



# Cancer advocacy in residency education: From principles to competencies

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## ABSTRACT

**Introduction:** The global cancer burden is increasing. Current global evidence indicates there will be a 47% rise of cancer cases for the period 2020–2040. The cancer rate differential also is evident within countries and regions. Efforts have been used to reduce the health disparities; however, the inequity prevails. One potential way to help reduce the disparity is through advocacy by physicians.

**Methods:** Two recent systematic review articles on advocacy among physicians note that physicians are unlikely to be taught advocacy in medical education, and also note there are no advocacy competencies or skill sets that are either taught or valued in medical education. We explore literature and develop a model to understand the components of advocacy in medical education, specifically in resident training. We follow the model's main components by examining principles of advocacy, relevant domains of advocacy, and competencies and values for advocacy education.

**Results:** Four ethical principles of advocacy education are identified: beneficence, non-maleficence, autonomy, and justice. These principles must be applied in meaningful, culturally sensitive, respectful, and promotion of the well-being ways.

Three domains are identified: the practice domain (provider-patient interaction), the community domain (provider-community collaboration), and the health policy domain (the larger social environment). Advocacy occurs differently within each domain.

Finally, competencies in the form of knowledge, skills, and values are described. We present a table noting where each competency occurs (by domain) as well as the value of each knowledge and skill.

**Policy summary:** The significance of including advocacy instruction in medical education requires a change in the current medical education field. Besides valuing the concept of including advocacy, principles, domains, and competencies of inclusion are critical. In summary, we encourage the inclusion of advocacy education in resident medical programs so physicians become competent medical providers at diverse levels of society.

## 1. Introduction and background

The global cancer burden is increasing. Current global evidence indicates there will be a 47% rise of cancer cases for the period 2020–2040 [1]. The increase in cases will be higher (64–95%) for countries with lower socioeconomic status compared to countries with higher socioeconomic status (32–56%). In Europe, for example, total mortality rates are two to three times higher in Eastern European compared to Nordic countries. The cancer rate differential also is evident within regions. Differences remain within regions based on educational level as a proxy

for socioeconomic status. In the Eastern European and Baltic countries, cancer mortality rates are almost three times higher in populations with lower education rates (e.g., less than high school) compared to those with higher education levels [2]. A similar situation is observed in the United States where five-year cancer survival rates vary from 57% to 71% when comparing populations with low and high socioeconomic status [3].

In Latin America, cancer social inequalities are substantially higher than in Europe or the United States. The cancer mortality to incidence ratio, an estimate of relative cancer survival, is two to three times higher

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for Latin American countries compared to North American or Western European countries [1]. Within individual countries, disparities are also very high in Latin America. For example, in Chile, women of lower socioeconomic status had 40% lower survival rates and 30% less chance of getting a breast cancer diagnosis through screening than women of higher socioeconomic status [4]. One potential method for reducing such discrepancies is advocacy by primary care physicians, oncologists, and other professionals in assuring equal detection and treatment opportunities for populations at risk [5].

Cancer advocacy is an essential strategy to advance both cancer control and to reduce health disparities. Advocacy has been defined as the process of arguing and/or acting in support of a particular cause, policy or group of people [6]. As health advocates, physicians could contribute their expertise and influence as they work with communities or patient populations to improve health [7]. Cancer advocacy has a large spectrum of possibilities, from health promotion to cancer prevention, treatment, survivorship, and palliative care. It also can be developed at different levels including the practice level (patient-doctor interaction), the community level (community-doctor collaboration), and clinical health policy level (the larger social environment within which medical practices occur) [5,8]. Cancer advocacy combines principles from all of these three domains [9]. The expansion of cancer advocacy is recommended by a large number of experts and community groups [10]. Importantly, training in advocacy must take place in medical education [11].

