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Bioethics in Action: Evaluating Consultation, Education, and Research in an Oncology Hospital

Domenico Prisa[1*], Kristin S. Klock[2], Giuseppe Michele Masanotti[3]

[1] Bioethics Unit, Azienda USL-IRCCS di Reggio Emilia, Reggio Emilia, Italy.
[2] Centre for Medical Ethics, Institute of Health and Society, University of Oslo, Oslo, Norway.
[3] Qualitative Research Unit, Azienda USL-IRCCS di Reggio Emilia, Reggio Emilia, Italy.

***E-mail** ✉ Prisadomenico@outlook.com

Abstract

This study evaluates the activities of a Bioethics Unit (BU) over its first five years (2016–2020), examining its dual role in empirical research on clinical ethics, provision of ethics consultations, and education for healthcare professionals (HPs). We employed an explanatory sequential mixed-method design, using qualitative insights to contextualize initial quantitative findings. Quantitative data were extracted from the BU's internal records and analyzed descriptively. Semi-structured interviews with 18 HPs engaged with the BU were conducted for the qualitative component, with responses analyzed using a framework approach. Quantitative findings highlighted growth in both BU-led research projects and collaborative initiatives across hospital units. Qualitative analysis identified four primary themes: motivations for engaging with the BU and collaboration types; the perceived function of the bioethicist; the influence of BU activities on HPs' ethical reasoning and professional development; and the demand for ethics support in additional clinical settings. Overall, the combination of empirical research and traditional ethics activities within a single unit enhanced collaboration and promoted a culture of ethical reflection among HPs. The results contribute to understanding models of clinical ethics support and demonstrate the value of integrating empirical bioethics research with ethics consultation services. They also provide a foundation for establishing a multidisciplinary Clinical Ethics Committee (CEC) to strengthen ethics support in the local hospital context.

Keywords: Bioethics, Clinical ethics, Ethics support, Empirical research, Mixed-methods

Introduction

Complex healthcare decisions frequently involve competing values, and patients or their families often turn to clinicians for guidance on ethical issues [1]. In response, clinicians strive to provide well-reasoned and informed advice, yet the need for additional support has become apparent—for both healthcare professionals (HPs) and patients—to ensure more comprehensive and personalized ethical care [2]. Over recent decades, this demand has driven the establishment and growth of Clinical Ethics Support Services (CESSs), designed to integrate the ethical dimension into clinical practice [3, 4].

Alongside the expansion of CESSs, there has been a growing emphasis on empirical research in bioethics. Applying empirical methods allows bioethics research to inform real-world clinical practice, translating abstract principles into actionable guidance while keeping ethics consultants attuned to the lived experiences of patients and HPs [5, 6].

In Italy, no national legislation currently defines the role or scope of CESSs. Nevertheless, local initiatives have emerged spontaneously, particularly in Northern regions, reflecting diverse, unregulated models of clinical ethics support [7–13]. The National Committee for Bioethics

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(CNB) has recognized the need for formalized CESSs, issuing opinions in 2017 urging the implementation of Clinical Ethics Committees nationwide [14] and, in 2021, clarifying the competencies of professional bioethicists [15]. Recent debates on medical assistance in dying have further highlighted the importance of defining CESS functions [16].

The Bioethics Unit (BU) examined in this study was established in 2016 as a pilot project by the Scientific Directorate of the Local Health Authority AUSL-IRCCS of Reggio Emilia. This local health service spans six hospitals and districts covering 42 communes (2,291 km²). The BU is housed within the Oncological Research Hospital (ORH), a 900-bed facility accredited as a Comprehensive Clinical Cancer Institute (OECI). The BU's mission is to foster evidence-based ethics through research, ethics consultation, clinical supervision, and training programs. Its goal is to embed ethics at the bedside, using the concrete experiences of healthcare interactions as the foundation for improving care quality and enhancing HPs' ethical competencies [17].

Operating within the framework of empirical bioethics, the BU combines qualitative and quantitative research with ethical analysis to translate general moral principles into actionable, ethically justified guidelines [6, 18, 19]. Its activities encompass four main areas: research on ethical issues in clinical practice; individual ethics consultations for HPs; team-based ethics supervision; and educational programs on ethical aspects of care. While these activities are distinct, they often intersect and operate concurrently. A detailed overview of the BU's functions is presented in **Table 1**.

