic review by Braaten and colleagues](#), published in the British Journal of Sports Medicine in October 2021. The review found that individuals identifying as white, non-Hispanic with increased education attainment and high socioeconomic status, living in an urban environment, and having access to transportation, employment, and private insurance had a higher likelihood of physical therapy use.

"This evidence supports fundamental cause theory, the principle that individuals with higher socioeconomic status and the communities in which they belong have access to a 'superior collection of flexible resources' that allow them to avoid disease risks and recover from the consequences of disease," she says.

Meghan Shanahan notes that the socio-ecological model provides a framework physical therapists can use to consider the context in which their patients live, a practice that ultimately will improve treatment outcomes.

"For example, I believe that if physical therapists take community characteristics such as access to green spaces, safe sidewalks, and transportation into consideration when developing treatment plans, there is an increased likelihood that patients will adhere to those plans," she says. "This in turn may increase the likelihood that the patient will achieve their treatment goals."

She is pleased that physical therapists, such as her colleague Dana McCarty, have begun to incorporate these public health concepts into their practices.

McCarty says it's important for PTs to understand that no one therapist or clinician can solve every patient's problems.

"The systems that we operate in simply are not set up for PTs to successfully employ all of the fundamental interventions necessary for a patient to reach their optimal flourishing," she says. "We lack the resources, time, and work structure to do this, but clinicians can commit to thinking about the broader influences impacting the individuals they treat."

This altered perspective can and should change how PTs interact with and develop goals in collaboration with their patients.

Merriwether and Vorensky add that making systems-based clinical hypotheses and formulating questions or discussions with patients may seem daunting or challenging, but clinicians already do this and need to continue to do so.

"We take measurements of pain and function (intrapersonal), we aim to build a strong therapeutic alliance (interpersonal), we discuss with our patients about their family support and prior medical experiences (interpersonal), we ask patients about their demands at work (institutional), we learn about potential resources in our patients' communities, and we commonly face challenges related to insurance coverage (macro/policy)," they say.

Therefore, the socio-ecological model is a tool that helps to organize these factors into a clear visual, prompting PTs and PTAs to explore deeper into each system and encouraging them to find interconnections between different levels and factors.

"As a real-life example, on occasion I will draw out surrounding rings as visuals when co-treating with a colleague or for patients," Vorensky says. "Models for patients include areas that are relevant and expressed as important to them to help demonstrate how we can find tools for rehabilitation outside of just the clinic setting."

## Making a Difference

---

Some ways that McCarty says PTs can help are by tailoring a plan of care to account for a patient's limited insurance coverage in the outpatient setting, such as the frequency of visits, length of time between visits, and offering to monitor progress via email; by offering evening and weekend appointments with priority going to patients whose employers



do not provide paid time off; and, with the patient's permission, inviting family members to attend therapy sessions if health literacy has been identified as a concern for patient progress.

She also suggests making referrals or recommendations to patients for alternative ways to obtain durable medical equipment, such as lending and donation programs and thrift stores; and providing explicit instructions for the type of equipment and then agreeing to evaluate the equipment for safety and adjustment when it is brought to therapy.

Vorensky and Merriwether advocate for using models such as the socio-ecological model and ICF model as ways to help organize potential factors, determine how they can interact, and use the information to make clinical hypotheses.

Their overarching advice is to listen to the patient; take time to develop a safe clinical relationship and environment in which relevant socio-ecological factors can be comfortably shared and discussed; and work with the patient to determine strategies within the appropriate level that can facilitate their rehabilitation.

Under their example of physical activity and structured exercise, Vorensky says that "PTs have an incredible opportunity to develop a deeper understanding of their patients' physical activities by taking a systems-based approach."

"We are excited to see a growing body of physical therapy and rehabilitation research that addresses SDOH and the clinical and epidemiological relevance to physical therapist practice," Merriwether says.

**Keith Loria is a freelance writer who has contributed numerous articles to APTA Magazine.**

---

## The Rings of the Socio-Ecological Model

---

The levels of the socio-ecological model radiate out from the center as a person's environment and relationships expand. The following descriptions borrow from [the PTJ article by McCarty and Shanahan](#), [the APTA blog post by Merriwether and Vorensky](#), and the Centers for Disease Control and Prevention's publication "[Principles of Community Engagement](#)," under "Models and Frameworks" in Chapter 1.

### **Intrapersonal or Individual Level**

This includes individual biology; personal factors such as strength, mobility, pain, fear, perceived self-efficacy, and past experience; and other personal characteristics such as age, education, income, and health history.

### **Interpersonal or Relationship Level**

This includes a person's friends, partners, and family members, as well as their health care provider and others with whom they interact one-on-one.

### **Institutional Level**

This includes a person's employer, social groups and other organizations they belong to, and educational spaces.

### **Community Level**

This considers settings that affect health, such as dwelling structures, schools, workplaces, and neighborhoods.

### Macro, Societal, and/or Public Policy Level

This addresses societal perceptions of issues such as ableism and preventable conditions; systemic structures; and current and historic health policies that reduce or contribute to health inequalities.

[Back to top](#)

Is this content helpful?

😊 Yes, thanks!

☹ No

## Thank you, Deborah Givens

Your membership supports the advancement of physical therapy. If you have questions about your membership, please [contact us](#) any time.

SHARE THIS / [✉](#) [f](#) [t](#) [in](#)

ADVERTISEMENT



---

### Resource Details

**Date:** March 1, 2022

**Contact:** [aptamag@apta.org](mailto:aptamag@apta.org)

**Content Type:** Feature

---

### Topics

[Practice Models and Settings](#)

---

### Author(s)

Keith Loria



ARTICLE

**Putting Imaging Into Focus**

MAR 1, 2022 

The question isn't "What is the physical therapist's role in imaging," but "What is the role of imaging in physical therapy?"

NEWS

**Your Comments Needed on Revisions to Guide to Physical Therapist Practice**

JAN 12, 2022

Recommended changes touch on direct access, movement system, career advancement, and more. Get your comments in by Feb. 28.



PERSPECTIVE

**Outpatient Services During a Pandemic: Finding Your Ethical Footing**

MAY 19, 2020 

During COVID-19, it is our professional skill in knowing how to creatively adapt, adjust, and cope that will bring us through these uncertain and unprecedented

APTA MEMBERS HAVE ACCESS TO A VARIETY OF BENEFITS, INCLUDING DISCOUNTS AND SPECIAL OFFERS FROM NATIONAL BRANDS.

**Start Saving**



3030 Potomac Ave., Suite 100  
Alexandria, VA 22305-3085



Do you need help?

Contact Us

#### Related APTA Sites

[APTA Career Center](#)

[APTA Centennial](#)

[APTA Learning Center](#)

[APTA Store](#)

[ChoosePT.com](#)

[Guide to Physical Therapist Practice](#)

[PTJ](#)

[ABPTRFE](#)

[ABPTS](#)

[ACAPT](#)

[CAPTE](#)

[Foundation for Physical Therapy Research](#)

[Physical Therapy Outcomes Registry](#)

[PTPAC](#)

#### Related Organizations

Find your chapter or section

---

800-999-2782

For Advertisers, Exhibitors, and Sponsors | For Media



All contents © 2021 American Physical Therapy Association. All rights reserved.

Use of this and other APTA websites constitutes acceptance of our Terms & Conditions.

[Privacy Policy](#) | [Disclaimer](#)

[About APTA](#) | [Jobs at APTA](#)