Social accountability in medical education has been defined as the commitment of medical institutions to improve social health equity [12]. Many medical schools have declared their commitment to advance social equity, however, the implementation of principles and practices has been limited, especially in highly unequal regions such as Latin America [13]. Medical residents are transformative social players who are in a critical training period that will have a long-term impact personally as well as the health care system. The focus on cancer care is by nature a transversal topic that crosses almost every medical specialty program, from primary care to surgery and oncology, including specialties such as pathology, radiology, internal medicine, pediatric, obstetrics-gynecology, and public health. Cancer advocacy is a relevant health approach to use to achieve the social accountability commitment of medical education institutions.

Advocacy recently has been recognized as a relevant dimension in residency education [7], part of the physician's professionalism roles, and a core component in the development of a professional identity [14]. Residency training is an essential component of medical education. However, several studies have shown that health advocacy is an underappreciated and under-used component of residency education [5, 11,15]. Controversy exists concerning the ethical and moral fundamentals of including advocacy as a systematic competence in residency education. Some consider advocacy as a political issue that belongs to citizenship duties but not to professional duties [16]. Others, however, consider that professional practice is heavily affected by health care inequalities and advocacy is a professional obligation to provide better health care [17].

Post-graduate medical education is grounded in competence-based learning models. Competence in medical education has been defined as "the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served" [18]. If advocacy is considered part of medical education, it is essential to define what type of knowledge, skills and values are required to apply this competence in a habitual and judicious way. Advocacy education, however, remains in confusion about the abilities that are needed for physicians to be competent advocates.

In a review developed by La Donna et al. (2023), the authors found that physicians had little understanding of their advocacy work, and that there was no systematic, integrated, and purposeful curricular content in most advocacy programs explored [19]. Similar findings were reported

by Howell et al. (2019) who concluded that more work needed to be done to define standards in order to advance medical advocacy competencies [15].

The lack of a consistent body of knowledge or skill set pointed out by Howell et al. (2019) in their systematic review on advocacy curricula, has important consequences [15]. From a medical education perspective, it can produce frustration and stress on students given that they are expected to demonstrate competences and skills that are not explicit or valued by faculty [20]. It can also be risky or could do harm to patients and communities if not done appropriately [19]. Even when done appropriately, meaningful advocacy is necessarily expected to produce pushbacks from parties who do not agree on an issue for which one is being an advocate; in addition, it could also increase tension in local communities. From a professionals perspective, it could contribute to burn-out and moral distress especially when working in limited resource contexts [21].

There are at least three relevant factors to consider when promoting advocacy training for cancer control. First, the ethical principles that sustain advocacy practices in cancer, second the possible domains or scenarios to develop cancer advocacy and third, the specific competencies needed to become a well-trained advocate. Fig. 1 summarizes the relationships between these components.

In this article we reviewed the concept of cancer advocacy, its components and its application to post-graduate medical education. A critical review approach [22] was applied to identify relevant articles of the last two decades (2003–2023) addressing the concepts of "cancer advocacy" and "post-graduate medical education". Critical reviews emphasize interpretive and purposeful analysis of relevant literature on a particular topic of interest from an exhaustive search of publications. The review aims to reveal strengths, controversies and inconsistencies with respect to theories or hypotheses and to provide new insights for improving practices [23]. Articles and reports were selected from three main databases: Pubmed (<https://pubmed.ncbi.nlm.nih.gov>), WHOLIS, the bibliographic database of the World Health Organization (<https://www.who.int/library>) and Epistemonikos (<https://www.epistemonikos.org/en/>) the largest collaborative, multilingual source of systematic reviews relevant for health-decision making. Epistemonikos integrates databases such as Psycinfo (<https://www.apa.org/pubs/databases/psycinfo/>) and CINAHL (<https://www.ebsco.com/>) focused on psychosocial and public health topics. In addition, relevant references from selected articles were also included in the review. Selected articles were organized according to three main categories. The first category grouped those related to ethical principles of cancer advocacy in residency education. In this section, eight articles were selected and reviewed (Ref: 13,19,24–27,29,30). The second category included articles related to application domains (clinical, community and health policy) of cancer advocacy. In this section, seven articles were included and reviewed (Ref: 8,38–42,47). The third category included articles related with competencies required to implement cancer advocacy. Seven articles were selected and reviewed in this category (Ref: 5,7,11,14,15,47,48).