Table 1. Description of the Bioethics Unit's activities and aims

Activity	Promoted by	Dedicated to	Description of the Activity	Aim
RESEARCH	All Bioethics Unit (BU) members or other services/wards	Other services and wards	Designing, conducting, and assessing research projects focused on ethical challenges in clinical practice, using both qualitative and quantitative methods	To foster ethical awareness and understanding among healthcare professionals (HPs), particularly on topics such as patient engagement, shared decision-making, advance care planning (ACP), Advance Directives (AD), end-of-life care, palliative care, pediatric palliative care, and resource allocation ethics
ETHICS CONDUCTATION	Head of the BU only	Individual HPs or healthcare teams, particularly Djokovic particularly in urgent situations	Providing retrospective and prospective ethics consultations through one-on Addresses-on-one meetings	To assist HPs in resolving ethical conflicts and navigating complex decision-making processes
ETHICS SUPERVISION	Head of the BU only	Healthcare teams during their regular meetings	Offering structured ethical supervision during team meetings to address emerging ethical issues	To guide HPs in identifying and addressing ethical challenges during care, facilitating discussions on moral complexities
EDUCATION AND TRAINING	All BU members	Specific wards upon request or all HPs	Delivering ethics education and training programs through in-person and interactive sessions	To enhance ethical knowledge and reflection among HPs, focusing on areas like patient engagement, shared decision-making, ACP, AD, end-of-life issues, palliative care, pediatric palliative care, and ethical resource allocation

The BU promotes research projects aimed at developing, implementing, and assessing services and tools addressing ethical challenges in clinical practice, utilizing both qualitative and quantitative methods. Examples of these projects include initiatives on advance care planning tools, the implementation of advance directives, evaluation of ethics training programs, and the development of healthcare professionals' ethical competencies.

Ethics consultations are offered on demand, supporting individual HPs or medical teams, particularly in urgent situations. Ethics supervision is organized on a monthly

basis and involves the healthcare team. During team meetings, the BU head participates whenever ethical issues arise, facilitating discussion and guidance.

Ethics education and training programs are designed to foster ethical reflection and knowledge among HPs. These initiatives may be requested by HPs or initiated by the BU itself. Core topics include patient engagement and shared decision-making, advance care planning (ACP), advance directives (AD), end-of-life care, pediatric palliative care, and the ethics of resource allocation.

Currently, the BU team consists of one senior researcher, one PhD student, and two research consultants contributing in various capacities. Additionally, the BU oversees two institutional clinical ethics services: a 15-member Clinical Ethics Committee [20] and an in-hospital service providing information on end-of-life rights and advance directives. The BU team leader manages these services and liaises with the Scientific Directorate. Overall, the BU functions as a Clinical Ethics Support Service (CESS) with a strong emphasis on research activities.

According to existing literature, evaluating ethical interventions in clinical practice can clarify (a) user satisfaction, (b) the extent of service uptake by HPs, and (c) the influence of services on clinical care, while also providing data to enhance service quality [21]. The objectives of this study are:

(a) to provide a quantitative overview of BU activities over the first five years of its implementation (2016–2020);

(b) to explore HPs' perceptions of BU activities and their perceived impact on clinical practice.

Methods

This study employed a mixed-methods design with a quantitatively driven, explanatory approach [22], where qualitative data were collected to deepen and expand the initial quantitative findings and provide richer insights from users' perspectives.

Quantitative study

Data collection

Quantitative data on BU activities from January 2016 to December 2020 were collected to describe the scope of activities, including time investment, collaborators, and topics addressed. Information was gathered from the internal database regarding research projects, the number and duration of ethics consultations, educational and training programs, the subjects covered, and participating units and institutions.

Data analysis

Descriptive statistics were applied using IBM SPSS Statistics 26, overseen by a biomedical statistics expert (ET). Two separate datasets were created: one for research activities and another for consultations, supervision, and educational programs. The datasets were analyzed independently, except for overlapping data on topics covered.

Qualitative study

Population and setting

Participants were selected using purposive sampling to ensure diversity in collaboration with the BU, guided by quantitative findings. Inclusion criteria were:

- Employment at the Local Health Care Service of Reggio Emilia.
- Participation in at least one BU activity between 2016 and 2020.

Data collection

Semi-structured, one-on-one interviews were conducted to explore HPs' perceptions of BU activities and their impact on clinical practice. Due to pandemic restrictions, all interviews were conducted online except one, which took place in the participant's office. The interview guide was developed by two BU researchers (LDP, BU Head; MP, PhD student in Clinical and Experimental Medicine) with qualitative research experience, and reviewed by LG, head of the qualitative research unit. Key topics included (a) participants' evaluation of involvement with the BU in terms of satisfaction and impact on practice, (b) additional ethical needs in clinical care, and (c) expectations for future collaboration. The interview guide and sample questions are presented in **Table 2**.

