

RESEARCH ETHICS

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INSTITUTE OF CLINICAL BIOETHICS' UNDERGRADUATE RESEARCH FELLOWSHIP PROGRAM: A PARADIGM FOR EDUCATING AND EMPOWERING ETHICALLY ORIENTED FUTURE HEALTHCARE PROFESSIONALS

Fredy J. Abboud, Peter A. Clark, Steven Silver, Adamya Aggarwal, Aidan L. Fogarty, Caroline E. Curtin

fa10761786@sju.edu

Abstract: *Since the 1960s, bioethics has emerged as a field to address the increasingly prevalent clinical ethical dilemmas that accompany advancements in medical capabilities. Nowadays, over 97% of U.S. hospitals benefit from healthcare ethics services, with evidence suggesting that bioethics education correlates with enhanced physician knowledge, attitude, and practice. However, medical school ethics curricula are not standardized, and credit hour requirements vary across institutions. Although there is a need for expanding bioethics education in medical schools, there should also be emphasis on pre-health professionals gaining exposure to medical ethics during undergraduate years; this way, aspiring healthcare workers would gain better insights into the clinical difficulties of their desired careers. As such, the Institute of Clinical Bioethics (ICB) at Saint Joseph's University instituted its Undergraduate Research Fellowship Program (URFP) in 2006, offering undergraduates clinical ethics exposure and bioethics research experience. This article sheds light on the importance of pre-health professionals acquiring early exposure to clinical ethics and provides readers with the ICB's URFP outline, which is made available for undergraduate bioethics centers to incorporate into their programs.*

Keywords: *Bioethics, medical careers, undergraduate research fellows, Undergraduate Research Fellowship Program*

*Address correspondence to: Fredy J. Abboud. Email: fa10761786@sju.edu

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INTRODUCTION

Bioethics is an interdisciplinary field that deals with the ethics and moral implications of biomedical research, clinical practice, environmental initiatives, and technology. Within bioethics is a subfield called clinical/medical ethics, which pertains to healthcare, centering around patient care and drawing theoretical and practical resources from medicine, philosophy, and social sciences. Medical ethics offers clinical guidelines and expectations for healthcare professionals to abide by, thereby safeguarding patient welfare, strengthening the public's trust in the medical profession and establishment, avoiding paternalistic medicine, and minimizing the possibility of patient exploitation in research.

With the rapid advancement in medical capabilities in recent decades, the medical profession has witnessed an outburst of ethical dilemmas that directly influence the quality of patient care. In one study, 90.8% of physician participants and 70.4% of its total healthcare professional participants reported encountering clinical ethics dilemmas very frequently.¹ Among the reported ethical dilemmas were struggles to preserve patient dignity and autonomous decision-making, uphold medical confidentiality, and navigate issues associated with different types of relations joining healthcare providers with patients.¹ Therefore, sufficient exposure of healthcare professionals to medical ethics is critical given the complexities of patient care.

Traditionally, medical ethics education has been limited to graduate school and clinical clerkship curricula, without great emphasis on undergraduate exposure. Almost all graduate medical programs demand undergraduates be exposed to their careers of interest prior to applying; however, most clinical observations and shadowing experiences are limited to traditional clinical experiences and everyday patient-physician interactions, free from encounters with difficult ethical dilemmas. Although direct evidence linking undergraduate exposure to medical ethics with enhanced and more patient-centered clinical performance is yet to be established, there is evidence suggesting that early exposure to medical ethics, even during undergraduate years, may influence the ethical conduct of healthcare professionals in future practice.^{2,3} In one study, pre-medical students, just like medical students, social workers, internal medicine residents, and palliative care fellows, exhibited significant increases in knowledge of basic bioethics principles and confidence in handling code status discussions and making clinical recommendations to patients.⁴ Therefore, expanding opportunities for undergraduate exposure to clinical ethics merits consideration.

As such, the Institute of Clinical Bioethics (ICB) at Saint Joseph's University (SJU) established its Undergraduate Research Fellowship Program (URFP) in 2006 to grant undergraduates exposure to clinical ethics and thus a more holistic insight into their prospective careers, plus to educate ethically oriented future healthcare professionals that prioritize patient-centered care and are adept at navigating the difficult ethical dilemmas of clinical work.

In this article, the importance of medical ethics exposure for pre-health professionals is discussed, and the URFP is presented as a paradigm available for ethics centers at other institutions to adopt and implement, thus helping to create ethically informed future healthcare professionals.

BRIEF HISTORY OF BIOETHICS

In 1966, Henry Beecher published an article titled "Ethics and clinical research", which addressed the ethical shortcomings of clinical research, particularly the failure to attain full informed consent for experimental treatments. He then published another article in 1968 on caring for "hopelessly unconscious patients". These early works laid a cornerstone for bioethics to make its way into the healthcare field.^{5,6,7} Soon after, rampant advancement in medical technology brought about various healthcare dilemmas, motivating the establishment of the Hastings Center/Institute of Society, Ethics and the Life Sciences in 1969, and the Kennedy Institute of Ethics at Georgetown University in 1971.^{7,8,9} Henceforth, the field of bioethics has emerged to address the increasingly challenging ethical dilemmas in medicine and life sciences.

