Clinical Report

The Clinical Bioethics Associate: An Innovative Model of Care Nested in a Pediatric Bioethics Department

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ABSTRACT

Bioethics teams are often short staffed and would benefit from an increase in capacity. We describe a "hub-and-spokes" model of care to expand the scope of the bioethics department's activities in consultation, research, policy, and education, and to create an academic home for clinicians who have obtained additional training in bioethics. In our model, these clinicians are termed Clinical Bioethics Associates, and they support clinical ethics within healthcare institutions. In turn,

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they receive sustained support for their academic careers. This model could be adopted by any healthcare center that wishes to increase its bioethics capacity while it fosters career opportunities for clinicians who pursue an academic focus in clinical bioethics.

INTRODUCTION

Many hospitals in North America have experienced an escalating demand for bioethics support to address the ever-growing complexity and scope of ethical problems in modern medicine.[1] As healthcare decision making is increasingly supported by bioethics teams, it is crucial that bioethics be integrated into the clinical, educational, administrative, and academic operations of any hospital. With such a wide scope of activities and the presence of relatively few bioethicists in many systems, the need to augment bioethics support is growing rapidly. In the United States, bioethics is often integrated into a healthcare institution through physician-bioethicists or physician-led bioethics departments or teams. In Canada, bioethicists aren't usually medical doctors; instead, Doctorate bioethicists trained in philosophy, law, social work, nursing, or health sciences hold clinical bioethics fellowships to garner experience in applied clinical bioethics. They provide clinical bioethics consultation and education to healthcare teams, pursue clinically grounded bioethics research, and assist with the ethical dimensions of institutional policy development.[2] In both the U.S. and Canada, many physicians and nurses who haven't obtained a Doctorate degree seek training in bioethics not only to inform their clinical work, but also to pursue a focus in bioethics as an academic clinician. Our bioethics department, in response to a rising demand for bioethics input for our hospital and to support increasing interest in an academic-clinician-focused bioethics role, developed a novel pathway for clinicians who have additional training in bioethics. We formally incorporated clinicians who have completed a Masters of Bioethics degree into the department of bioethics. Those who wish to cultivate their bioethics expertise within their academic portfolio are appointed as Clinical Bioethics Associates (CBAs). CBAs operate in line with the "hub-and-spokes" model that has been previously described (see figure 1).[3] The CBA designation allows a clinician to be integrated into the full breadth of the bioethics department's work. Importantly, the CBA role allows further incorporation of bioethics throughout our institution and provides a model that can be replicated at other centers.

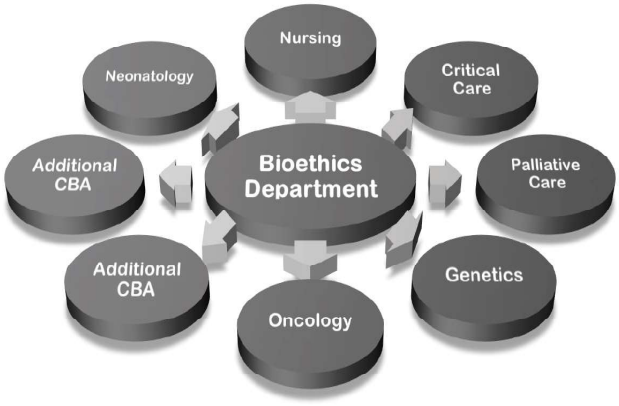

FIGURE 1. The Nested Clinical Bioethics Associate Model

CBA = Clinical Bioethics Associate. CBAs are appointed within clinical departments and co-appointed to the bioethics department. Three bioethicists are the hub and the CBAs expand capacity in the hub-and-spokes model, which augments the four pillars of the departmental output: consultation, education, research, and policy.