Table 2. Interview topic guide

Theme	Exemplifying Questions
Assessment of Collaboration with the Bioethics Unit (BU): Satisfaction, Impact on Clinical Practice, and Healthcare Relationships	- Could you describe the activities offered by the BU and their objectives? - Which BU activities have you participated in, and what prompted your involvement? - What are your thoughts on the activities you experienced? - How would you assess the impact of these activities on your clinical practice and the care process (e.g., interactions between medical teams or across different settings)? - Can you recall a specific instance where the BU's involvement was particularly meaningful? Could you provide an example?
Additional Needs Related to Ethical Aspects of Care	- Based on your work and the BU's activities, are there ethical topics that require deeper exploration? If so, could you provide an example? - Considering your workplace, colleagues, and medical teams, are there specific situations that need further ethical examination? If yes, could you share an example?
Expectations for Future Collaboration with the BU	- The BU is considering expanding its ethics consultation services. What are your thoughts on this proposal? - What types of activities do you believe the BU should prioritize moving forward?

Data collection

Invitations for interviews were sent to each participant, allowing them to choose a suitable date and time. With their consent, the interviews were audio-recorded. Three researchers (MP, GA, and CG), all trained in qualitative methods, conducted the sessions. No follow-up interviews were held, and transcripts were not returned to participants for review or modification.

Data analysis

The interviews were fully transcribed and analyzed using a thematic framework approach [23]. MP and GA designed the framework under LG's supervision, combining a top-down and bottom-up strategy: initial themes were drawn from the study's objectives (deductive), while additional themes emerged organically from the data (inductive). MP and GA first reviewed two transcripts to capture initial impressions and take notes. They then independently coded the material and identified themes, which were reconciled through discussion to reach consensus. Using this finalized framework, MP systematically applied it to all transcripts to highlight recurring patterns, with GA overseeing the process. Final themes and subthemes were refined collaboratively with input from LDP, LG, MM, and MC.

Results

Quantitative findings

During the period from January 2016 to December 2020, the BU was engaged in a total of 33 research projects focused on clinical and organizational topics. Most projects (n=25) originated within the Azienda USL IRCCS of Reggio Emilia, while eight were initiated by external bodies—six by other Italian institutions and two by European organizations. Of these, 11 projects were directly initiated and led by the BU itself **(Figure 1a)**.

