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**The LHOME initiative: A Pilot Study Assessing Food and Resource Insecurity among Medical Students During the COVID-19 Pandemic at the University of Vermont's Larner College of Medicine**

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**IRB Declaration of Exemption** This study has been deemed exempt from Institutional Review Board (IRB) review according to the University of Vermont's policies and procedures and the 2018 Common Rule changes. The exemption is specifically granted under category 1, "Educational Strategies, Curricula or Classroom Management Methods," as described in 45 CFR 46.104(d)(1). This category includes research conducted in established or commonly accepted educational settings involving normal educational practices, such as those implemented in this study to collect student information for resource management and support for students affected by the COVID-19 pandemic. The study meets the criteria for exemption as it involves educational practices in the context of a public health response.

## Abstract

**Background:** Resource insecurity among medical students is a significant barrier to academic success and well-being. The LHOME initiative at the Robert Larner College of Medicine, University of Vermont, was established in response to this challenge. It aims to support medical students by providing emergency shelter, resources, and mental health services, thereby allowing them to focus on their academic and professional responsibilities. This study assesses the prevalence of resource insecurity among medical students during the COVID-19 pandemic and evaluates their awareness of available institutional resources.

**Methods:** A survey was conducted from May 27, 2020, to May 31, 2023, targeting 480 medical students. It aimed to gather data on students' living conditions, disadvantaged statuses, academic compromises related to resource insecurity, and knowledge of emergency resources provided by the University of Vermont's Larner College of Medicine (UVM LCOM).

**Results:** The response rate was 63%, with 300 participants completing the survey. The data indicated that 73% of respondents were unfamiliar with local and institutional resources to address resource insecurity, and 84% lacked knowledge of whom to contact for help with these issues. Based on these findings, the medical school took several measures, including reinstating financial support through the CARES Act, establishing a Student Advisory Council, and enhancing financial wellness initiatives.

**Conclusion:** The findings of this pilot study demonstrate a significant gap in medical students' knowledge and utilization of resources intended to mitigate resource insecurity. The consequences of this insecurity are profound, disproportionately affecting non-traditional and underrepresented student populations and potentially leading to academic underperformance or withdrawal. The interventions developed as a result of this study have laid the groundwork for future efforts to support medical students. This research underscores the necessity for continued evaluation and development of institutional strategies to alleviate resource insecurity and foster the well-being of healthcare professionals in training.

## Introduction

The intersection of academic success and student wellness is increasingly recognized as crucial for the effective functioning of higher education institutions. As the cost of education rises, students face multifaceted pressures that go beyond academic challenges, extending into their financial and social lives. A growing concern among these is food insecurity, which has shown to be prevalent among college students across various institutions in the United States, affecting their health, academic performance, and overall well-being<sup>1-3,6</sup>.

The Larner College of Medicine at the University of Vermont has implemented the Local Hunger Outreach, Management, and Education (LHOME) initiative, a program designed to combat the adverse impacts of resource insecurity, including issues related to food, shelter, and mental health among its students<sup>4</sup>. The LHOME initiative's primary objective is to ensure that medical students can focus on their academic and professional responsibilities without the burden of extraneous stressors related to basic survival needs. Recent survey data from the institution indicates a significant portion of its student body has struggled with these insecurities, which has led to the creation of targeted support systems including food pantries and financial assistance programs<sup>4</sup>.

Nationally, research reflects similar concerns, with a substantial proportion of students at various academic institutions experiencing food insecurity. Studies have found that food insecurity is associated with negative academic outcomes, poor health, and increased stress. For instance, a multi-institutional study found that nearly 44% of students reported some level of food insecurity, correlating with lower grade point averages and higher rates of reported stress and poor sleep quality<sup>3</sup>. This paper aims to explore the effectiveness of initiatives like LHOME in addressing student resource insecurity and enhancing student performance and wellness. By examining the broader implications of such programs, this research contributes to a critical understanding of how higher education institutions can play a proactive role in mitigating the challenges that compromise student success and well-being. Through a combination of qualitative and quantitative analyses, this study will evaluate the impacts of resource support systems, with a focus on the outcomes related to academic performance, physical health, and psychological well-being, thereby offering insights into scalable strategies that other institutions might adopt.

