Changing Internal Medicine Residents' Perspective on Social Determinants of Health

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Abstract

Background: Social determinants of health (SDOH) shape the conditions of a person's daily life and include factors such as housing, occupation, education, safety and income. While physicians are aware of the inequalities that exists in healthcare, not all physicians feel adequately able to address such concerns. Understanding of factors that contribute to the development and perpetuation of inequities in health care must be developed at the medical education training level.

Objectives: Evaluate internal medicine residents' understanding of SDOH and implement a curriculum on health disparities in order to improve their comfort in addressing social needs.

Methods: A survey regarding several aspects of SDOH were collected from the Rowan SOM/Jefferson Health NJ internal medicine residency program. A curriculum involving several didactic sessions was subsequently provided. A post-education survey was then administered to the same group to determine whether the curriculum had effectively addressed understanding of SDOH.

Results: Among 45 residents representing all three years of training, 72.4% did not fully understand factors composing SDOH. Interestingly, 100% of residents have cared for patients with social factors as the primary cause of inpatient admission, but 30% were not at all comfortable addressing SDOH. This dropped to 5.9% after implementation of the curriculum, indicating that 94.1% now feel comfortable and better equipped to address SDOH.

Conclusions: Very few residents understand SDOH, while most agree that social factors play a major role in health equity. Education should come at or before the residency level with the goal to not only educate, but to empower physicians to care for their patients with a more holistic approach.

Background

Social determinants of health are conditions in the environments in which people are born, live, learn, work, play, and worship that affect a wide range of health, functioning, and quality-of-life[1]. In the United States, place of birth is more strongly associated with life expectancy than race or genetics[6]. Camden county has the second worst health rating in the state of New Jersey, and an average life expectancy that is almost ten years less than that of more affluent counties[3]. Furthermore, patient compliance with medical therapy is significantly affected by these social factors. On average there is a 15-fold life expectancy difference between the advantaged and the disadvantaged population[2,10]. The estimated number of deaths due to social factors in the United States is comparable to deaths due to chronic diseases[5].

As a result, addressing social factors to improve the population's overall health and wellbeing has been brought to the forefront. Therefore, physicians must understand these core principles in order to bring forth change. The objective of our quality improvement project was to improve Rowan's internal medicine residents' awareness and understanding of social determinants of health.

Materials/Methods

An online survey of 20 questions involving different aspects of the social determinants of health were sent to 45 residents, 28 responses were received. Residents were asked about their understanding of a concrete definition of SDOH and their impression of its impact on patient care. A curriculum was subsequently implemented and consisted of three parts: introduction to SDOH, resources in our community of practice, and a series of interactive case studies adapted from the New England Journal of Medicine[1,8]. National statistics as well those accrued by the Camden coalition were presented, along with resources to aid in patient care. A post-education survey was then collected from the same group to determine whether the curriculum was effective in addressing SDOH.

Results

- 3 out of 4 residents throughout all three years of internal medicine training did not know the definition of and were unable to provide an example of SDOH. 42.9% had no knowledge of the difference between health equity and health equality. Resident physician understanding of these important concepts have improved across the board after implementation of the curriculum. (Figure 1).
- Nearly all (96-100%) of residents have encountered a situation where patients could not afford their medications or had some social factors that complicated a timely and safe discharge. 71.4% of these residents felt that they did not have the tools necessary to care for patients with social needs (Figure 2). Additionally, 2 out of 3 residents feel social needs and factors impact more than half of the overall health of patients.
- Most residents asked about patient's medications and employment but do not address access to food, transportation, safety and education. After implementation of the curriculum, social factors across the board were addressed more often. There were improvements in further addressing transportation, safety, employment, and education (Figure 3). Medication and employment remain the top two concerns addressed.
- Many residents perceive that social factors are important. Yet, 30% of residents do not feel at all comfortable addressing SDOH. After implementation of the curriculum, residents who did not feel comfortable decreased to 5.9% indicating that 94.1% are comfortable and better equipped to address SDOH (Figure 4).
- After implementation of our curriculum, most residents would consult and work with case manager or social work to help care for their patients. Furthermore, half of all residents would take it upon themselves to look up available resources to provide their patients (Figure 5).

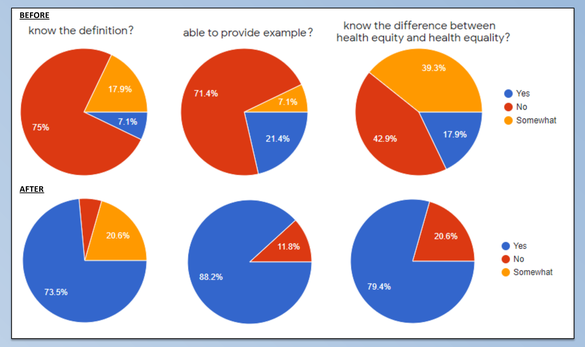

Figure 1. *Pie chart demonstrating proportion of internal medicine residents' comprehension of SDOH before and after implementation of the curriculum. Majority of residents have significantly improved their understanding of SDOH, health equity, and health equality. Most can even now provide specific examples of each.*