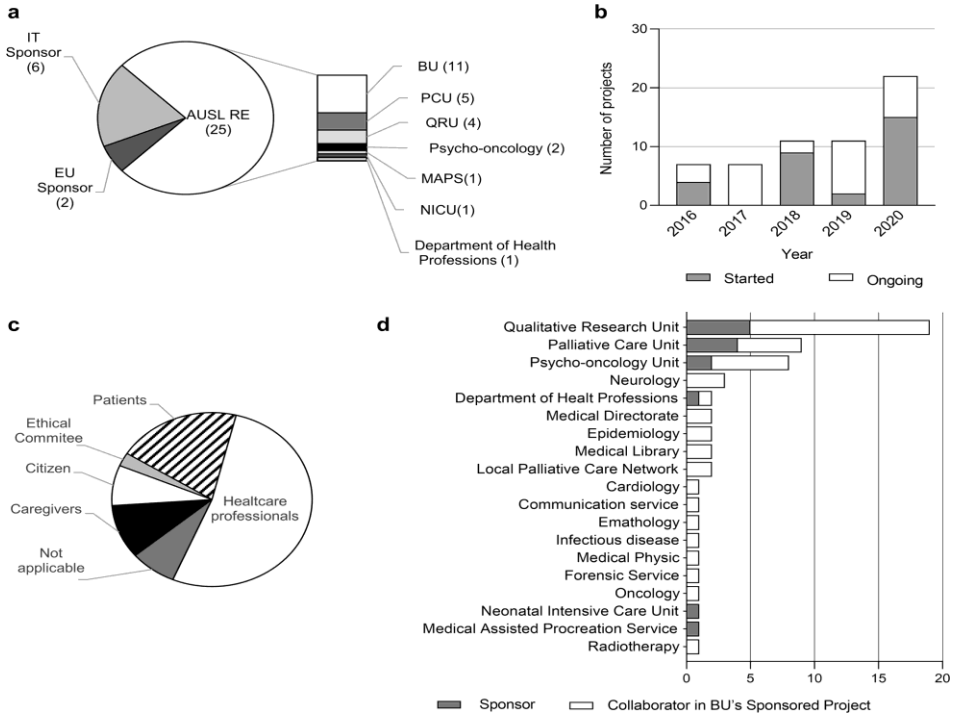

Figure 1. BU Research Activities

Quantitative overview of BU research projects, collaborators, and target audiences from January 2016 to December 2020. (a) Sponsorship of projects involving the BU. (b) Number of projects initiated and ongoing each year. (c) Primary audiences of BU research projects. (d) Units collaborating with the BU, either as project sponsors or contributors. Abbreviations: IT = Italian, EU = European, AUSL-RE = Azienda AUSL IRCCS di Reggio Emilia, PCU = Palliative Care Unit, QRU = Qualitative Research Unit, MAPS = Medically Assisted Procreation Service, NICU = Neonatal Intensive Care Unit.

The BU's participation in research projects increased steadily over the study period, reaching a peak in 2020 with 15 new projects launched and seven projects still ongoing **(Figure 1b)**. The research addressed multiple audiences, including patients, caregivers, the general public, and ethics committees; however, the majority (63.6%) targeted healthcare professionals **(Figure 1c)**. Projects ranged from updating clinical roles and practices to revising care pathways, implementing new services, examining how healthcare professionals perceive and manage ethical challenges in clinical settings, and evaluating structured ethical interventions such as Advance Care Planning. The overarching objectives of these projects were to enhance care quality and outcomes, with many resulting in publications in peer-reviewed journals.

BU research was conducted in partnership with 19 units or services, 11 of which were directly involved in patient care and 8 that were not. Ten units collaborated on a single project, six units participated in two to three projects, and three units contributed to over eight projects. Four services acted both as sponsors and collaborators for BU-led initiatives **(Figure 1d)**.

Consultation, training, and supervision activities involved 25 units, including 22 clinical services and three non-clinical units (health directorate, health professions directorate, forensic medicine). Ten units operated within community health services, while 15 were hospital-based **(Figure 2)**. Time invested by each unit varied substantially, ranging from one hour (health directorate) to 292 hours (Palliative Care Unit), with a median of 8 hours (IQR: 2–20).

Most units participated in a single area of BU activity (n = 25), while ten units engaged in two to three areas (six units in two areas, four units in three areas). Only the Palliative Care Unit was active across all four major domains of BU activity.

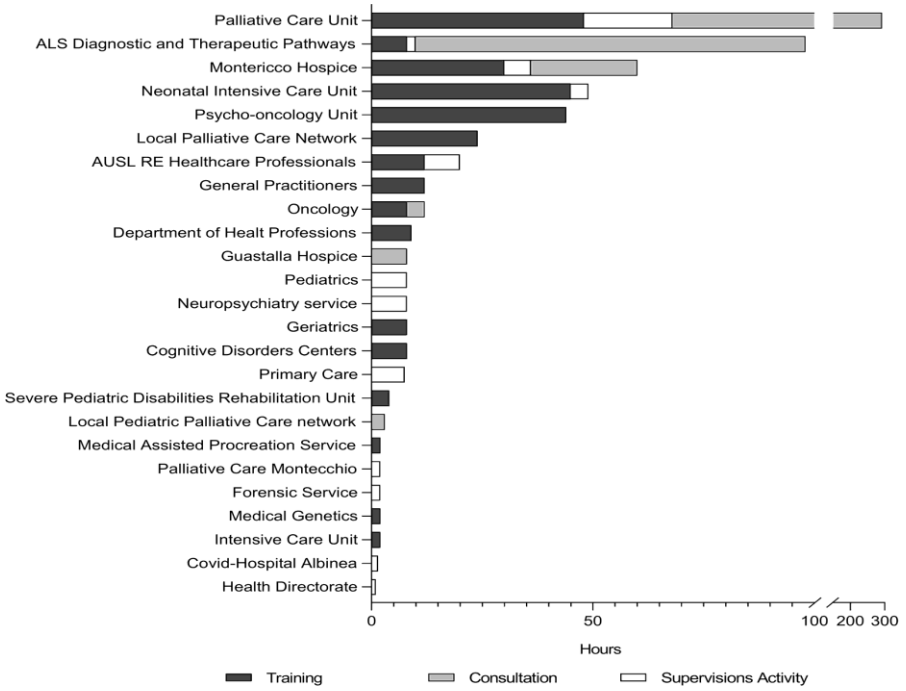

Figure 2. BU's consultations, training, and supervision activities. Hours spent from other structure in AUSL-Re BU consultations, training, and supervision activity