## Materials and Methods

**Survey** A comprehensive survey was administered college-wide to 480 students at the Robert Larner College of Medicine at the University of Vermont to assess the impact of the COVID-19 pandemic on student living conditions and resource insecurity. The survey, which took place from May 25, 2020, sought to understand students' living arrangements, their disadvantaged status, and the level of resource insecurity they experienced in terms of clothing, food, and shelter. It also aimed to measure the level of academic compromise related to resource insecurity and personal knowledge of UVM LCOM emergency resources (**Figure 1**).

The survey was part of the LHOME Initiative, which is committed to supporting medical students year-round in matters of emergency shelter, resources, and mental health. The initiative aligns with AAMC health equity initiatives, aiming to allow students to focus on academic and professional responsibilities and to reduce medical student attrition.

**Data Collection** Data were collected via a structured questionnaire delivered electronically to the student body. Participation was voluntary and anonymous, with a 63% response rate resulting in 300 completed surveys. Respondents were asked to identify their class year, living situation, knowledge of institutional contacts for addressing resource insecurity, and the extent of their experiences with resource insecurity.

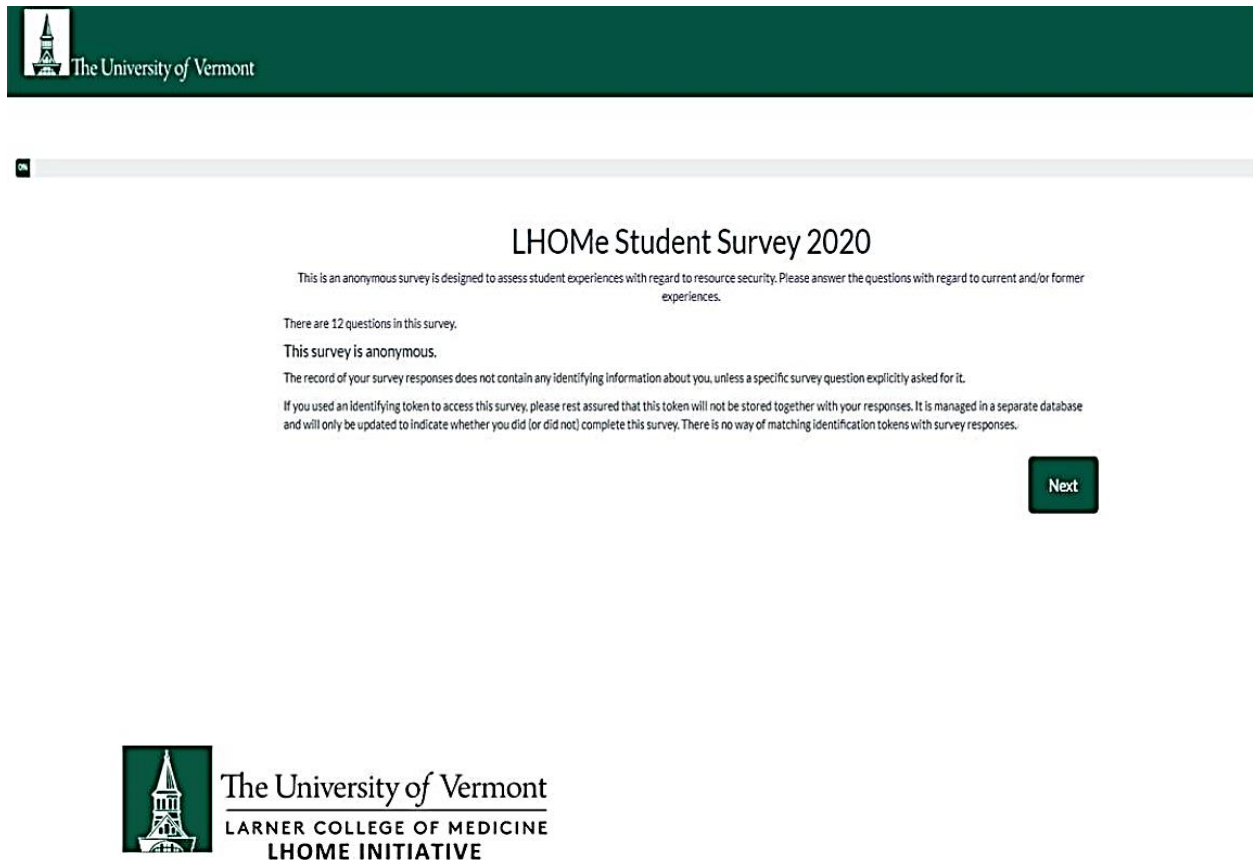
**Data Analysis** Responses were quantified and analyzed to determine the prevalence of resource insecurity among medical students and their awareness of available resources. Descriptive statistics were used to summarize the demographic information, living conditions, and levels of resource insecurity.