DESCRIPTION OF MODEL AND CONTRIBUTIONS BY CBAs

The hub-and-spoke model at our large tertiary pediatric center currently consists of three primary bioethicists (the hub) and seven CBAs (the spokes) (see figure 1). The CBAs are an interprofessional group of physicians and nurses with Masters-level training in bioethics. They bring clinical expertise from the departments in which they are based, including pediatric, neonatal, and cardiac critical care; palliative care; complex care; oncology; and genetics. The CBA role was initiated by one of the authors (JH), whose pursuit of bioethics training led him to work alongside the bioethics department. The role has been formalized and expanded, with six additional CBAs appointed since 2016. A CBA appointment is granted by the head of the

department of bioethics and allows for the cross-appointment of a clinician to both their clinical department and the bioethics department. This appointment is predicated on having completed Masters-level training, attending departmental activities regularly, contributing to the output of the bioethics department, and serving as a member of the Bioethics Advisory Committee for the hospital. A CBA's salary is supplied by their clinical department, and the co-appointment is therefore voluntary. However, the CBA designation is withdrawn for those who do not perform the duties listed above without specified leave or extenuating circumstances, as reviewed by the bioethics department head.

CBAs are intended to augment bioethics department activities while they further their academic career. One of the main roles of the clinical bioethicist in Canadian institutions is consultation. In our model, clinical and organizational consultations are primarily led by bioethicists, and we do not adhere to a consult-by-committee structure as in some other institutions in North America. The consults are presented at weekly rounds (see table 1). In some instances, a CBA with clinical expertise is called on to contribute clinical understanding to the consult. This allows the clinically active group of CBAs to take part in bioethics consults without the additional time burden of consultation and without the required mentored training in ethics consultation. As the current bioethics consult volume is manageable, we do not plan to have CBAs perform formal consultations, although they remain the points of contact in their respective divisions and may resolve ethical questions that would have otherwise become consults.

CBAs also contribute to weekly academic rounds, education, research, and other activities in the bioethics department and in the hospital overall (see table 1). As CBAs are clinicians first, they serve as bridges between their home divisions and the bioethics department to find solutions to ethical dilemmas that arise in their group's clinical practice. While they may sit on other committees with an ethics lens (for example, research ethics board, bioethics advisory committee), CBAs actively participate in weekly

TABLE 1. Pediatric clinical bioethics associates' productivity related to bioethics (2016-2021)

Clinical consultation	
Consultations, department bioethics, clinical, and organizational	~550
% with relevant but modest contribution of one or more CBAs	75%
% with significant/critical input from one or more CBAs	25%
Research and academic output	
Projects/grants	
Projects (current or completed)	3
Grants (internal and external)	9
Publications	
Peer reviewed	14
Chapters	7
Web/media	5
Ethics consultation/contribution to committees or societies	
National or international society/committee	2
Education	
Teaching lectures	
Undergraduate, masters, UGME, PGME	84
Medical and interprofessional groups	20
Creation of the bioethics curriculum	
PGME trainee academic programs	4
Invited lectures, divisional or department grand rounds	
Local hospital	39
Other institutions local/regional	3
National or international centers	6
Case conferences	5
Supervised students	
Bioethics students	7
Clinical students with project in bioethics	8
Invited speaker conference	
National	2
International	29
Local	3
Invited moderator or panelist for a conference	11
Abstract presentation at at conference	
Oral abstract (national/international)	9
Oral abstract (local)	4
Poster abstract	20

meetings and rounds with the bioethics department, which enhances situational awareness for all. Having grown in number and capacity, our cohort of CBAs now trains and mentors new CBAs to expand its scope.

CBAs benefit from longitudinal engagement with the bioethics department. Through this engagement, and through their ongoing application of current clinical ethics, their skill sets expand over time. In addition, they position the bioethics department to better identify emerging ethical issues in diverse fields of practice. Within their clinical departments, CBAs contribute to enhanced patient care by increasing their colleagues' facility with applied bioethics by teaching trainees, faculty, and interprofessional groups; by mentoring; and by role-modeling the application of bioethical concepts. The connection between clinical spheres and the bioethics department becomes more fluid and continuous as both planned and unplanned opportunities for interaction increase.