## 2. Ethical principles for cancer advocacy in residency education

Health advocacy is a central dimension of medical professionalism as stated by the globally recognized Charter on Medical Profession that called for commitment to the promotion of public health and preventive medicine, as well as public advocacy on the part of each physician [24, 25]. However, advocacy is not value neutral and an appropriate ethical framework must be applied to assure that the advocacy definition and the strategy applied are meaningful, culturally sensitive, respectful, and promote the wellbeing of patients and communities. An inappropriate ethical approach could produce harm to local communities, discomfort to patients and moral distress to health professionals. For example, a pediatric resident, given personal beliefs on the potential harms of immunization, could propose to advocate against HPV (human papillomavirus) immunization for children. Similarly, a family practice

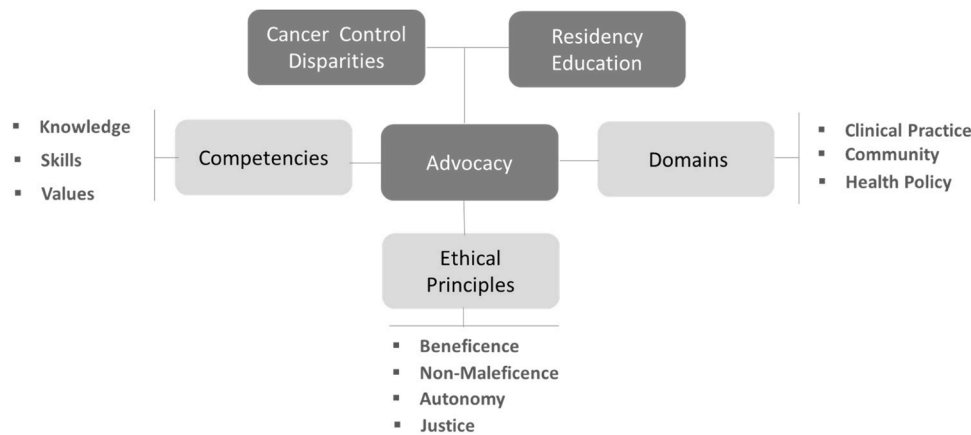


Fig. 1. Cancer advocacy components: principles, domains and competencies.

resident could advocate for self-breast examination as a strategy for breast cancer screening in underserved populations, based on the essential importance of women knowing their bodies, as well as the lack of screening resources in the local community. In another scenario, an oncology resident might advocate for a survivorship program at the primary care level given the high workload of patients at the cancer center, choosing to omit the oncology clinic in the multiple psychosocial problems of patients after oncologic treatments. Health advocacy and professional identity formation are not always value neutral [13,19]; therefore, ethical principle analysis needs to be considered for the physician whose role should include advocacy for reducing social health inequalities, racism, gender, or other forms of discrimination in the health care field [26,27]. In all cases, an ethical analysis before starting with the advocacy initiative is important to better understand advocacy's potential benefits and harms.

The principles of the bioethical framework developed by Childress and Beauchamp [28] have been extensively used in cancer care [29] and the four principles of this approach have been widely incorporated in residency programs [30]. The four principles of the framework are: beneficence, non-maleficence, autonomy, and justice. These principles can be applied to a situation to clarify if an advocacy initiative will benefit, that is, will contribute to the wellbeing of patients and communities, will produce no harm to patients, communities, and health care teams, will respect the preferences and decisions of patients and communities, and will be fair to them.

In the example of the pediatrician provided above, the pediatric resident should explore whether promoting a non-HPV immunization initiative for children could contribute to their wellbeing given the extensive evidence on the benefits of the vaccine in preventing the development of cervical and other cancers [31]. The pediatric resident will also need to explore the scientific evidence on the potential damage of the vaccine and its magnitude. It will be relevant to explore the community's beliefs and attitudes on HPV immunization and the foundations of those beliefs. The resident will need to use advocacy skills to ensure that the community obtains the most solid evidence, both pro and con, on the topic. Finally, the resident will need to analyze whether it is fair for other children who are exposed to HPV but might not receive the vaccine e.g., boys who might not receive the vaccine according to current Chilean guidelines [32].