## Results

**Demographics** The response distribution across class years was relatively uniform, with a slightly lower response rate from the class of 2023 (**Figure 2**). The age distribution indicated a predominantly younger cohort, with 61% of respondents aged 25-29 years and 15% between 18- 24 years (**Figure 3**).

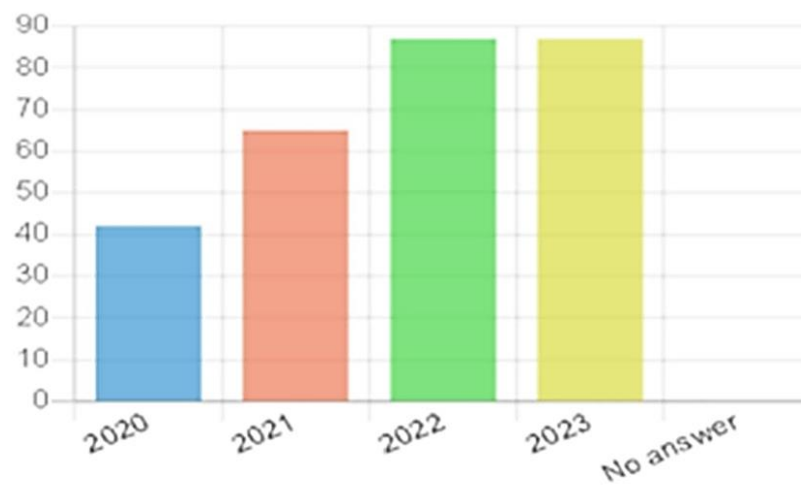
**Living Conditions** A majority of students (69%) reported shared housing arrangements, predominantly with classmates, and 14% reported living independently (Figure 4). **Resource Insecurity Awareness** There was a significant gap in awareness among students regarding resources for addressing resource insecurity: 73% demonstrated unfamiliarity with local and institutional resources (**Figure 5**), and 84% were unaware of whom to contact for concerns on resource insecurity (**Figure 6**).

**Academic Impact** Students reported varying levels of academic compromise due to resource insecurity, indicating a potential correlation between these challenges and their educational experiences (**Figure 7**).