Furthermore, the CBA model has improved ethical proficiency across the institution. CBAs have helped create and deliver ethics curricula for medical and allied health training programs and in onboarding new staff. CBAs have developed bioethics modules, bioethics training sessions, and educational tools for the hospital. CBAs provide additional *in situ* opportunities to build discipline-specific ethical knowledge acquisition. The interaction of CBAs with bioethicists in shared teaching sessions enhances our training of clinical trainees, medical students, and nursing students with role-specific examples.

CBAs have also helped develop translatable, clinically applicable hospital policies in partnership wit bioethicists. In this way, clinical departments can contribute to bioethics policy, which ensures the formation of solid policy and stakeholder input across the institution.

Finally, having CBAs within the department of bioethics increases the visibility of bioethicists within the general hospital workforce. Having CBAs situated in multiple clinical spheres has enhanced hospital-wide awareness of the role of bioethicists and increased invitations for bioethicists to participate in clinical deliberations, consultations, moral distress debriefs, and ethics case analyses. Pediatric bioethicists play roles beyond clinical consultation, and the other areas in which ethical considerations are typically addressed to build the ethical environment in hospitals.[4] We have found that CBAs have enhanced the ethical climate of their clinical areas. The four domains of ethical climate specific to an intensive care unit setting, for example, include integrated child- and family-centered care, organizational culture and leadership, interdisciplinary team relationships and dynamics, and ethics literacy.[5] CBAs have contributed greatly to at least the latter three domains in our institution. Overall, this model has enlarged the bioethics department's role in empowering all voices to be heard and encouraging the open discussion of values that are essential to collaborative practice and patient care across the institution.

Entering the CBA role has increased the CBAs' participation beyond our institution in national initiatives with other bioethicists and on the ethics committees of professional orga-

TABLE 1. *Continued*

Policy development	
Hospital policy	6
Provincial policy	1
Hospital committee with bioethics focus	
Membership	6
Chair or co-chair	1
Other	
Clinical care guideline (ethics focus)	1

NOTES

UGME = Undergraducate medical education
PGME = Postgraduate medical education

Data were collected from the CBAs' curriculum vitae starting in January 2016 (or from time of appointment to the Bioethics Department). Contributions after 30 June 2021 were not included.

Two or more CBAs in collaboration are counted as one item.

One CBA retired from clinical practice in 2018 and therefore may be underrepresented in contributions.

nizations. Additionally, CBAs bring frameworks for ethical practices to peer-reviewed publications and conferences in their clinical fields, which can have national and international impact.

ACADEMIC PATHWAY DEVELOPMENT FOR CBAs

Introduction of the CBA role has fostered the development of a unique academic career pathway for individual clinicians. Appointment with the department of bioethics provides ongoing mentoring and peer engagement in ethical reasoning, the application of moral theory and conceptual frameworks for clinical decisions, and the development of ethics frameworks; and expands the CBAs' knowledge of the broader pediatric bioethics field beyond each clinician's clinical area. It provides access to expert peer support in scholarly writing, qualitative or quantitative clinical bioethics research, and policy development.

For most clinicians, promotion in an academic pathway is required to maintain a university appointment and meet job expectations. Clinicians may have been discouraged from pursuing a passion for bioethics because it didn't seem to directly help them meet the requirements of an academic pathway designed for clinician-scientists. However, formalizing the CBA role allows CBAs to become invested in an academic "home" and to receive support for scholarly output that is recognizable to the leadership of their clinical departments.

Thus, in the same way that academic productivity is expected of clinicians who pursue graduate work in epidemiology or education, our model fosters the continued academic growth that many clinicians with a Masters of Bioethics have struggled to achieve by providing support, structure, and mentorship. Finally, creating a formal pathway for academic development in bioethics has enhanced work satisfaction for our CBAs and has allowed them to accomplish individual career goals. We suspect it will promote individual longevity and retention within the academic hospital setting.