Finally, the themes covered in the BU's activities were examined. The majority of topics were explored across multiple types of activities, with four topics being addressed in all areas. All issues were investigated through research, with the exception of the ethics of deep palliative sedation **(Figure 3)**

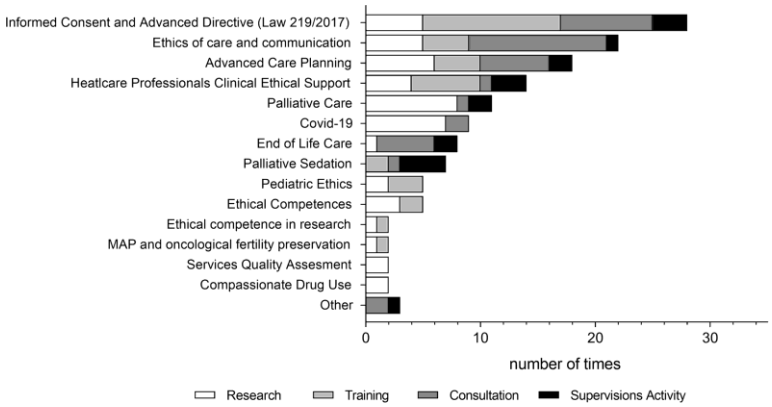

Figure 3. Topics addressed in BU's activities. The graph showed the number of times each topic was the subject of one of the activities conducted by the Bioethics Unit

Qualitative results

Participants were recruited from units that had collaborated with the BU. Based on the quantitative findings, the following variables were considered to describe the units where participants worked:

- Time dedicated to research projects;
- Time involved in ethics consultations, educational programs, or training organized by the BU;
- Degree of collaboration between the unit and the BU;
- Type of unit, categorized by hospital vs. community setting, pediatric vs. adult service, and clinical vs. non-clinical service.

Units were first grouped according to total hours spent in BU-related activities: low collaboration (≤ 2 hours),

medium collaboration (3–12 hours), and high collaboration (> 12 hours). Within each group, units differing on the other variables were identified to ensure diversity. Participants were then selected from these units.

A total of 22 potential participants were contacted. Four did not respond, while the remaining expressed strong interest in participating. The final sample consisted of 18 healthcare professionals, including 16 women and 2 men: six physicians, six nurses, two psychologists, one researcher, one biologist, one physiotherapist, and one speech therapist. Participant details are summarized in **Table 3**.

Table 3. Participants characteristics and collaboration with the Bioethics Unit

Cod	Professions	Working Unit	Collaboration with BU (R, EC, ES, E&T)	Time of collaboration	Level of collaboration (high, good, medium, low)
01	Physician	Hospice	*EC, ES, E&T*	*2018–2020*	High collaboration
02	Physiotherapist	Rehabilitation Unit for Severe Childhood Disabilities	*Only E&T*	*2018, 2020*	Medium
03	Physician	Intensive care	*Only E&T*	*2018 and 2020*	Medium
04	Speech therapist	Paediatric care	*E&T and ES*	*2020*	Good
05	Phisician	Covid-hospital	Only EC (Covid)	2020	Low
06	Psychologist	Neuroloy	Only R (4 projects)	Since 2018	Low
07	Psycho-oncologist	Psycho-oncology Unit	*E&T and R (9 projects)*	*2015,2018,2020*	High
08	Methodologist	Qulitative Research Unit	Only R (18 projects)	Since 2016	Low
09	Physician	Palliative care Unit	*E&T, ES; EC, R (13 projects)*	*since 2016*	High
10	Nurse	Palliative care Unit	*E&T, ES; EC, R (13 projects)*	*since 2016*	High
11	Oncologist	Oncology	*E&T, ES; EC, R (1 projects)*	*2016, 2019-2020*	High
12	Nurse	Neonatal intensive care	*E&T, EC, R (2 projects)*	*2017–2020*	High
13	Nurse	Hospice	*Only ES*	*Since 2020*	Good
14	Nurse	Hospice	*E&T, ES; EC*	*2018–2020*	High
15	Biologist	Mediaclly Assisted Procreation Service	*E&T, R (2 projects)*	*2018–2020*	Medium
16	Nurse	Hospice	*Only ES*	*Since 2020*	Good
17	Physician	Rehabilitation Unit for Severe Childhood Disabilities	*Only E&T*	*2018 and 2020*	Medium
18	Nurse	Neuropsychiatry	*Only EC*	*2019*	Good

For further description of each activities, please, see Table 1

R: Research activity; EC: Ethics consultation; ES: Ethics Supervision; E&T: ethics education and training

The interviews were conducted from February to March 2021, with an average duration of 31 minutes (ranging from 15 to 55 minutes).