In 1979, the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research issued “The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research,” laying down an ethical groundwork for human-subject research in the United States.¹⁰ As such, the principles “respect for persons”, “beneficence”, “non-maleficence”, and “justice” formed principlism – an objective norm of morality that has been governing human-subject scientific research ever since.⁷ Besides principlism, many theories derived from normative and applied ethical theories surfaced to justify or criticize select research and/or clinical practices.¹¹ The wealth of theoretical foundations in bioethics is courtesy of the field’s interprofessional nature, drawing insights from theologians, philosophers, sociologists, and other professionals.⁷

Years later, the field continued to develop with UNESCO establishing its International Bioethics Committee in 1993 to uphold the agency’s commitment to human dignity and rights.¹² UNESCO’s continued interest in bioethics reflected through its Universal Declaration on Bioethics issued in 2005, thus broadening the bioethical framework founded previously on principlism.¹³

In present-times, bioethics has rapidly gained traction among medical professionals, leading to the establishment of healthcare ethics programs (HEPs) in about 97% of U.S. hospitals.¹⁴ HEPs provide ethics services that may include ethics education, ethics consultations, and institutional policy development and reviews.¹⁴ Furthermore, professionals providing HEPs can serve on institutional review boards and other regulatory bodies purposed to ensure ethical clinical practices. As such, healthcare professionals with solid grounding in medical ethics have become valuable to medical institutions.

CLINICAL BENEFITS OF MEDICAL ETHICS EDUCATION

At the level of medical professionals, evidence suggests that exposure to medical ethics yields positive results on a physician’s overall clinical behavior and attitude. Physicians with solid exposure to medical ethics attain higher knowledge, attitude, and practice scores than physicians with little-to-no exposure to clinical ethics.¹² Also, bioethics education has been linked to improved physician analysis and navigation of ethically-charged clinical cases.¹⁶ Furthermore, national and international survey studies show physicians who strongly favor increased ethics education threaded throughout medical curricula.^{17,18}

The need for increased medical ethics education is evident given the steep decline in public trust in physicians and hospitals, with only 40.1% of U.S. adults (18 and above) trusting healthcare providers and health systems in January 2024 – a decline from 71.5% in April 2020.¹⁹ Naturally, patients who mistrust clinicians fear sharing significant health information with their healthcare providers, which harms the quality of patient care and data-driven decision-making.²⁰ By contrast, patients who trust their healthcare providers’ confidentiality practices are less likely to withhold information from them.²¹ Therefore, strengthening ethical frameworks among healthcare providers is a must in the quest to restore patient trust in healthcare providers and the medical establishment.

BIOETHICS EDUCATION IN MEDICAL SCHOOLS

Like health professionals, medical students express increasing interest in gaining greater exposure to ethics, as some report apprehension of facing clinical ethics issues.²² Furthermore, 53% of medical students in one study acknowledged the importance of medical ethics to their future careers but as high as 49.4% had not been exposed to medical ethics.²³

In 1999, the World Medical Association’s 51st General Assembly suggested that medical ethics education become mandatory in medical school curricula. This recommendation was then reaffirmed in 2015.²⁴ As of 2013, the Liaison Committee on Medical Education (LCME) requires the “adherence to ethical principles” as a competency required for medical school graduates;²⁵ all medical schools have integrated medical ethics into their curricula, but not to an equal extent across institutions. Nationally, medical schools require an average of 35.6 hours of instruction in bioethics before graduation; some schools require as low as 9 hours while others require as high as 125 hours.²⁶

The importance of bioethics in medical schools is also evident through research stating that “medical students perceive their current medical environments as abusive toward their personal, moral, and spiritual growth.”²⁷ Without receiving sufficient teaching in ethics, medical students will learn ethics implicitly from medical residents or attending physicians who may not adhere to the highest standards of clinical ethics.²⁸ This is exacerbated given increasing concerns over unethical physician practices, with several studies suggesting poor physician adherence to clinical guidelines nationally and/or globally; some physicians fail to obtain proper informed consent, do not adequately uphold patient autonomy, inadvertently disclose confidential patient health information, and, in some limited cases, violate laws, thus further deteriorating the public’s trust in the medical profession.^{29,30,31,32,33}

IMPORTANCE OF CLINICAL ETHICS EXPOSURE THROUGH UNDERGRADUATE EDUCATION

Given the benefits of bioethics exposure during graduate and/or clinical training years, exposure to bioethics during undergraduate education can plausibly extend these benefits to pre-health professionals as they discern their vocations to medical professions. A solid ethics background serves as a moral guide for healthcare professionals, equipping them with the tools for navigating ethical dilemmas with a well-formed conscience and valid ethical reasoning. In one study, 84% of pre-medical and pre-dental students expressed interest in receiving formal medical ethics training in preparation for a medical/dental career.²³ Therefore, greater emphasis must be placed on undergraduate bioethics opportunities in order to prepare future healthcare students for an ethics-governed outlook on medical education, patient care, and clinical research practices.

INSTITUTE OF CLINICAL BIOETHICS’ UNDERGRADUATE BIOETHICS PROGRAM

Based on the aforementioned, the ICB at SJU has developed its URFP – a program designed to educate undergraduates, particularly pre-health professionals, on contemporary bioethical issues and promote undergraduate scholarly work. Since 2006, over 200 undergraduates have been admitted to the URFP and have developed solid ethical foundations in pursuit of medical and dental careers.

The ICB offers healthcare ethics services, including ethics teaching rounds, 24/7 ethics consultations, and staffing institutional review boards and ethics committees. This allows ICB undergraduate research fellows to gain invaluable insights into complex clinical ethics cases, institutional ethics policy-development, and the interplay among legal counsel, bioethicists, risk management officials and other bodies that contribute to decision-making in medical institutions.