Similarly, in the self-breast examination advocacy program, the resident should explore whether there is a benefit to this practice in cancer detection and mortality rates, or if the practice can lead to a false perception of safety and later more unnecessary procedures as the current evidence shows [33]. Preferences of the community should be explored assuring that the most updated information on the topic has been provided. The analysis of the justice dimensions should consider whether it is fair to raise false expectations to underserved populations

who might have less access to information and might have an over-estimation of cancer risk as some research shows [34].

Finally, in the survivorship advocacy program, the resident should analyze the evidence on the benefits of providing survivorship care at the primary care level vs. continuing to receive their care at a cancer center [35]. It will be relevant to ensure that the quality of care at the primary care level achieves appropriate standards for cancer patients and that there will not be a risk for misdiagnosis or later stage detection of recurrences. It also will be important to work with local primary care teams to ensure they feel confident and not overwhelmed by managing cancer survivor patients, and that they can get the required resources before starting such management. The preferences of patients on where to get their care and also the preference of local health care teams should be taken into consideration and respected after analyzing together the options available. In the justice perspective, it will be important to assure that cancer survivor patients from underrepresented groups will not receive a lower quality of care compared to other groups and that there will be no selection based on race, culture or gender or other characteristics of individuals.

### 3. Practice (clinical), community, and health policy advocacy domains

Effective strategies to improve cancer advocacy in residency education can occur on many levels. Ernest et al. (2023) identified three main domains for creating advocacy in residency education [8]. First, there is the domain where advocacy occurs mainly in the practice or clinical setting, that is, within one's existing health care system. In this domain, physicians work collaboratively with patients and health care team members to increase access to clinical services, improve communication for all patients especially those who speak another language or are of low literacy, help patients navigate through the existing health care system, and assure optimum treatments to all patients [8]. As an example, a provider may encounter a patient who is convinced that breast cancer screening should only be required if one exhibits symptoms in the breast. The provider may use communication and motivational interviewing to understand the origins of that belief and to entreat the woman to think of the benefits and consequences of screening. The provider may then go on to have a nurse or staff member walk the patient through the mammography procedure to educate the patient about the screening mechanism. Finally, the provider may work with the health care system to provide regular reminders to women to obtain annual or biennial screening. Thus, the patient walks away with knowledge and values for regular breast cancer screening [36,37].

A second domain is a community-based orientation where physicians work with community groups and organizations to improve preventive practices, access to care, and support cancer groups. From this

perspective, the provider engages with the community to address the barriers and facilitators that lead to cancer screening. A framework that has been widely used to develop to reduce health disparities in many aspects of cancer including cancer prevention [38], cancer treatment and survivorship [39], and palliative care [40] is community-based participatory research (CBPR). Simonds V. et al. (2013) emphasize that CBPR incorporates values and strategies to promote collaborative inquiry based on community-identified issues, equitable partnerships, and structures for participation [41]. Using the breast cancer screening example, the provider can identify key leaders and key community groups that provide messages and motivation scenarios to community women. For example, a provider may give a talk to women's groups at church, synagogue, schools, and other places where women may gather, to discuss breast cancer screening. Further, the provider may assist groups in putting on health fairs to reach low-SES women. Similarly, health groups may be approached to develop a van with mammography equipment on board (mammovan) to reach women in far-reaches of a county or area; that is, women who would have great difficulty in traveling to a central facility or hospital. In these ways, many more community women will be reached beyond those that attend a clinic [42].

