Fostering Empathy in Pre-Clerkship Medical Students Through Home-Visiting Experiences

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BACKGROUND

- Empathy, encompassing both cognitive and emotional components, is widely considered essential for doctors. However, studies show that empathy declines as medical students progress through training.[1-3] While most begin with idealism, the demands of a rigorous curriculum, limited early patient interaction, and high-stakes board exams often lead to disillusionment before clerkship training.
- To foster empathy, medical education should adopt a more humanistic approach by integrating patient-centered experiences into pre-clerkship training.[1,4] One method for accomplishing this is by partnering with local health organizations that engage with communities in their homes.[5]
- At the **Virginia Tech-Carilion School of Medicine** (VTCSOM), we have a collaboration with the **Child Health Investment Partnership of Roanoke Valley** (CHIP; https://chiprv.org/), an early childhood home visiting program serving socioeconomically disadvantaged families and children. CHIP empowers their clients by providing comprehensive healthcare services, case management, and mental health support.

OBJECTIVE

- To assess changes in the personal empathy scores of first year medical students through a home-visiting experience.

METHODS

- All acquired data was anonymous and blinded to the researchers through the use of participant-generated numbers for matching pre- and post-visit surveys.
- Prior to their home visit, participants completed a Jefferson Scale of Empathy© (JSE) questionnaire that was specifically tailored to medical students.[6] This assessment includes a proprietary 20 items in a Likert scale format to measure three underlying constructs of empathy:

  Perspective-taking – The ability to understand patients' emotions and viewpoints.

  Compassionate care – A balanced emotional response to patient suffering.

  Walking in a patient's shoes – An imaginative capacity to relate to patients' experiences.

  Higher scores indicate greater empathy in patient interactions. The total score provides insights into an individual's ability to engage with patients empathetically. In previous studies, JSE scores have been correlated with better patient outcomes, improved doctor-patient communication, and reduced medical errors.
- The JSE questionnaire also collected demographics information from participants, including student age, gender, year in medical school, and current medical specialty of interest.
- CHIP teams—comprising a family case manager and a community health nurse—transported individual VTCSOM students to clients' homes. Students observed family dynamics and living conditions while the interprofessional team assessed health and needs. Students then engaged with children and parents, asking questions to deepen their understanding. During transport, students further discussed the team's experiences and perspectives on working with CHIP families.
- Upon their return, students were again asked to complete the JSE Questionnaire, as well as open-ended questions related to their experience. Answers were assessed for common themes.
- Students who went on a home visit, and completed both the pre- and post-visit survey were provided $10 gift cards for compensation.

RESULTS

- Thus far, twenty-five (25) first-year medical students have gone on home visits. Of these, fifteen (15) elected to participate in the study.
- Demographics: Average age: 26 YO

  Gender: 4 male, 11 female

  Year in medical school: All in their first year (M1)

  Medical specialty: various
- Empathy scores: Mean JSE scores (scaled from 0-140 ± SD) for VTCSOM students increased after the shadowing experience from their pre-visit (**118.7 ± 7.5**) to post-visit (**124.3 ± 7.1**; paired t test p=0.002; n=15).
- Analysis of open-ended questions:

1. Please reflect on your Home Visit: What observation(s) have you made of the house, community, and/or family interactions? Did anything surprise you during your visit? Was there anything emotionally triggering during the experience?

Theme	Key Observations
Living Conditions & Resource Scarcity	• Substandard or temporary housing (e.g., rescue missions, basement units, trailer parks) • Cluttered spaces & noticeable odors • Surprise at proximity of poverty to city centers
Parental & Family Resilience	• Multiple jobs & financial struggles yet persistent dedication to childcare • Willingness to learn (openness to case managers' advice, educational worksheets) • Emphasis on perseverance and humility
Emotional & Mental Health Challenges	• Traumatic experiences (e.g., rape, child abuse in daycare) • Suicidal ideation & depression in a young mother • Observer empathy/sadness at seeing hardships and the impact on children's well-being
Cultural & Community Intersections	• Varying integration of Hispanic families into local communities • Use of Spanish-speaking home visits and culturally sensitive outreach • Different access to community resources (e.g., housing loans)
Observational Surprises & Reflections	• High-value electronics juxtaposed with financial constraints • Unexpected parent openness versus anticipated resistance • Potential emotional triggers (abuse, suicidal ideation) and personal reflections

2. Please reflect on your interaction with the interprofessional team: What did you learn from the community health nurse and/or family case manager?

Theme	Key Observations
Organization & Preparedness	• Setting clear expectations for each visit (e.g., health education focus, "permanent" vs. "temporal" concerns). • Thorough planning and efficiency in covering relevant topics.
Cultural Competency & Adaptability	• Incorporation of Spanish language, local dialect, and cultural traditions into health advice. • Using cultural understanding to build rapport and tailor guidance.
Comprehensive Resource Coordination	• Access to an array of community resources (e.g., smoking cessation, therapy, baby food, Salvation Army). • Ability to connect families quickly to needed services.
Longstanding Experience & Community Knowledge	• Deep familiarity with the region (e.g., not needing GPS). • Many years of service leading to strong relationships and trust with families.
Compassion & Empathy in Care	• Gentle, empathetic approach in sensitive situations (e.g., assessing suicidal ideations). • Focus on ensuring families feel heard and supported.
Professional Challenges & Bureaucracy	• Significant portion of work devoted to paperwork, phone calls, and navigating systemic "red tape." • Despite complexities, professionals remain committed and find fulfillment in their roles.
Collaboration & Communication Skills	• Willingness to involve students or observers (e.g., allowing them to comment or interact). • Repeating key questions in different ways to ensure accuracy and patient understanding.

RESULTS

3. Feel free to add any additional comments (e.g. Do you have any suggestions on how to improve this experience for medical students in the future?).

Theme	Key Observations
Desire for Broader & Continued Exposure	• Interest in attending more than one home visit to see different family dynamics. • Request for deeper insight into CHIP's broader operations and "behind-the-scenes" social work.
Logistical & Scheduling Challenges	• Conflicts between medical school lectures and home visit opportunities (i.e., lack of flexibility with regard to required medical school obligations; visits are most frequently available during hours when students are required to be in class). • CHIP families may cancel their visit with little notice. • Overall desire for improved coordination between CHIP home visit times and class schedules.
Overall Positive Feedback	• Students found the experience enlightening and valuable. • Coordination and the visit process itself were generally smooth aside from scheduling hurdles.

CONCLUSION & FUTURE DIRECTIONS

- Results from this study support strong empathy scores in participating VTCSOM first year medical students that were positively impacted by the shadowing home visit experience.
- Key threads from the open-ended reflections revolved around resource scarcity, resilience, mental health challenges, cultural/community dynamics, and the deeply emotional impact of witnessing adversity in family settings. Despite difficult living circumstances, many of the families demonstrated openness, adaptability, and a commitment to their children's well-being. These experiences highlight the role of community health nurses, family case managers, and supportive organizations in mitigating hardship and fostering healthier outcomes for families in vulnerable situations.
- Future directions of this program may examine the impact of home visits on medical student empathy longitudinally throughout their undergraduate medical education.

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