Breast cancer in the global south and the limitations of a biomedical framing: a critical review of the literature

Catia C Confortini* and Brianna Krong

Peace and Justice Studies Program, Wellesley College, 106 Central Street, Wellesley, MA 02481, USA

*Corresponding author. Wellesley College, Founders’ Hall 27, 106 Central Street, Wellesley, MA 02481, USA. E-mail: cconfort@wellesley.edu

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Public health researchers are devoting increasing attention to the growing burden of breast cancer in low-and middle-income countries (LMICs), previously thought to be minimally impacted by this disease. A critical examination of this body of literature is needed to explore the assumptions, advantages and limitations of current approaches. In our critical literature review, we find that researchers and public health practitioners predominantly privilege a biomedical perspective focused on patients’ adherence (or non-adherence) to ‘preventive’ practices, screening behaviours and treatment regimens. Cost-effective ‘quick fixes’ are prioritized, and prevention is framed in terms of individual ‘risk behaviours’. Thus, individuals and communities are held responsible for the success of the biomedical system; traditional belief systems and ‘harmful’ social practices are problematized. Inherently personal, social and cultural experiences of pain and suffering are neglected or reduced to the issue of chemical palliation. This narrow approach obscures the complex aetiology of the disease and perpetuates silence around power relations. This article calls for a social justice-oriented interrogation of the role of power and inequity in the global breast cancer epidemic, which recognizes the agency and experiences of women (and men) who experience breast cancer in the global south.

Keywords Breast cancer, cancer, global health, global south, LMICs, medical anthropology, medical sociology, public health

KEY MESSAGES

- Critical, novel review of contemporary literature on the growing burden of breast cancer in the global south.
- The predominant approach to breast cancer in low-and middle-income countries privileges a biomedical perspective.
- Breast cancer crisis is identified in poor biomedical capacity, and framed in economic terms.
- Community ‘risk behaviours’ and patient adherence are emphasized, obscuring complex aetiology.
- Existing literature precludes any examination of power relations, and that which is unquantifiable.
Introduction

Breast cancer is the leading cause of cancer-related mortality among women aged 20–59 worldwide (‘WHO | Women’s Health’ 2013), accounting for 1.35 million new cases and 327,000 mortalities each year. An estimated 4.4 million women are living with breast cancer, and the burden is growing; it is estimated that 1.7 million women will be diagnosed with breast cancer in 2020, an increase of 26% from current incidence levels (The Lancet 2009). The burden is also shifting substantially to the developing world, where over half of breast cancer mortality now occurs (Anderson 2012). It is estimated that, in 2020, 70% of all breast cancer cases will be in low- and middle-income countries (LMICs) (El Saghir et al. 2011). It is notable that case/fatality rates for breast cancer in the developing world are lower than those in the developed world. That is, although developed countries generally experience higher incidence rates, developing countries experience disproportionately high rates of mortality (Igene 2008). This means that for women (and men) who receive breast cancer diagnoses in developing countries, outcomes are poorer.

In the last 10–15 years, global health organizations have been increasingly attentive to the burden of chronic disease in the global south. The first WHO report on chronic diseases was published in 2001 (Alwan et al. 2001), and the first global cancer report followed in 2003 (Stewart et al. 2003). The global task force on expanded access to cancer care and control (GTf.CCC), a project of the Harvard Global Equity Initiative, convened for the first time in 2009. WHO’s 2014 report on cancer has generated considerable public attention and alarm (Leach-Kemon 2014), with some commentators announcing an imminent ‘human disaster’ (Hume and Christensen 2014). The growing incidence of breast cancer in particular has captured the attention of the global public health establishment. The Breast Health Global Initiative (an alliance of public and private organizations primarily based in North America and Europe) was found in 2002. Following the 2011 UN High Level Meeting on Non-communicable diseases (NCDs) (United Nations 2011, p. 13), Global spending on cancer nevertheless continues to be skewed towards ‘developed’ regions. Of the estimated 28 billion spent on cancer globally, 16 billion is spent in the United States (The Lancet 2009). Just 5% of global cancer spending is directed towards LMICs (The Lancet 2009). While this contrast is striking, it is equally important to consider the extent to which cancer spending or technological solutions affect mortality. Aronowitz (2007), for example, has shown that throughout the 19th and 20th centuries medical innovations had little effect on the ‘biological devastation’ of the disease. Even the once-hailed survival benefits attributed to screening mammographies have been recently put into question (Gotzsche 2012; Miller et al. 2014; Welch and Passow 2014).