Furthermore, the ICB undergraduate research fellows are expected to uphold high undergraduate research standards, as they collaborate with medical professionals on clinically focused bioethics research aimed at informing clinical policy reforms and advocating for public health changes.

Although the ICB’s focus is on undergraduate bioethics exposure, the URFP is not limited to bioethics shadowing and research, but also includes the professional, academic, and personal development necessary for integration into clinical settings and patient care. Moreover, holistic character growth is coupled with basic clinical skills (e.g. CPR administration, Mental Health First Aid, naloxone administration, stopping a bleed, etc.) that align with the ICB’s philosophy of proactive and preventive medicine.

The abovementioned URFP elements, benefits, and more, are outlined in the ICB’s URFP outline (found in addendum). The URFP outline highlights key elements of a paradigmatic undergraduate bioethics program for pre-health professionals desiring a more holistic outlook on medical practice.

CONCLUSION

All in all, bioethics education has become integral to healthcare professionals' clinical formation and development. Alongside its reported clinical benefits on healthcare professionals, bioethics lays the foundation for ethically grounded medical researchers and caretakers that form an indispensable backbone of society.

As bioethics education gains stronger footholds in medical curricula, undergraduate ethics exposure is a must to consider, given medical advancements showing no stagnation anytime soon and foreshadowing increasingly difficult ethical quandaries in patient care.

With the LCME requiring bioethics coursework integration into medical curricula, 45 U.S. medical schools offering baccalaureate/M.D. programs, and 13 U.S. medical schools offering Baccalaureate/D.O. programs, the ICB's URFP merits consideration, as the medical community continues to implement educational reforms aimed at enhancing clinical ethics standards.^{34,35}

ADDENDUM

Undergraduate Research Fellowship Program Outline Design and Implementation

I. INTRODUCTION

Welcome to the Undergraduate Research Fellowship Program (URFP) outline, designed to guide you through the various facets of the Institute of Clinical Bioethics' (ICB) URFP. This outline serves as a comprehensive resource for understanding the program's objectives and opportunities it offers to undergraduate research fellows (URFs).

The ICB's URFP is a multifaceted initiative aimed at fostering the educational, professional, and personal growth of its URFs. It integrates clinical practice, ethical consultation, research, and community service, creating a holistic environment for learning and development. These elements intersect to create a robust framework that supports the ICB's mission to enhance healthcare delivery and ethical standards in the medical field.

The outline is divided into several key sections, each focusing on a specific aspect of URFP:

1. **Skills and Certifications:** Detailing the technical skills and certifications vital for healthcare professions.
2. **Educational and Professional Development:** Emphasizing the importance of continuous professional growth and communication skills.
3. **Shadowing Opportunities:** Offering insights into various clinical and administrative healthcare settings.
4. **Diversity & Sensitivity Training:** Highlighting the importance of cultural competence and sensitivity in healthcare.
5. **Research Opportunities:** Outlining the research initiatives and projects that ICB URFs can engage in.

This outline serves not only as a roadmap for ICB URFs, but also aims to disseminate our proven model to other institutions. By integrating clinical practice, ethical consultation, research, and community service, this program aims to create well-rounded professionals ready to tackle the challenges of the healthcare industry.

We are excited to present this paradigm and look forward to seeing how other institutions can adapt and benefit from the ICB's URFP model.

II. SKILLS AND CERTIFICATIONS

Goal: To teach undergraduate pre-health professionals techniques and provide certifications that are critical to healthcare professions

Objective: Provide technical skills and certifications that are advantageous for a future healthcare professional

1. Certifications Through the Opioid Prevention & Education Course

The Opioid Prevention & Education Course is run out of the ICB and includes academic lectures covering medical, legal, and ethical perspectives, training, and experiential aspects (attending Narcotics Anonymous and Alcoholic Anonymous meetings as well as visiting treatment and recovery programs). The training includes CPR certification, NARCAN administration training, Mental Health First Aid, Stop the Bleed, and mandated reporting training. These training sessions are critical in educating students to be well-informed on the opioid crisis and well-prepared to respond in emergency events.

- **Cardiopulmonary Resuscitation (CPR):** Students complete a 2-part American Heart Association course on CPR and Basic Life Support (BLS). This course includes online and in-person portions. The online portion introduces and tests students on the basics of CPR and BLS; whereas, the in-person portion requires that students apply the skills learned online under the instruction of a nurse.
- **NARCAN Administration:** Students receive training in NARCAN administration. After completing the training, students then distribute opioid prevention resources such as NARCAN, fentanyl test strips, xylazine test strips, and drug disposal bags at Health Promoters – medical clinics the ICB runs across Philadelphia, PA and its greater area. A crucial part of this NARCAN administration training is for students to become knowledgeable enough to educate community members on the importance of NARCAN as well as how to use it.
- **Mental Health First Aid:** Students have the opportunity to complete an 8-hour online course on Mental Health First Aid to learn skills necessary to respond to mental and behavioral health crises.
- **Stop the Bleed:** Students have the opportunity to complete “Stop the Bleed” certification training as an online or in-person course. This course teaches students how to respond to a dangerous, life-threatening bleed.
- **Mandated Reporting:** Students are educated on state laws pertaining to mandated reporting of child or elderly abuse and/or neglect as well as domestic violence. Students are also offered mandated reporting training for certifications.