The CBA role, as we have designed it, creates a synergy such that the work of the CBAs enhances the bioethics department's activities and the CBAs' academic output and clinical contributions are enhanced by their association with the bioethics department in ways that have been difficult to quantify. We collated surrogate measures of contribution and impact (see table 1) to demonstrate the output of CBAs. We tallied various measurable contributions from the curriculum vitae of CBAs cumulatively over five years (2016 to 2021) at our tertiary pediatric institution. These contributions are organized according to the four pillars of our institution's bioethics department: consultation, education, policy, and research. These data represent only the CBAs' contributions in bioethics, as clinical subspecialty non-ethics output is excluded. No data were collected prior to 2016. Of note, six of the seven CBAs were appointed after 2016 (one in 2016, two in 2018, one in 2019, and two in 2020).

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DISCUSSION

The effectiveness of this model is difficult to evaluate using any one metric. While the presence of CBAs in the clinical sphere may lead to more formal consultations with the bioethics department by highlighting the need for

bioethics consultations in the clinical environment, the number of consultations might also be offset by the presence of embedded ethicists. CBAs may be able to field questions or respond appropriately to particular ethical concerns in their field of practice, thus obviating the need for formal consultations in some cases. Both of these effects on consult volume may be of benefit to patients. Hence, measuring the effectiveness of CBAs based on consult volume or degree of bioethicists' involvement is potentially misleading. Additionally, the context of particular patient cases, workflow dynamics, and resource constraints could influence any measure of moral distress either positively or negatively, independent of the presence of CBAs in the department (or division).

Comparison with a control group of similarly situated healthcare providers who don't interact with a CBA isn't possible within a single center, given the CBAs' continuous clinical presence within their professional groups. It might be possible to assess improvements in the general ethical climate of individual areas, since ethical climate can influence team relations, leadership, and ethics literacy. However, it would be difficult to single out a CBA as responsible for any improvement of ethical culture, given the multifaceted factors that determine an ethical climate, including organizational culture and leadership. Additionally, no pediatric-specific tools have been developed thus far to measure ethical climate.[6] Even domain-focused research (for example, nursing, intensive care, oncology) on ethical climate can't attribute an effect to a single intervention, making it difficult to draw conclusions about a CBA-specific impact on ethical climate.[7]

Nonetheless, we believe care practices can be improved by the presence of additional bioethics expertise and by the integration of bioethics into the day-to-day clinical activities of a department. We argue that, much like multidisciplinary and family-centered care, which are widely applied methods to provide high-quality patient care, additional support to integrate ethics into patient care practices is a benefit in and of itself. Others have employed specific interprofessional courses to enhance ethics integration for careproviders,[8] and studies of ethics consultation report the importance of team function, culture, nuance, and clinical practices.[9] Other research confirms the impact of bioethics teams beyond the clinical consultation space.[10] The CBA model has enhanced our ability to offer similar interprofessional supports, since CBAs work in the clinical space with interprofessional teams while they also augment the institution-wide roles of bioethicists in the department of bioethics. Finally, Canadian hospital accreditation standards call for capacity building linked to an overarching ethics framework,[11] and our CBA model is a uniquely effective path to build such capacity in a sustainable manner. Future studies on the effectiveness of the hub-and-spokes model may involve comparisons between institutions and shared learning from other institutions' models of expanding bioethics capacity in hospitals and healthcare institutions.

CONCLUSION

While the ethical implications of technologically intense and ever-more-complex care delivery continue to increase, it is imperative to reimagine ways to both expand the reach of clinical bioethics within a healthcare institution and to anchor such clinical bioethics work in a sustainable and far-reaching academic enterprise. We have described a model that enhances and augments the impact of a bioethics department within an institution, a model that provides a robust academic pathway for clinicians with training in bioethics. While our model is nested in a pediatric tertiary institution, we anticipate it will be broadly applicable to adult hospitals and other healthcare environments.

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