Global spending is distributed inequitably, in part, due to the harmful misconception that cancer is a disease experienced by wealthy, industrialized countries exclusively. Until not long ago, it was widely assumed that issues of infectious disease and malnutrition—problems that wealthy countries experienced in the past—would eventually decrease in poor countries, and only then would chronic illness become as a great problem as it is in wealthy countries. This understanding was referred to as the ‘epidemiological transition’ (Farmer et al. 2013, p. 320) and resulted in the prioritization of infectious disease transmission over long-term neoplastic concerns in developing countries. Anthropologist Julie Livingston (2012) uses the term ‘narrow infectious disease model’ to describe the phenomenon. In actuality, developing countries are facing a double burden of disease, as cancer and other NCDs grow in prevalence amidst persisting crises of infectious disease (Boutayeb 2006). McNees and Lee (2013, p. 438) surmise that global health intervention has been skewed in favour of a focus on the security needs of states. Thus, concerns with infectious diseases and pandemics—‘plague and pestilence’—have taken precedence over NCDs.

There is an abundance of literature on breast cancer in the USA and in other countries of the global north, approaching the disease from multiple disciplinary perspectives (public health, sociology, anthropology and epidemiology, among others) and with critical lenses that challenge dominant narratives that ‘depoliticize’ the disease (Batt 1994; King 2006; Klawiter 2008; Sulik 2012). Other works explore the social forces that have historically shaped the experience, meaning and impact of breast cancer in the global north (particularly the US) in the last 200 years (Proctor 1995; Lerner 2001; Kasper and Ferguson 2002; Aronowitz 2007; Davis 2007), showing how societal fears, desires, ideologies and hopes (as much as—or perhaps more than—surgical innovations and scientific discoveries) influenced breast cancer prevention and treatment efforts. These studies remind us that foregrounding analysis in social, political and economic factors is important to understand the assumptions behind and limitations of dominant public health approaches to breast cancer. Given its growing incidence in LMICs, there is a need to examine critically whether and how public health scholars and practitioners are beginning to look at breast cancer in the global south. It is particularly important to explore the epistemological assumptions of current approaches to this disease and its treatment, where the history and current manifestations of colonial relations are part of the social context shaping the meaning, experience and impact of breast cancer.

Our goal in this review, therefore, is to explore assumptions and to identify advantages and limitations of existing literature on breast cancer in developing countries. Selection of the literature to consider was conducted through a search of the Web of Science and PubMed databases, using combinations of the following search terms: breast cancer, cancer, developing countries, developing world, low resource, global south and LMICs. We focused on the public health and epidemiological literature and limited our search to articles published between 2002—the year of the Breast Health Global Initiative’s founding, around the time when the WHO published their first report on chronic diseases and their first global cancer report—and 2014. After excluding clinical studies and duplicate results, our survey yielded a total of 362 articles on cancer in the global south. These included major reports and policy documents related to cancer and NCDs in LMICs from governmental (and some non-governmental) global health organizations, focusing on breast cancer in particular.
One general observation, we drew from our search is that literature on the experience and meaning of cancer in the developing world is relatively scarce and often does not differentiate between different types of cancer. The literature is mostly, but not exclusively, limited to epidemiological studies or public health scholarship and policy. Our survey reveals that this literature approaches health and illness predominantly through the biomedical perspective, which limits our understanding of the problem and, as a consequence, our policy options. This perspective offers too narrow a focus on behavioural, mechanical or technocratic explanations and interventions, not only at the expense of more rounded ones that recognize the complex aetiologies of the disease but also at the cost of constructing breast cancer outside the realm of politics (Rosser 2002; Glasgow 2012). Anthropological or sociological approaches to cancer, and breast cancer in particular, are rare. This limitation perhaps reflects a preference for biomedical cancer research on the part of funding agencies to the detriment of much needed critical (and humanistic or multidisciplinary) studies.