Using framework analysis, four main themes and six associated subthemes were identified. **Table 4** summarizes these themes and subthemes, accompanied by selected participant quotations to support the analysis.

Table 4. The 4 key themes, related sub-themes and meaningful quotes

Theme	I	Meaningful Quotations
1. Approaches and Significance of Collaborations with the BU	1.1 Methods and Reasons for Contacting the BU	"In specific situations, I considered: Who is the best expert to assist with this particular issue? And I independently chose her (the Head of BU)" (cod. 1.4). We initiated the request ourselves, as we sought an external perspective different from our own. This might define ethics: offering a viewpoint distinct from ours. (C.15.10) The primary motivation for reaching out to the BU was its existence. It's uncommon for a hospital to offer such a resource. (c.6)
	1.2 The BU's Function and Initiatives	Regarding ethics training (…) it highlighted subjects where our knowledge was often lacking. (C 2.3) Deep down, I believed my decision was correct, but at that time (…) I required someone to logically outline the options and care journey, providing reassurance. (c.5.18). During educational sessions, we reviewed actual cases (…) that sparked some debate within the team about palliative sedation decisions (…), prompting me and the nursing coordinator to recognize the need for more training on this subject. (c.11.1.5). The BU's purpose seems straightforward: to boost our confidence and offer ethical guidance, beyond just methods, for decisions that are often more non-clinical than in other areas. (In our unit,) non-clinical decisions hold the same importance as clinical ones. (C.16.3).
2. The Bioethicist's Role and Structural Elements	2.1 Individual Qualities and Specialized Skills	The key strength lies in practical training, such as discussing real scenarios together: that's when the theoretical concepts become clear. (c.10) Initially, I shifted my perspective on the case, moving away from a focus on 'action,' which was surprising for me too. But realizing no judgment was involved… the bioethicist is ideal for this kind of assistance. (C.18.20) In our environment, and likely others, cultural factors are crucial to recognize, so having experts who study these, with strong backgrounds and knowledge of current ethical issues, is essential for feedback and overall departmental development. (c.11.41)
	2.2 Structural Considerations	For symptom X, I address it directly and expect quick results. However, with care pathways, actions yield results over time, built gradually. This makes integrating ethics challenging, as it's one aspect of our work that doesn't align with our usual fast-paced timelines. (c.3.28) With only one person (the head of BU), it's unclear who to contact. There might be a limitation (…) in relying on a single point of contact. (c.11.45) I was unaware of (the BU's) existence (…) I couldn't have connected without hearing about it from others. (…) Awareness of its availability is key to promoting this resource. (c.5.43) (Limitations include) organizational issues and cultural mindsets among leaders and professionals: we're caught in a cycle of constant action, where reflecting on ethics feels like an indulgence. (c.2.21)
3. Influence on Healthcare Professionals' Perspectives	3.1 Enhanced Depth in Reasoning	Having another pair of trained eyes for comparison is vital. It refines your evaluations, fosters maturity, and adds greater insight to your approaches. (c.1.10) Accessing a professional with a broader philosophical background, extending beyond typical clinical questions but relevant to daily clinician and patient decisions. (c.6) Ultimately, (the Head of BU) not only resolves the immediate issue but also strengthens team cohesion, yielding dual benefits in my view. (c.13.22) We sometimes discovered the issue wasn't ethical but relational or organizational. Yet, (the ethics support) remained valuable, helping us identify the problem type: working in complexity, this clarity is highly beneficial. (c.14.10)
	3.2 Recognizing New Challenges in Practice	There's been a beneficial effect, as we clinicians tend to rush ahead. (…) She (the head of BU) advised proceeding gradually, setting modest goals, and observing parental responses. Parents need time to process a child's illness, so preparation is key without haste. (C.18.9) We occasionally have constructive clashes, comparing diverse viewpoints, and the