2. Trainings Through the Health Promoter Program

The Health Promoter Program encompasses free-of-charge clinics run by ICB staff, ICB URFs, medical students, and physicians. These clinics provide preventive health screenings to undocumented, underinsured, and uninsured patient communities in Philadelphia, PA and its greater area. URFs and volunteers run several screening stations, including taking blood pressure and blood glucose/cholesterol, as well as providing wound care.

- **Blood pressure:** Students are trained in both manual and automated blood pressure measurements.
- **Blood glucose:** Students measure blood glucose levels using a glucometer.
- **Blood cholesterol:** Students measure total blood cholesterol levels using a CardioChek Cholesterol Analyzer.
- **Wound care:** Healthcare professionals train students in how to clean and dress wounds.
- **Fluoride treatment:** Students are trained in how to apply fluoride to patients’ teeth to help prevent cavity formation.
- **Navigating federal food assistance programs:** Students are trained in how to connect patients to federally funded food assistance programs (e.g. SNAP and WIC) and help them navigate the registration procedure.

III. EDUCATIONAL AND PROFESSIONAL DEVELOPMENT

Goal: To promote professional development, enhance communication skills, and broaden bioethics education among undergraduate pre-health professionals

Objectives: Provide professional skills, communication strategies, and critical thinking skills that will help URFs leverage their strengths to become more effective leaders in their fields

1. Supporting Professional Development

This approach centers on ongoing maintenance and development of the skills and knowledge URFs need to progress and excel in their careers. There is an emphasis on ongoing development rather than seeing training as a box to tick.

The following skills will be prioritized:

- Setting clear goals
- Searching for new opportunities
- Seeking out a mentor
- Discussing one's goals with mentors/supervisors
- Growing one's professional network
- Tracking one's progress
- Mastering one's knowledge of bioethics and clinical medicine
- Pursuing leadership development

2. Honing Communication Skills

URFs are trained to:

- **Listen.** People want to know that they are being heard. Students are encouraged to really listen to what the other person is saying and to ask for clarification to avoid misunderstandings.
- **Know their audiences.** Effective communicators target their message based on who they are speaking to, so students are advised to try to keep the other person in mind when trying to get their messages across.
- **Maintain proper body language.** This is important for face-to-face meetings and video conferencing. There is emphasis on students appearing accessible, by having open body language (e.g. not crossing their arms, maintaining eye contact, etc.).
- **Be clear and brief, yet specific.** For written and verbal communication, students practice being brief yet specific enough that they provide enough information for the other person to understand what they are trying to say. Students are also instructed on clarity and tone in speech.
- **Communicate directly.** Students are taught how to identify when direct communication is preferred over email communication.
- **Think before speaking.** Students are advised to always pause before speaking, thus not uttering the first thing that comes to their minds. They are asked to take a moment and pay close attention to what they say and how they say it.
- **Treat everyone equally.** Equality and respect in treating everyone is interwoven throughout students' education.
- **Meet people where they are.** As pre-health professionals, students are taught the teach-back method – a technique healthcare professionals use to ensure patients provide full informed consent before proceeding with care. The teach-back method involves simplifying terms and concepts to a 5th grade level, breaking ideas into bullet points, and then asking the patient to explain back what they have understood.

3. Broadening Bioethics Education

URFs are encouraged to:

- Take the appropriate academic courses that will enhance their knowledge of medicine and bioethics.
- Attend workshops, lectures, panel discussions and other events outside Saint Joseph's University to broaden their academic perspectives.
- Participate in local, national and international conferences that allow them to present posters, papers or be involved in panel discussions. This provides students with the opportunities to network while gaining new knowledge and skills.
- Be involved in a mentorship program that pairs URFs with seasoned healthcare professionals, fostering a culture of learning and knowledge sharing.

4. Programs

A. Professional Development

- **Professional partnerships:** URFs are offered opportunities to work firsthand with ICB partners such as Penn Oncology, Drexel Hope, Horizon House, American Heart Association, Sharing Excess, Bank of America, and Comcast.
- **Offering seminars:** URFs can help coordinate seminars for local community partners (churches, schools, nursing homes, etc.) on topics like advance directives, durable power of attorneys, DNR orders.
- **Fund raising:** URFs can opt to contribute to ICB promotional efforts by speaking with benefactors, community leaders, etc.
- **Mentoring program:** URFs are paired with medical students/medical residents to learn about different medical professions and career paths.
- **Leadership roles:** URFs are guided into leadership positions. Leadership positions at the ICB include coordinating Health Promoters, serving on the Fellows' Advisory Board, and leading research projects. Leadership opportunities may also present outside the ICB's setting; examples include Biology Club, *Alpha Epsilon Delta* (pre-health professions honor society), *Alpha Sigma Nu* (Jesuit academic honor society), etc.
- **Grant applications:** URFs can apply for research grants established by benefactors.
- **International experiences:** URFs are offered exposure to international research and/or charitable work through offers to coordinate community health initiatives in Recoleta, Chile, Bethlehem, Palestine, La Carpio, Costa Rica, and Arcatao, El Salvador.

B. Communication Skills

- **Public speaking seminar:** URFs can register for a yearly seminar intended to help students build public speaking skills required in health professions.
- **High school programs:** URFs can serve as mentors for students plus present case study reviews and journal articles at different high schools across Philadelphia.
- **Journal club presentations:** Proactive URFs can present at, and even lead, ICB journal clubs designed to familiarize students with the complex ethical dilemmas healthcare professionals face daily.
- **External seminars:** Select URFs can present, alongside bioethicists, at community bioethics forums on topics such as advance directives, DNR orders, organ and tissue donation, etc.