The health policy domain is another important area of focus. In this domain, providers should learn how to collaborate in the developing of new institutional norms or public legislation through a participatory leadership model that focuses on reducing health disparities at a broader level. Typically, the resident or provider should be encouraged to speak to legislative bodies, institutional organizations such as the local or national medical association, and other health care organizations about measures that can be taken to reduce the barriers to cancer screening and treatment. Familiarity with insurance standards and medical standards is necessary to fully understand the barriers and the resident should seek to turn barriers into facilitators. Many such initiatives have been conducted in Western countries. As an example, in breast cancer screening, screening mammograms have become covered by insurance companies [43]. Mammography vans have negated the necessity for a provider referral for a screening mammogram [44]. The recent approval of a Chilean national law exempting women of the need for a provider's order to obtain a mammogram is an example of a new public health policy that resulted from the interaction between social, political, and academic players [45]. Mammograms were already covered by the national insurance system for Chilean women, however, a provider's order was required and was a key barrier to improve adherence. The collective work based on the information provided by extensive previous research in the field [37] helped to inform social and political leaders to remove that barrier to facilitate timely access to mammogram screening. The new law had broad support from the political spectrum and integrated the responsibility of primary care teams in providing information and follow-up of women when obtaining a mammogram. It was an outstanding example of medical, social, political, and academic collaboration in cancer control [46].

All three of these domains are consistent with the studies identified in the systematic reviews of Howell B. et al. (2019) and Scott M. et al. (2020) [15,47]. In these domains, a critical learning perspective through participatory research should be included as part of the residents' training in cancer advocacy learning. Critical learning and CBPR both apply research to practice and policy for social change and for reduction of cancer control disparities. CBPR also is a strategy that addresses mistrust between academia, public health agencies, and communities through reciprocal learning as well as addressing the challenges of translating and sustaining interventions within specific community contexts to improve health or cancer advocacy in residency training.

#### 4. Competencies for developing cancer advocacy in residency education

Thus far, we have discussed the principles of advocacy training in

residency as well as the domains to be included in such training. An essential component of training in advocacy is identification of competencies in advocacy curriculum. Competence-based residency education is based on a clearly defined set of knowledge, skills, and values that residents need to learn, demonstrate, and apply in their medical practice (7,14). Several areas emerge as key competencies to be considered for competence-based residency education. These are based on the critical learning perspective and the CBPR practices that were described earlier. These competencies (knowledge, skills, and values) for cancer advocacy in medical residency education are presented in Table 1.

Advocacy in residence education has been identified as one of the most difficult dimensions to implement in residency education [5,11,15]. Faculty and residents observed that there is confusion and ambiguity in the essential knowledge areas and in the specific skills to develop and assess advocacy. Clarifying the domains, knowledge areas, skills and values involved can help to reduce confusion and ambiguity.

There are also mixed strategies to train health advocacy to residents. Strategies vary from experiential learning, small groups seminars, independent projects, group projects and web-based models [15,47,48]. In most cases, a partnership with health care providers, community organizations or policy decision makers will be necessary to develop meaningful advocacy. Protected time for faculty and residents, safe spaces for reflection, support of faculty's mentorship role and, focus on practical, rather than theoretical advocacy, are some of the core essential features for implementing meaningful and effective advocacy in residency education [48]. Cancer prevention and control is a highly relevant health concern that can facilitate the training of advocacy competencies in residency education globally.

The framework and specific competencies provided in this article could contribute to integrating in a more systematic way cancer advocacy in post-graduate medical education not only to oncology residents but to most medical specialties. Further research could focus on the best strategies to teach and learn cancer advocacy and the effectiveness associated with them. Outcomes to estimate effectiveness of cancer advocacy training should include the effects in the three domains identified in our study (i.e. clinical, community and health policy levels).