	BU's tools help calm the team. (c.14.20) (It led to) better patient interactions. (…) Previously, meetings felt hierarchical, with us above and patients below, but this gap narrowed. More professionals now emphasize empathy in care relationships, even in tough situations. (c.15.33)
4. Additional Requirements	"I believe formalizing this in a structured manner, rather than informally, would be highly beneficial." (1.16) More organized support, because by the time we seek (BU help), the issue may be too advanced. Consistent involvement (…) could alert me early to needs, allowing timely implementation of care paths where I often intervene late. (c.3.23) I wonder: Why not extend this training approach to other units? Oncology patients appear across departments, and 'questions of purpose' arise everywhere (…) (c.13.38) I hope having an ethics system in the facility encourages (…) all units to equip HPs with ethical foundations, as ethics underpins the profession, yet many nurses overlook its broader implications. (C.16.35) I truly hope it reaches everyone, as ethical doubts are universal but often unrecognized, leading to crises. (…) This year (amid COVID-19) highlighted many ethical decisions that went unnoticed, worsening an already severe clinical situation. Clinical issues are simpler to resolve than ethical ones, so supporting HPs ethically is essential to prevent sterility and unhappiness in their uncertainties. (c.16.36).

Modes and significance of BU collaborations

Accessing the BU

Participants described approaching the BU as generally informal, spontaneous, and personal, though sometimes facilitated by colleagues or directors. The two primary motivations for contacting the BU were seeking guidance on Law no. 219 regarding Advance Directives and Advance Care Planning, and the desire to enhance professional quality of care. Following the initial contact, the BU's Head and the participant typically agreed on the most appropriate service, whether research, ethics support, or training. The BU's physical presence in the hospital was also noted as a factor encouraging collaboration. Some participants characterized their involvement as "germinal" or "ongoing," while others described it as extensive, daily, and multifaceted. A few collaborations were abruptly paused due to the COVID-19 pandemic.

Perceptions of BU activities

For research projects, participants noted that the BU's topics often addressed patients' internal experiences and decision-making capacities. The integration of BU activities was valued for fostering practical, applied approaches rather than purely theoretical discussions, particularly in training sessions and team case discussions. Individual ethics consultations were sought primarily for reassurance and guidance in navigating complex emotional situations, whereas ethics supervision was perceived as a structured, multiprofessional discussion within care teams.

The bioethicist's role and organizational considerations

Personal qualities and expertise

The bioethicist was viewed as a key professional in discussions of challenging cases. Participants highlighted attributes such as responsiveness, availability, communication skills, and a practical approach. The bioethicist's ability to help staff express their thoughts without judgment and manage moral distress was particularly valued. Moreover, the bioethicist's specialized expertise was recognized as facilitating patient-centered decision-making.

Organizational considerations

While most participants did not report major issues with BU collaboration, some organizational challenges were noted. Activating ethics consultations in urgent situations was seen as difficult, sometimes too late to prevent ethical conflicts. Other limitations included insufficient support personnel for the bioethicist and limited awareness of BU services. A few participants suggested that bioethics is perceived as a "niche" area, advocating for more proactive, bottom-up engagement, with greater involvement of BU staff in routine healthcare activities.

Impact on healthcare professionals' attitudes

Enhanced reflective thinking

Collaboration with the BU, particularly through ethics consultations and research projects, fostered deeper,

more mature reflection, encouraging new questions and a focus on the practical aspects of ethics in everyday clinical practice. Some participants reported increased awareness of their own professional limits and a more holistic understanding of patient cases.

Identifying new ethical questions

The BU's research activities helped participants concentrate on ethical dimensions of care. For instance, pediatric staff initiated a project on pediatric advance care planning after participating in ethical training. Participants also noted that ethics support facilitated better coordination between the time required for patients' end-of-life care and the needs of their families. Many reported feeling supported, reassured, and secure when navigating difficult clinical and interpersonal decisions.

Further needs

Participants recommended establishing a more structured framework for collaboration with the BU, including clearer, formalized access procedures. They emphasized the importance of enhancing integration between the BU and clinical wards and encouraged a more proactive engagement by the BU. There was also a call to expand shared understanding of ethical issues across healthcare professionals, recognizing the multidisciplinary nature of such work and favoring practical, applied training. Overall, participants suggested normalizing ethical discussions within everyday clinical practice. Key areas identified for further exploration included end-of-life care, communication, advance directives, research ethics, advance care planning, shared decision-making, and COVID-19–related ethical considerations.