- **Working with institutional advancement teams:** In some cases, URFs are recruited to speak before journalists, benefactors, Board of Directors, etc.
- **National research conference presentations:** URFs are supported to make their research known nationally. Past presentations have been at The Society of General Internal Medicine Conference, The Summit on Cancer Health Disparities Conference, American Heart Association Convention, and Saint Louis' University Health Care Ethics Research Conference.
- **National academic competition:** URFs can apply to and join Saint Joseph's National Bioethics Bowl team, which competes at the National Bioethics Bowl.
- **Marketing presentations:** URFs are recruited to market the ICB's different programs to different groups on campus
- **Language skills:** URFs can employ their language skills (Spanish, French, Mandarin, and more) to act as patient advocates at Health Promoters.

C. Education

- **Academic course offerings & Health Care Ethics minor:** URFs can register for bioethics classes, which count towards a minor in health care ethics, designed to educate students on contemporary bioethics issues. The course list includes "Medical Ethics", "Fieldwork in Clinical Bioethics", "Just Health Care in Developing Nations", and "Opioid Prevention and Education Seminar".
- **Shadowing:** URFs can attend ethics teaching rounds, ethics committee meetings, institutional review board sessions, etc.
- **Out-of-university ethics education:** URFs are invited to attend medical lectures and research presentations offered by medical professionals partnered with the ICB.
- **National academic competition:** URFs part of Saint Joseph's University's National Bioethics Bowl team attend weekly training sessions with theologians, philosophers, and physicians to discuss bioethics case studies.
- **Clinical education:** URFs can gain basic clinical education by completing certification programs and interacting with healthcare providers volunteering at Health Promoters
- **Extracurricular activities:** URFs can join campus organizations and academic honor societies encouraging bioethics education (e.g. *Delta Delta Sigma* – pre-dental honor society)

IV. SHADOWING

Goal: To increase undergraduate pre-health professionals' exposure to both the clinical and administrative aspects of the healthcare field so that they are more prepared for their careers

Objective: Provide URFs with opportunities to shadow professionals in different clinical and administrative healthcare situations to increase knowledge of the field.

The ICB provides shadowing opportunities in multiple different domains/fields, with each domain/field providing unique experiences and knowledge. By offering several unique and exclusive shadowing opportunities, the ICB is also granting its URFs the chance to set themselves apart from other undergraduate students that may eventually apply to the same graduate medical programs. The different domains/fields are as follows:

1. Ethics Teaching Rounds

In contrast to the grand rounds seen in medical schools and teaching hospitals, interdisciplinary ethics teaching rounds focus more on the ethical framework of the individual case. Like grand rounds, the patient's best interest is always the priority, but ethics teaching rounds encompass the ethical, medical, social, and spiritual aspects of medicine. Ethics teaching rounds also incorporate other opportunities for undergraduates, including...

- **Medical networking:** The ICB is contracted with several hospitals in the Philadelphia area and beyond to teach medical residents clinical ethics. By shadowing an ICB bioethicist, URFs have a unique opportunity to sit and learn alongside medical residents and connect with them.
- **Ethics committees:** As part of the services the ICB provides to hospitals it is contracted with, a bioethicist staffs their ethics committees. Thus, URFs have the opportunity to shadow the bioethicist at these ethics committee meetings, which handle severe and/or ethically complex cases.
- **Consultations:** As part of the ethics committee for a given hospital, the bioethicist is on call 24/7. In these consultations (whether via video conferencing, over the phone, by email, or in person), URFs have the opportunity to shadow the bioethicist and take part in the consultations. Participating in ethics consultations is a unique opportunity for URFs to witness many of the common ethical dilemmas and concerns physicians may have, as well as the bioethicist's decision-making process.
- **Institutional review boards:** Continuing with the theme of committee meetings as part of ethics teaching, the ICB offers URFs opportunities to shadow during institutional review board (IRB) meetings. ICB bioethicists sit on the IRBs of various medical institutions around Philadelphia. By shadowing the bioethicist, URFs get exposed to the policy and procedural side of healthcare and medical research.

2. Health Promoter Program

One of the ICB's main features is the Health Promoter Program, which encompasses free-of-charge medical clinics hosted in partnership with different community stakeholders in Philadelphia and the surrounding communities. The ICB currently runs six of these programs, with locations in Center City Philadelphia, North Philadelphia, West Philadelphia, and South Philadelphia, as well as a number of mobile locations in more rural parts of Pennsylvania, Delaware, and New Jersey. The ICB's outreach extends also internationally, with its URFs running a Health Promoter in La Carpio, Costa Rica, once-a-year. The Health Promoter Program is unique in that it is funded solely by grants but is organized and staffed mostly by URFs and volunteers. Medical residents from various health systems contracted with the ICB volunteer their time to see patients, but all vital signs and demographic data are taken by undergraduate students. The design of this program brings necessary preventive care to vulnerable communities and offers URFs hands-on clinical experience as they shadow clinicians.

3. Pediatric Shadowing Experiences

Through some of the educational programs offered by or alongside the ICB, URFs are also given the opportunity to work at specialty care pediatric facilities. For example, students enrolled in healthcare ethics classes can hold experiential service-learning positions at a facility like KenCrest Medically Fragile Transitional Care Homes for Children, where students would volunteer as aids, thus getting exposed to intensive pediatric care.