#### 5. Conclusion

In this review, we note the importance of including advocacy in medical training programs. At the level of medical residents, it is critical to develop competencies in advocacy at the practice, community, and health policy levels as providers are key players in cancer prevention and control. Advocacy in resident education is based on principles that focus on activities that are meaningful, culturally sensitive, respectful, and promote the wellbeing of patients and communities. The four principles of advocacy include beneficence, non-maleficence, autonomy, and justice. With these principles in mind, we identified three domains, practice, community, and healthy policy, that are central areas in which advocacy should occur. Given the difficulty of implementing advocacy, we produced a table of competencies of knowledge, skills, and values that can be used to generate successful advocates among residents in medical programs. In summary, we encourage the inclusion of advocacy in resident medical programs so that physicians become competent medical providers at diverse levels of society.

#### CRediT authorship contribution statement

**Beti Thompson:** Writing – original draft, Formal analysis, Conceptualization. **Andrea Rioseco:** Writing – review & editing, Supervision. **Klaus Puschel:** Writing – original draft, Investigation, Formal analysis, Conceptualization. **Isabella Fuentes:** Writing – original draft, Data curation. **Zdenka Vescovi:** Writing – review & editing, Data curation. **Augusto Leon:** Writing – review & editing. **Carolina Goic:** Writing – review & editing.

**Table 1**  
Competencies, relevant domains, and values.

COMPETENCIES	DOMAINS	VALUES
<b>KNOWLEDGE</b>		
<b>Relevant information:</b> Identify relevant scientific evidence including established information and information gaps on the topic of interest.	Practice Community Health Policy	Scientific accuracy
<b>Political environment<sup>1</sup>:</b> Recognize dynamics and processes associated with policy development and formulation of laws and legislative issuances.	Health Policy	Feasibility of policy changes
<b>Social Determinants of Health:</b> Understand social determinants of health of health and how it affects the topic of interest	Practice Community	Understanding barriers
<b>Assets and resources:</b> Recognize assets and needs of patients and communities on the topic of interest	Practice Community Health Policy	Realistic facilitators
<b>Community players:</b> Identify community groups and organizations that support or are against the topic of interest	Community Health Policy	Inclusion and diversity
<b>Norms and regulations:</b> Identify key aspects of normative framework or legislation related with the topic of interest	Health Policy	Environmental barriers/facilitators
<b>SKILLS</b>		
<b>Self-reflective skills<sup>2</sup>:</b> Ability to carefully explore a situation or scenario considering one's own emotions, attitudes, and behaviors in order to expand own's understanding and appreciation.	Practice Community Health Policy	Honest awareness
<b>Cultural-competence<sup>3</sup>:</b> Ability to recognize diversity in the patient population and integrate cultural factors that can affect health and health care, such as language, communication styles, beliefs, attitudes, and behaviors.	Practice Community	Recognition of diversity
<b>Health communication skills<sup>4</sup>:</b> Ability to interact with diverse communities, underserved patient groups, local leaders, and decision makers in a respectful and integrative way in order to promote change in a given health care scenario.	Practice Community Health Policy	Respect for differences
<b>Negotiation skills<sup>5</sup>:</b> Ability to engage in a strategic discussion intended to resolve a divergence of interests in a way that both parties find acceptable	Community Health Policy	Common good
<b>Empathy<sup>6</sup>:</b> Ability to understand another's meaning and concerns through the use of reflective listening.	Practice Community	Concern for the other/ caring
<b>Stakeholder mapping<sup>7</sup>:</b> Ability to identify key actors and assess their interests, knowledge, positions, relationships, resources, influence and importance in a specific area.	Practice Community	Recognition and involvement
<b>Participatory engagement<sup>8</sup>:</b> Ability to facilitate patients' and community groups' involvement in decision-making and in the planning, design, governance, and delivery of services.	Practice Community Health Policy	Involvement by all
<b>Teamwork skills<sup>9</sup>:</b> Ability to work collaboratively with a common purpose toward measurable goals that benefit from leadership that maintains stability while encouraging honest discussion and problem solving.	Practice Community Health Policy	Collaboration
<b>Participatory leadership<sup>7</sup>:</b> Ability to guide and facilitate transformative processes empowering patients and community groups to improve health care and reduce health disparities.	Practice Community Health Policy	Empowerment

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**Declaration of Competing Interest**

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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