This article is divided into three sections. In section 1, we introduce the theoretical framework underpinning our argument. We argue that the biomedical approach to cancer in the global south gives shape to a particular subject of public health interventions, one that is ‘empowered’ when compliant to biomedical prescriptions. The technocratic, quantifiable and economistic framework of biomedicine does not have space or language to talk about the unmeasurable, the affective and the subjective. In section 2, we review the existing literature on cancer in the global south, drawing from global public health and epidemiology, and paying particular attention to breast cancer, when specific literature exists (or when references are made specifically in more general works on cancer). We examine the ways in which the biomedical model plays out in the current literature. Our conclusion highlights a need to develop critical approaches to how public health scholarship and practice attach meaning to breast cancer in developing countries.

Global health and biomedicine

McInnes and Lee (2013) claim that global health policy has been characterized by three normative frameworks—security, economism and biomedicine—which shape not only ideas and institutions but also the very definition of global health. These frameworks, McInnes and Lee argue, have led (among other things) to an emphasis on acute and infectious diseases as opposed to other conditions, including cancer, and have ultimately served the interests of higher income populations and higher income countries. They do not see much hope in the more recent policy attention to NCDs, as they fear that the same ‘outbreak’ narrative that has underscored global health frameworks on infectious diseases, and that has facilitated the framing of global health in security terms, will extend to NCDs. Moreover, they observe with skepticism the rise of the biomedical scientific model, which is characterized by faith in technological and pharmaceutical advances and a technocratic approach to global health based on cost-effective interventions and strong private funding. It is this model (rather than critical or constructivist ones that have emerged in global health literature in the past 10–15 years) that we find prevalent in the literature on cancer in LMICs.

We identify in particular a few traits of this literature that have implications for the ways in which global health institutions address the challenges presented by the global spread of cancer and, in particular, for the ways in which they face the human (social, economic and political) dimensions of breast cancer in the global south. In this section, we are going to highlight some of the key assumptions of the biomedical model that have worked their way into the literature under review.

Short of being a universal, ahistorical approach to medicine or public health, the biomedical model is more properly contextualized in political, economic and epidemiological changes of the late 19th and early 20th centuries in the West (Birn et al. 2009). The body came to be seen as a machine whose care could be best addressed by technological measures (Birn et al. 2009, p. 137). Following the work of Louis Pasteur and Robert Koch, the germ theory of disease (where diseases are seen as a result of specific microbial agents) replaced earlier understandings of diseases as resulting from social environments (Mishler 1981; Birn et al. 2009). This conceptualization of medical practice soon became predominant in Western industrialized countries (and to a degree, in their colonies), though other models continue to co-exist with biomedicine both in the West and in other sociocultural contexts (Kleinman 1995). While medicine focused more narrowly on individual causes of disease, social and political determinants remained under the purview of public health research. As Glasgow (2012, p. 61) aptly notes, however, the boundary between public health and medicine has eroded in the discourse on NCDs of public health institutions at the global, regional and state level in the past 50 years. By focusing on behavioural (private sphere) risk factors of NCDs, public health policy and research has effectively depoliticized disease and failed ‘to account for how ingrained political values and norms—particularly those consonant with neoliberalism—shape both our understanding and management of NCDs’.

The biomedical model is based on a set of ontological and epistemological commitments to the scientific paradigm, emphasizing materialism as the basis for knowledge claims and consequently reducing disease to a set of biological processes without non-material dimensions (Kleinman 1995). Where disease is understood primarily as a set of ‘deviations from the norm of measurable biological (somatic) variables’ (Engel, cited in Mishler 1981, p. 3), as in the biomedical model, social, political and cultural determinants of disease are deemphasized. Diseases (including, but not limited to, infectious diseases) are seen as caused by specific and isolable aetiologies, rather than produced through a complex and interrelated set of factors that are not reducible to a simple cause-effect explanation. Moreover, for the biomedical model, disease has a generic universal and ahistorical taxonomy, irrespective of historical, social, cultural or economic conditions. As a consequence of historical and contemporary geopolitics and colonial and postcolonial frameworks of understanding, ‘diseases found in modern Western world provide a standard taxonomy much as the natural elements are represented by the standard table of atomic weights’ (Mishler 1981, p. 9–10). In other words, the assumptions of the biomedical model portray a scientific,
politically neutral, universal standard idea of wellness and disease, which is in fact based on a limited, socioculturally specific idea of ‘the human’ (something that feminist and postcolonial scholars have amply investigated in other contexts).