Discussion

The combination of quantitative data and qualitative interviews provided a comprehensive assessment of the BU's impact on clinical practice. Quantitative findings demonstrated a substantial increase in both the number of BU research projects and collaborative engagements with wards and other units over time, reflecting a process of "inter-related growth." This synergy emerged as empirical bioethics research and traditional clinical ethics activities reinforced each other: for instance, some research projects originated from ethics consultations, while some consultations were embedded within ongoing research. Healthcare professionals particularly valued the integration of research, training, and ethics consultation, highlighting the need to further expand these activities and disseminate BU expertise across healthcare facilities. This integrated approach represents a novel finding, as existing literature generally focuses either on research [24, 25] or ethics consultation alone [3, 10, 26].

Quantitative findings also suggested that BU research activities positioned the unit as a cross-institutional service, applicable in diverse settings and among varied healthcare professionals. Addressing ethical issues through research not only strengthened collaboration between ethicists and healthcare professionals, as reflected in qualitative feedback, but also enabled the development of context-specific ethical tools and interventions. This approach aligns with contemporary empirical bioethics models, such as "deliberative engagement," the "embedded researcher," and the "committed researcher," which integrate patient-centered services with multidisciplinary research teams to capture stakeholder perspectives and produce actionable ethical frameworks [27].

Despite growing interest and advancements in empirical bioethics [24, 28], challenges remain, including insufficient training of bioethics specialists in empirical methods and the lack of consensus on standard methodologies [29, 30]. Our findings underscore the value of an integrated clinical ethics support service (CESS) that combines research with ethics consultation to strengthen practical ethical guidance.

Another notable insight concerns ethics support itself. BU ethics consultations primarily involved healthcare professionals, with patient participation remaining limited. In Europe, the inclusion of patients or family members in CESS consultations is still debated [31]. While some studies report benefits, such as improved understanding and deliberation, stakeholders' presence can also introduce tension, conflicts, or inhibit open discussion [32].

As highlighted by our qualitative findings, healthcare professionals valued the practical and applied aspects of ethics education and training, noting its influence on their clinical practice through the generation of new questions and reflections on professional competencies. Previous research has also examined the impact of ethical interventions on healthcare professionals, demonstrating that multifaceted educational programs—including lectures, small-group discussions, workshops, and ethical roundtables—enhance ethical knowledge, sensitivity,

adherence to ethical principles and codes, and the recognition of ethical challenges in clinical settings [33–35].

Our findings further underscored the supportive role of the bioethicist within healthcare teams, with participants reporting increased confidence and reassurance when facing complex decision-making scenarios. This aligns with the literature, which highlights the ethicist's role in fostering an environment conducive to ethical reflection and deliberation [36].

Nonetheless, the presence of a single ethicist providing consultation represents only one type of Clinical Ethics Support Service (CESS). Globally, various CESS models exist, including Clinical Ethics Committees (CECs), which are widely implemented in Europe. A CEC is a multidisciplinary institutional body tasked with examining, discussing, and addressing ethical issues in patient care [3]. It provides formal recommendations to healthcare professionals regarding optimal actions in specific clinical cases, supporting decision-making with institutional documentation. Unlike a single ethicist, a multidisciplinary CEC offers diverse perspectives, which can be particularly valuable in navigating complex cases involving conflicting moral viewpoints [37]. Given that our results indicated healthcare professionals have become increasingly aware of ethical dimensions in their practice, we hypothesized that they could further benefit from guidance provided by a multidisciplinary body. Consequently, the BU initiated an empirical bioethics research project to implement and evaluate a CEC, integrating it with ongoing activities.

Strengths and Limitations

This study presents a comprehensive evaluation of the BU by combining quantitative and qualitative methods. To our knowledge, no other comparable initiative has simultaneously assessed ethics consultation, training, and empirical bioethics research in such a setting. Notably, research activity is a defining feature of our BU.

However, certain limitations must be acknowledged. The study was conducted in a single local context using a convenience sample, limiting generalizability. Furthermore, because no similar BUs exist in Italy, our findings pertain only to this research hospital in northern Italy, and comparative quantitative data from other national or international settings are unavailable.

Conclusions

While the primary aim was to assess the impact of the BU on clinical practice, our findings provide novel insights into integrating empirical research, ethics consultation, and ethics training. This integration has fostered collaboration and promoted an ethical culture among local healthcare professionals. The model could potentially be adapted for other large hospitals. Future research should explore the feasibility and effectiveness of this integrated approach across different countries and healthcare organizations.

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Ethics Statement: None

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