Questions	Yes	No	Somewhat
Residents who routinely have patient encounters with:			
… social factors preventing timely and safe discharge	100%	0%	N/A
… readmission primarily due to social factors	96.4%	3.6%	N/A
… readmissions primarily due to inability to afford medications	100%	0%	N/A
Residents who routinely assess:			
… whether patient's routinely follow with an established PCP	67.9%	10.7%	21.4%
… patient's living conditions	14.3%	64.3%	21.4%
… patient's understanding of care plan after discharge	46.4%	10.7%	42.9%
Residents overall perception of hopelessness:			
Ever felt hopeless or limited in ability to provide care due to SDOH	71.4%	3.6%	25%

Figure 2. *Table summarizing several social factors encountered by internal medicine residents and their ability to routinely assess and then address these factors.*

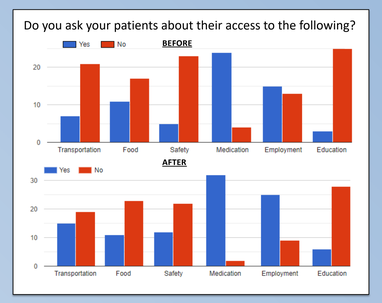

Figure 3. *Bar graph demonstrating the prevalence of routine evaluation of specific components of SDOH before and after implementation of the curriculum. Medications and employment were asked about most often. There were noticeable improvements in what residents evaluated across the board.*

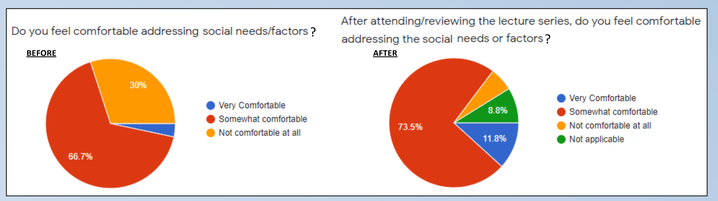

Figure 4. *Pie chart demonstrating the comfort level of internal medicine residents in addressing social needs or factors before and after implementation of the curriculum.*

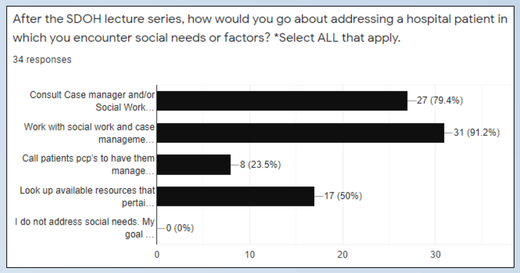

Figure 5. *Bar graph summarizing the various methods residents would use when addressing the social needs of their patients. Most residents would consult and work with a case manager/social worker to help care for their patients. Half of all residents would take it upon themselves to look up available resources to provide their patients.*

Discussion

- Our objective was to assess the understanding of SDOH in our internal medicine program. We train at four different community hospitals across two counties and care for patients with varying socioeconomic backgrounds.
- We all have experienced poor outcomes in our patient's health as a result of SDOH. Our study has shown that our individual experiences were not unique; in fact, every resident surveyed at our program had experienced such issues. This problem is likely faced by every current healthcare provider in the United States. Daniel, H. et al in their policy paper, referenced the number of deaths attributable to SDOH to be equivalent to the number of lives succumbed to lung cancer yearly in the United States[2].
- 100% of residents who encountered patients with primarily social factors affecting their health deferred to case management and social work. Our study demonstrated that most residents felt social needs vastly impact overall health but were not prepared to address SDOH. This raises concern for our graduate medical education system and suggests the need to further expand our curriculum to include this essential training.
- In 2018, ACGME made it a requirement for residents to understand SDOH and the resources to address them[9]. Our curriculum served to introduce and provide resources for residents to accomplish this requirement. More importantly, we provided the opportunity to assess residents' knowledge and solidify their management of SDOH in potential real-life scenarios through case studies.
- In a recent JAMA article, by Fraze et al, hospital physicians are more likely to screen for SDOH than private practice. Moreover, hospital and private practice physicians that serve disadvantaged patients report higher screening rates[5].
- In 2000, approximately 245,000 were due to low education and 162,000 deaths were due to low social support in the United States[11,12]. It is crucial for future physicians to understand how to screen and address social needs early on in their training[4,7]. State and federal policymakers are designing programs such as delivery system reform incentive payment (DSRIP) programs to incorporate social needs into clinical care.
- Medical readmissions are often due to underlying social needs that go unidentified[12]. Our curriculum provided residents the tools to start screening SDOH and hopefully find a way to improve the health of our patients. For example, we found that many of our patients reported food insecurity as a main concern[8]. Knowing this information can help us as physicians not only start screening, but also encourage us to participate in research grants and policymaking.
- Limitations of this study include the broad range and variability of individual resident experiences, especially across all three years. Additionally, this is a single study and at one community-based residency program in the state of New Jersey. Lastly, we were only able to garner full participation by 62% of resident. These factors limit the generalization of our findings.

Conclusion

Very few residents understood social determinants of health, although most agreed that social factors play a major role in health equity. The implementation of our curriculum improved residents' awareness and understanding and is crucial for physicians to develop a better understanding of the community they will be serving. However, our objective was not simply edification, but also empowerment to make improvements in both patient care and physician wellbeing. Recent studies have shown that addressing social factors such as transportation, ability to afford medication, safety and access to food have reduced overall health care costs and have shown improved patient outcome. Early education of social determinants of health starting in medical school and continuing throughout residency should hopefully encourage participation in community activities and local free clinics.

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