In the literature on cancer in LMICs, the assumptions of the biomedical model translate into distinct but interrelated discursive constructions. In a critical study on public health responses to chronic diseases in the Caribbean, Whitmarsh (2013, p. 303) claims that, as a consequence of the new focus of global health organizations on chronic and NCDs, compliance has emerged as ‘a principal public health issue of the 21st century’. Because chronic and NCDs (including cancer) are considered ‘lifestyle diseases’ (i.e. self-inflicted), behaviour modifications are central to addressing their spread, notwithstanding the recognition that a multitude of structural factors cause such diseases. The patient practices compliance through self-control, the understanding of ‘proper’ information (devoid of ‘harmful’ cultural and social ideas) and the adherence to (expert) biomedical guidance. In other words, ‘compliance makes the crisis not these structures that cause disease, but the lack of a medical perspective’ (Whitmarsh 2013, p. 305). In Foucaultian terms, this focus on compliance is tied to specific forms of neoliberal governmentality whereby economic analysis is applied to all domains of behaviour (Foucault 2008, p. 268). In this way, ‘economic behaviour is the grid of intelligibility one will adopt on the behaviour of a new individual’: disease comes as a consequence of actions taken while knowing their risks (Foucault 2008, p. 252). It can be avoided by more ‘prudent living’ and does not necessitate a transformation of the underlying ‘political, social and economic processes that give rise to unhealthy behaviours’ (Glasgow 2012, p. 70). As we will show in the next section, public health solutions to the ‘cancer epidemic’ in LMICs emphasize behaviour modifications and compliance rates as crucial to address the increased incidence and mortality of breast cancer and de-emphasize the role of the state in the regulation of such processes.

There is an obvious dissonance between recognizing structural causes of disease and emphasizing behavioural solutions. The new biomedical approach to NCDs resolves this dissonance by ‘organiz[ing] not around a volitional individual, but instead around a cultural and psychological concept of the community’ (Whitmarsh 2013, p. 303). It is the community that affects the predisposition and responses to chronic and NCDs, so ‘compliance techniques attempt to affect community behaviours and cultural attitudes towards food, beauty, children and medicine’ (Whitmarsh 2013, p. 303; see also Farmer 2004). In the literature on cancer in the global south, the subject of compliance takes on a distinct (neo)colonial character, and the ‘community’ (or, rather, particular racialized groups of individuals) is seen as in need of biomedical expert information to replace harmful traditions, superstitions and religious beliefs, which are an obstacle to the adoption of healthy lifestyles. As in the global north, cancer incidence and mortality rates will only decrease by ‘taking on [biomedical] expertise, to modify […] cultural, social and psychological proclivities’ (Whitmarsh 2013, p. 312).

Like other areas of human knowledge that saw their emergence in the (Western) modern progressive era (see Eschle 2001; Lynch 2013), biomedicine is characterized by an unrelenting faith in technological potential and progress. Not only is access to pharmaceutical and ‘powerful therapeutic operations’ important (Kleinman 1995, p. 34), but these technological solutions are also inscribed in the bureaucratization and professionalization of care in the context of the (global and neoliberal) market economy (Kleinman 1995, p. 37). Expert professionals in bureaucratic institutions attend to disease following standardized, depersonalized guidelines; patient–doctor relations are reduced to a consumeristic model and care in general is commodified. Tending to the ‘human grounds of illness’ is replaced by an emphasis on economic priorities and cost-benefit analyses to guide decisions about the administration of care (Kleinman 1995, p. 39). In essence, the pharmaceutical and other technological means to address illness become ‘a kind of social medicine, responsive to structural causes and cheaper than moving families, implementing antipollution policies, or entering the patient’s home’ (Whitmarsh 2013, p. 306–307). As we will show, technology, bureaucracy and commodification enter the literature in the form of calls for cost-effective and simple solutions to the cancer epidemics, advocacy for private–public partnerships, and a call for access to cancer medicines that underplay critiques of global drug governance and, especially, of the political economy underlying the commodification of health and illness.