4. Geriatric Shadowing Experiences

The ICB provides two unique shadowing experiences for URFs interested in geriatrics.

- **Therapeutic horticulture research project:** The therapeutic horticulture research project was started by ICB URFs and focuses on the use of horticultural engagement to minimize the progression of neuropsychiatric symptoms of dementia in elderly patients. The project initially began at Manresa Hall, which is a 17-bed infirmary for retired Jesuit priests located at Saint Joseph's Hawk Hill campus. Since then, the project has expanded to McAuley Convent and Assisi House, which have about 40 beds for retired nuns living with dementia.

- **Manresa Hall ethics committee:** Manresa Hall infirmary also has an ethics committee that functions the same way as hospitals' ethics committees do, except this committee is dedicated solely to geriatric care. Like at the other ethics committee meetings, ICB URFs are welcome to attend.

5. Physical and Occupational Therapy Shadowing Experiences

Through the Health Promoter Program, the ICB offers shadowing and clinical opportunities to both its URFs who are interested in physical/occupational therapy (PT/OT) as a field as well as other non-URF PT/OT students at Saint Joseph's University (SJU). Under the supervision of instructors, students can perform PT and OT workups on patients served at Health Promoters. Some patients may meet certain requirements for referral to SJU's free-of-charge PT/OT clinic (Samson Free Rehab Clinic) in Philadelphia, PA, where students can also work and shadow to gain clinical experience and knowledge.

6. Pharmaceutical Shadowing Experiences

Just as PT/OT URFs can rotate at Health Promoters and gain experience, so can SJU's pharmacy students. Pharmacy students can perform drug reconciliation with patients at Health Promoters to ensure that all medications a patient is taking are up-to-date and not negatively interacting with each other. The pharmacy students then present this information to physician volunteers before patients consult with the latter.

7. Nursing Shadowing Experiences

Current or prospective SJU nursing students can also apply for an ICB research fellowship, which grants them opportunities to gain valuable clinical experience at Health Promoters. Nursing URFs are offered the opportunity to engage patient populations from different cultures and thus develop cultural competence, hone their clinical communication skills, and learn wound care from emergency medicine and critical care physicians. Furthermore, nursing URFs can satisfy their program's clinical rotation requirements at Health Promoters.

V. DIVERSITY & SENSITIVITY TRAINING

Goal: To help undergraduate pre-health professionals develop core competencies and sensitivities while promoting diversity in medicine

Objective: Provide URFs with diversity training and opportunities for group reflection

- 1. Cultural Diversity & Sensitivity Training:** Having an in-depth understanding of cultural diversity is essential to the development of URFs, as the ICB frequently collaborates with and serves individuals from diverse backgrounds. This training is provided to help URFs learn ways to effectively connect with others from different cultures, while identifying their own personal biases and understanding how they might shape interactions. This serves as a way for URFs to combat and reduce cultural barriers and differences including age, race/ethnicity, religion, sexual orientation, etc.
- 2. Gender Sensitivity Training:** This training resembles that of cultural diversity and sensitivity, but focuses on societal inclusion for members of the LGBTQ+ community. URFs are made aware of gender-related discrimination on a micro and macro level and the need to treat all patients with dignity and respect regardless of sexual identity/orientation.
- 3. Disability Awareness & Sensitivity Training:** URFs are educated on how to engage with people with different disabilities (e.g. developmental disabilities, mobility limitations, sensory impairments, and others).

4. **Reflection Groups:** Providing opportunities for reflection fosters self-awareness, ultimately connecting the person to their practice. Once per semester, URFs and other Health Promoter volunteers attend a reflection group hosted by the ICB’s staff and chief medical advisors. The latter, who themselves come from diverse cultural backgrounds, provide an account of their individual journeys to becoming physicians and their experiences within the healthcare system. The URFs are then encouraged to go out and meditate on their own experiences with patients served at Health Promoters and consider how those interactions have helped their communities and impacted their futures in medicine.

VI. RESEARCH OPPORTUNITIES

Goal: To promote undergraduate scholarly work, intellectual curiosity, and early exposure to scientific and bioethical research in preparation for fields where research skills are key

Objectives: Promote research of current topics in bioethics through writing manuscripts, presenting at academic conferences, etc.

While the Health Promoter Program and ethics consultations satisfy the ICB’s clinical and service mission, undergraduate scholarly work satisfy the ICB’s academic mission. Unique in its nature, the URFP is one of three elements laying down the ICB’s foundations. The triad includes (1) health professionals, (2) Health Promoter Program, and (3) URFP. All three elements interweave into one another, setting the tone for the ICB’s research projects and initiatives.

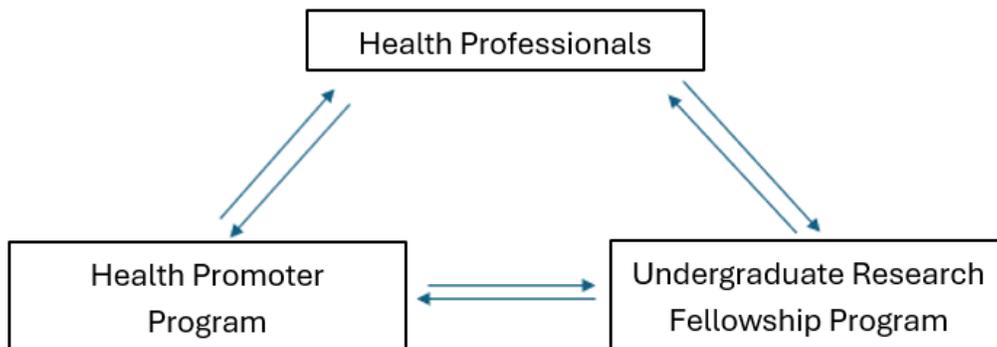


Figure 1: *Foundational triad behind the ICB’s Work*

Health professionals are needed to attend Health Promoters, evaluate patient metrics and address any of their concerns. URFs running the Health Promoter Program, in turn, need medical and/or dental professionals to handle the medical and/or dental portions of research projects. This interdependence benefits all three components.