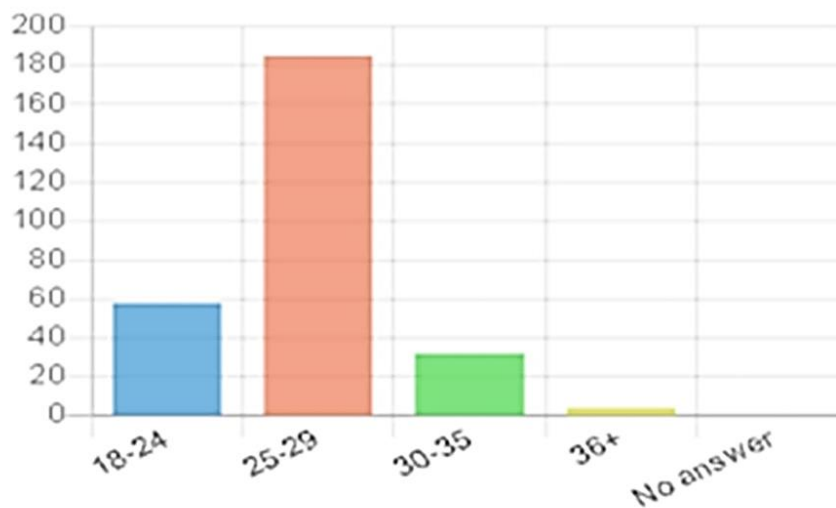
**Figure 1.** Overview of the LHOME Student Survey 2020 Interface homepage. This online survey was conducted to gather information on student experiences related to resource security at the Larner College of Medicine, University of Vermont. Participants were assured of anonymity, with the survey encompassing 12 questions regarding past and current experiences with food, housing, and financial security.

### Please Identify Class Year:



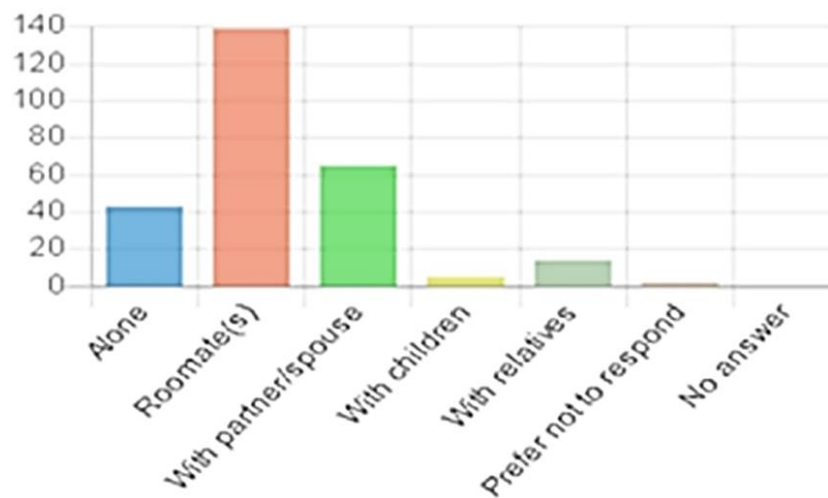
**Figure 2.** Class Year Distribution Among Survey Respondents. This bar chart displays the distribution of respondent class years, highlighting participation levels from first-year to fourth-year medical students.

### Age



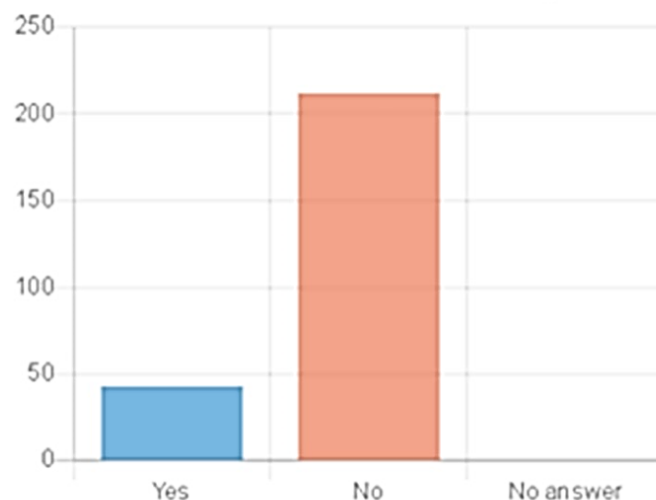
**Figure 3.** Age Profile of Survey Participants. Age distribution of participants in the LHOME Student Survey 2020, illustrating the majority demographic between ages 25-29, followed by the traditional college-age group of 18-24, with fewer participants in the older age brackets.

### Please describe your current living situation.



**Figure 4.** Housing Arrangements of Respondents. Bar chart illustrating the living arrangements of respondents, with the majority residing with roommates, followed by those living alone, and a smaller number living with partners, spouses, children, or relatives, indicating diverse living conditions among the surveyed students.

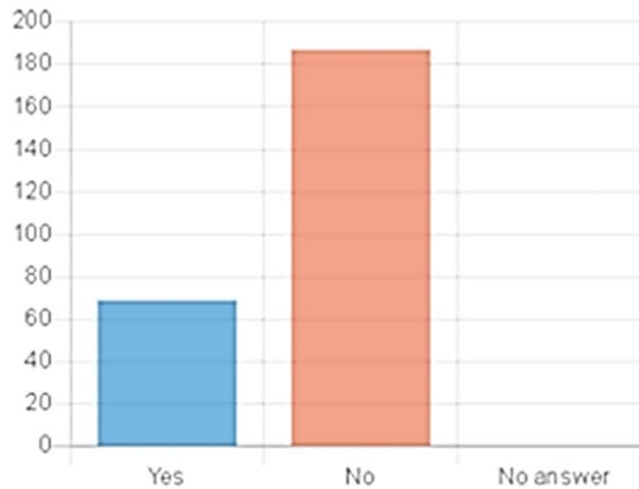
### Do you know who to contact within Larner College of Medicine if concerned about resource insecurity?



**Figure 5.** Awareness of Institutional Resource Contacts. This figure details student responses to the survey question regarding knowledge of contact points within Larner College of Medicine for concerns about resource insecurity, highlighting a significant lack of awareness among students about where to seek assistance.



### Are you aware of the resources available through Larner College of Medicine to address resource security concerns?



**Figure 6.** Knowledge of Available Resources for Resource Insecurity. Participant awareness of resources provided by Larner College of Medicine to address resource security concerns, indicating a discrepancy between the resources available and the student body's knowledge about these supports.

## Student Responses

The forcing to stay home has increased the cost of living much more with electricity and heating/air condition and food prices having gone up so it has made it much more difficult financially now that we can't work at school

~Class of 2023

Even though I was aware of the resources available, I did not qualify or was not given the assistance I needed during the transition time to the University of Vermont.

~Class of 2023

I am extremely fortunate to have had relatively little experience with resource insecurity. This is a wonderful privilege I have had but many of my classmates and future medical students cannot say the same. Please allow me to assure you that there is a need and LHOME, etc. should continue as well as be expanded.

~Class of 2023



**Figure 7.** Academic Impact of Resource Insecurity. A collection of anonymized student testimonials from the LHOME Student Survey 2020, reflecting varied experiences and the perceived necessity of initiatives like LHOME in supporting students through financial and resource challenges.

## Discussion

The survey conducted among 300 medical students revealed a striking lack of awareness about local and institutional resources for addressing resource insecurity, with 73% of respondents unfamiliar with such support systems. More concerning is that 84% were unaware of appropriate contacts for assistance within the institution. This gap in awareness underscores an urgent need for educational institutions to proactively communicate and connect students with available resources to navigate financial, food, and housing insecurities effectively.

In response to these disquieting findings, the Robert Larner College of Medicine at the University of Vermont took substantive action. It reinstated its CARES Act grant, broadened its array of services, including complimentary consultations with a Certified Financial Planner (CFP), and bolstered financial wellness initiatives. Furthermore, a Student Advisory Council was formed to give students a voice in the decision-making processes that affect their financial and academic well-being. Central to these initiatives was the creation of an online resource hub, ensuring that students have uninterrupted access to vital information and support networks.

Beyond the college, collaborative efforts with Hunger Free Vermont led to town hall discussions focusing on the accessibility of local food resources. These discussions epitomize a community-centric response, aligning institutional efforts with broader public resources to comprehensively tackle the challenges of food insecurity among students.