1. Nature of Research Conducted

As URFs, students are expected to remain up-to-speed with current issues through reading daily news, recent journal articles, and public health announcements. Research projects are the product of individual initiative, staff mentorship, as well as collaboration with the ICB’s extensive network of healthcare professionals from various fields. Research topics URFs can tackle span a spectrum of fields (infectious disease, psychiatry, public health, autism education, opioid prevention and education, rheumatology, oncology, etc.).

Since 2006, many of the ICB’s research projects have been literature reviews, investigating current or potential future medical/ethical dilemmas. Hands-on projects, however, have been central to the ICB’s push toward a more holistic and comprehensive education for undergraduate pre-health professionals. Whether in

encouraging students to think critically and evaluate data presented in scientific journals or actively gathering data in health screenings through the Health Promoter Program, hands-on projects offer ICB URFs an early glimpse of survey, data collection, and analysis skills necessary for more advanced clinical and epidemiological studies. The ICB uniquely accentuates the ethical dimension in both literature-review and hands-on research projects.

Among the most important projects ICB URFs have completed or are working on are:

- Developing an opioid education course for K-12 students
- Creating a video on the specifics of full-code vs. DNR status and implementing it in ICUs at local hospitals to investigate the likelihood of patients or proxies choosing DNR status when CPR is explained using visuals.
- Examining the ethics behind national policies and protocols, including physicians carrying out the death penalty, use of psychedelics in treatment of chronic mental illnesses, and xenotransplantation to mitigate the organ shortage crisis.
- Lending patients automatic blood pressure monitors as a means to investigate whether increased access to such tools would encourage patients to adopt a healthier lifestyle and maintain their blood pressure within nationally recommended ranges.
- Distributing free Pack n' Plays to expecting or new mothers and gathering quarterly data on the infant's health, which can help guide national policies on Pack n' Plays and family support.
- Gathering data, in accordance with federal regulations, on prevalent health conditions in undocumented and immigrant communities (Asian, Hispanic, Nigerian, French-speaking West Africans, etc.) in Philadelphia, PA.
- Creating preventive medical clinics for migrant farm workers and the undocumented.
- Developing a hospice/palliative care center in Arcatao, El Salvador.
- Funding eye exams and purchasing reading glasses for community members at schools and community centers in Arcatao, El Salvador as part of the ICB's "Lenses-to-Go Program".

2. Research Process

URFs are asked to outline a paper after having identified a topic of interest, examined its controversial basis, and studied its implications on different aspects of life (health, community, justice, accessibility, resource allocation, etc.). URFs leading a project consult with the ICB's director and Research and Development coordinator to form a research team capable of delivering authentic and scholastic work. Typical research teams comprise of one to two medical residents or dentists, one to two medical/dental students recruited from nearby medical/dental schools or community service events, two to four URFs, and a bioethicist. Health professionals typically tackle the health aspect (symptomatology, risks, benefits, public threats, etc.) of the research topic, laying the scientific grounds upon which the research team takes its stance. Graduate research fellows, some of whom have graduated with financial and law degrees, tackle the project's financial and legal perspectives. The ICB URFs are tasked with supplementing the professionals' writings – formulating introductions, history sections, conclusions, and commentaries depending on the URFs' fields of study.

3. Goals/Objectives

➤ Promoting undergraduate scholarly work & intellectual curiosity

In accordance with the ICB's academic mission, the URFP is at the forefront of promoting undergraduate scholarly work as well as contributing to a more fruitful and well-rounded undergraduate academic experience. Simply put, clinical research publications prepare students for the intellectual rigor and

expectations of graduate and health professions schools (e.g. medical, physician assistant, and nursing schools) and offer students opportunities for growth outside of the classroom.

➤ **Assisting URFs in discerning interests in academic fields and/or clinical research**

By getting exposed to clinical research, ICB URFs (particularly those aspiring to become medical scientists) may identify their clinical research interests early. With various graduate schools now offering dual degrees (e.g. MD/Ph.D., MD/MPH, Ph.D./MBA, etc.), URFs will have a better understanding of what academic degrees they ought to pursue, especially after having had the opportunity to collaborate with students from different fields and witness the interplay between medical, financial, legal, and other perspectives in a manuscript's composition.

➤ **Encouraging URFs to voice their opinions**

Research projects serve as one avenue from which the ICB derives its new initiatives and goals. In examining national medical dilemmas and public health threats, URFs can advocate for new services the Health Promoter Program can offer. One example is an URF-led initiative, in collaboration with psychologists, to develop and implement a mental health station into Health Promoters, thus offering screenings for anxiety, depression and suicide risk, and, if needed, free referrals for psychiatric consultations. The initiative arose out of recent data suggesting an overall declining mental health status among the general population. Hence, the ICB URFs' role in research helps keep the Health Promoter Program up-to-speed with the healthcare challenges facing the underprivileged and undocumented communities across Philadelphia and its greater area.

➤ **Helping URFs develop soft skills**

While fundamental to the workings of Health Promoters, teamwork, leadership, time management, and problem-solving skills are also crucial to the success of research projects. Coordinating meetings, assigning responsibilities, deciding on key issues, upholding the value of teamwork, and requiring everyone's input into team decisions all build and nurture desirable soft skills. As URFs collaborate on research manuscripts, tension may arise regarding the order of authorship. It is thus imperative for the URF project leader to maintain a cohesive and transparent working environment, in which everyone can build from and not denounce others' work. Research also necessitates that URFs display proper organizational and informational-processing skills such as properly outlining a paper, gathering data, identifying irrelevant information, and sharing progress with other team members.

➤ **URFs presenting work at local and national conferences**

ICB URFs are encouraged to apply to and present their research projects at local and national conferences such as SLU's Health Care Ethics Research Conference. Using data collected from screenings at Health Promoters, ICB URFs have had the opportunity to present at national medical conferences including the 2024 Society of General Internal Medicine Annual Meeting and the 2024 Summit on Cancer Health Disparities Conference. Going off the ICB's unique foundational triad, the Health Promoter Program also offers URFs clinical research on the prevalence of certain health conditions among undocumented and minority populations in Philadelphia. This data may prove helpful to local community officials and healthcare centers.

➤ **Encouraging vital change in local, national, and international communities**

The impact of research projects extends beyond the ICB and Health Promoter sites. Emphasis is heavily placed on URFs understanding the significance/influence of their research, especially innovative and hands-on projects, on community life. The ICB has recently sought after implementing changes into high school curricula, especially in addressing the rampant and intractable increase in substance abuse and overdoses among adolescents. Fearful of the nation's worst opioid epidemic further penetrating school life, ICB URFs were granted the opportunity to collaborate with physicians at Mercy Catholic Medical Center to develop an opioid prevention and education curriculum for K-12. As of June 2024, the curriculum has received two county grants to help incorporate it into select high schools' curricula. ICB staff and URFs have also contributed to the development of palliative/hospice care centers in Arcatao, El Salvador, and Bethlehem, Palestine. Furthermore, ICB URFs are leading a project aimed at combating period poverty in Arcatao, El Salvador, through which students are designing reusable menstrual wear to support women unable to afford needed menstrual products. Therefore, ICB URFs have had the opportunity to engage with international medicine and work alongside physicians overseas to enhance medical infrastructure in underprivileged communities.

➤ **Familiarizing URFs with grant proposals and disbursement of funds**

Clinical research, even as simple as data collection at a community event, often requires applications for private and federal funding. Some experienced ICB URFs have been granted the experience of collaborating with SJU's advancement team to write up Letters of Information (LOIs), submit grant proposals, meet with benefactors, suggest project budget changes, etc. This way, some ICB URFs have witnessed the behind-the-scenes work for funding clinical research projects that help advance the Health Promoter Program.

VII. CONCLUSION

Throughout this document, we have detailed the critical components of the ICB's URFP: a commitment to professional development, scholarly excellence, and the cultivation of essential communication skills. By engaging in a variety of activities—from earning certifications, shadowing health professionals, conducting cutting-edge research, and attending sensitivity training—URFs are equipped with a diverse skill set preparing them for future careers in healthcare and beyond.

Key Takeaways:

1. **Professional growth:** The program emphasizes the importance of continuous professional development, offering mentorship, leadership opportunities, and practical experiences that foster growth and excellence.
2. **Research and scholarship:** URFs are encouraged to delve into research, contributing to the ICB's academic mission. The hands-on projects and literature reviews not only hone their research skills but also enhance their understanding of the ethical dimensions of healthcare.
3. **Communication and interpersonal skills:** The program prioritizes the development of effective communication strategies, ensuring that URFs are adept at listening, engaging with diverse audiences, and conveying their messages clearly and concisely.
4. **Cultural competence and sensitivity:** By participating in diversity and sensitivity training, URFs learn to navigate and respect the diverse backgrounds and needs of the communities they serve.

5. **Community impact:** Through initiatives like the Health Promoter Program, URFs can contribute meaningfully to underserved communities, thereby gaining valuable experience and making a tangible difference in the lives of vulnerable populations.

By sharing the ICB's URFP, we hope to inspire other universities and institutions to adopt similar models that emphasize comprehensive education, ethical research, and community service. The principles and practices detailed in this document are designed to create a well-rounded educational experience that prepares undergraduate pre-health professionals not only for professional success but also for meaningful contributions to society.

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AUTHORS' AFFILIATIONS

Peter A. Clark, Director, Institute of Clinical Bioethics, Saint Joseph's University, Philadelphia, PA, USA

Fredy J. Abboud, Research Fellow, Institute of Clinical Bioethics, Saint Joseph's University, Philadelphia, PA, USA

Steven Silver, Assistant Director of Research and Development, Institute of Clinical Bioethics, Saint Joseph's University, Philadelphia, PA, USA

Adamy Aggarwal, Research Fellow, Institute of Clinical Bioethics, Saint Joseph's University, Philadelphia, PA, USA

Aidan L. Fogarty, MS1, Cooper Medical School of Rowan University, Camden, NJ, USA

Caroline E. Curtin, MS1, Wake Forest University School of Medicine, Winston-Salem, NC, USA