The significance of these measures extends beyond immediate relief; they address a systemic issue that disproportionately affects non-traditional and underrepresented students in the medical community. This pilot study serves as a clarion call for a deeper investigation into resource insecurity and its ramifications within the student population. Moreover, it spotlights the necessity of developing robust, evidence-based institutional strategies that not only support the academic endeavors of medical students but also safeguard their overall well-being. Future research should assess the longitudinal impact of these targeted interventions, aiming to illuminate their efficacy in promoting both student wellness and academic achievement in the demanding context of medical education.

### **Limitations**

This pilot study offers important insights into the prevalence of resource insecurity among medical students at the Larner College of Medicine during the COVID-19 pandemic. However, several limitations must be acknowledged. The study utilized a single-institution survey with a modest sample size, which may limit the generalizability of the findings. Additionally, the voluntary nature of survey participation may have introduced response bias, potentially overrepresenting students who have experienced resource insecurity. The data collected were also self-reported, which may be subject to recall bias or social desirability bias. The cross-sectional design of the survey precludes the establishment of causality between resource insecurity and the academic or personal challenges faced by the students.

Moreover, while the survey addressed various aspects of resource insecurity, the depth of information on the emotional and psychological impact of such insecurity on students was not fully explored. The study also did not capture longitudinal data, which could provide insights into the chronicity of resource insecurity issues and the sustainability of implemented interventions.

### **Future Exploration**

Future research should extend beyond a single institution to include a diverse array of medical schools across different geographic and socioeconomic contexts to enhance the representativeness of the findings. Longitudinal studies are needed to track the evolution of resource insecurity over time and to assess the long-term effectiveness of the interventions put in place. Further qualitative research could deepen our understanding of the personal experiences of medical students facing resource insecurity, exploring not only the practical challenges but also the psychological ramifications.

Investigating the structural and systemic factors contributing to resource insecurity within medical education could provide a foundation for comprehensive policy development. Additionally, future studies could evaluate the direct impact of initiatives like LHOME on students' academic performance, retention rates, mental health outcomes, and professional development. Such research would offer valuable evidence to guide the scaling and adaptation of similar programs nationally and could inform the development of best practices for supporting medical students during their training and beyond.

### **Conclusion**

The pilot study conducted amidst the COVID-19 pandemic has unveiled significant resource insecurities among medical students, coupled with a notable gap in awareness regarding available emergency resources. The LHOME initiative stands as a vital step toward bridging these gaps, underscoring its potential to reshape medical education and student support mechanisms on a national scale.

The pandemic has amplified the pre-existing challenges within the medical student community, accentuating financial, food, and housing insecurities that particularly burden non-traditional and underrepresented student populations. These insecurities have the potential to derail students from their academic pursuits, precipitate mental health crises, and lead to an increased rate of attrition, thus compromising the future workforce of healthcare professionals.

In alignment with the strategic health equity plan of the American Medical Association (AMA), which advocates for racial justice and the integration of equity principles across all policy-making and actions, this study highlights the need for concerted efforts to address the systemic disparities that contribute to resource insecurity<sup>5</sup>. The AMA's initiative is a clarion call to eliminate systemic inequities within healthcare and other social institutions, paving the way for a future where health equity is a realized standard, not an aspirational goal. This pursuit aligns with the Association of American Medical Colleges' (AAMC) health equity initiatives, which emphasize the critical importance of supporting the well-being of medical students as they prepare to become healthcare providers in an increasingly diverse society<sup>5</sup>.

The findings from this study advocate for a comprehensive approach that encompasses awareness campaigns, policy changes, and the development of robust support systems within educational institutions. Such measures are not only pivotal for supporting the current medical student body but also for ensuring the cultivation of a resilient, well-equipped, and diverse medical workforce poised to tackle the healthcare challenges of tomorrow.

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