Finally, the stress on objective and measurable criteria of wellness and disease renders the biomedical model insufficient to understand or even speak of emotions (such as grief) or subjective experiences (such as pain). Because biomedically managing diseases is fundamentally about discovering and implementing progressively sophisticated technological solutions, these aspects of illness that do not neatly fit into measurable criteria become ‘euphemized’ or medicalized into technical categories, rather than moral or sociocultural ones (Kleinman 1995). In the literature on breast cancer in the global south, this plays out in discussions about palliation that have less to do with the individual, social and moral experience of pain or the ethical dilemmas of triaging palliation in contexts of scarcity and more to do with the technical details of access to palliative drugs and palliative care (Livingston 2013).

In sum, the biomedical model pervades the literature on cancer in LMICs in four ways: (1) through the assumption that increased cancer morbidity and mortality are primarily solvable through ensuring compliance; (2) through the pathologization of communities and cultures as obstacles to cancer care and control and the parallel reification of biomedical expertise; (3) through an emphasis on market-based technocratic solutions and (4) through a medicalization of experiences of pain and suffering. These assumptions narrow the scope of our understanding of the disease and the policy options available for prevention, cure and palliation. They preclude us from questioning the very systems implicated in the rise of breast cancer incidence and mortality in the global south.

In the following section, we are going to illustrate in detail how these assumptions permeate the literature under review. We will then offer some concluding thoughts about the need for alternative ways to understand and address the growing breast cancer burden in the global south.
The cancer ‘epidemic’ as biomedicine

The subject of compliance

The global health literature recognizes the multiplicity of intersecting structural, environmental and even genetic causes of chronic illnesses, including cancer (see e.g. Alwan and World Health Organization 2011, p. 33–34). For Magrath and Litvak (1993), the growth of cancer in developing regions is primarily to be attributed to longer lifespans (resulting from biomedical advances to reduce mortality) – the spread of infection-related cancers (e.g. AIDS-related Kaposi’s sarcoma), ‘socioeconomic progress’ (resulting, inter alia, in urbanization and increased exposure to carcinogenic agents), and the adoption of ‘developed’ countries’ lifestyles and ‘at risk’ behaviours. Despite the recognition of a multitude of determinants, however, chronic illnesses are often branded as ‘lifestyle diseases’, (or sometimes ‘changing life conditions’—see Whyte 2012, p. 65–66), and intervention is primarily framed along a biomedical perspective focused on the regulation of behaviours among the affected population.

In the biomedical approach to disease, it is the patient who must know and avoid risk behaviours, recognize and respond to symptoms, seek early diagnosis and adhere to treatment regimens (see also Glasgow 2012). That is, the patient—as the constructed biomedical subject—is expected to comply with the recommendations outlined by biomedical professionals (Mishler 1981; Kleinman 1995). People are categorized as either sick or having the potential to become sick, if they practice risk behaviours (Whitmarsh 2013). In this sense, the biomedical approach does not see the individual as a whole, but rather always as a patient or a potential patient. When she falls short of complying with biomedical directives, the success of the health system is compromised. Shaping the individual as a biomedical subject comes then as a consequence of a compliance-focused approach to public health and medicine.

When the problem of chronic disease is framed as a matter of compliance, compliance is also the primary subject of research, perhaps taking precedence over other matters. Medical literature on cancer in the global north is frequently concerned with patients’ ‘non-adherence’ to treatment. As the body of literature on breast cancer in the global south grows, we are seeing similar notions emerge with respect to patients in developing countries, where lower adherence is observed and investigated (for a review of studies on non-adherence to cancer treatment in the developing world, see Sharma et al. 2012).

In this literature, solutions to the cancer ‘epidemic’ are framed along the need to reach out to patients and potential patients, and induce them to, or create the conditions for adopting the prescribed biomedical behaviour. Specifically, in the case of breast cancer, statistics show that, compared with the underlying causes and social determinants of disease, this conception of prevention regards incidence as inevitable and obscures the complex (and largely unknown) aetiology of the disease. Responsibility for the success of preventive efforts is placed on individuals and communities, perhaps because doing so is easier than problematizing the systems in which the ‘developed world’ is complicit and the global neoliberal economy in which these systems are embedded (see e.g. Shaffer and Brenner 2004 and Labonté et al. 2011 on international trade policies; Kimuna 2004, Ajunwa 2007, Ogunseitan et al. 2009 and Livingston 2012 on hazardous waste transfer; Gray 2010 on breast cancer and the environment more generally; Batt 1994 on government and industry hostility to research on primary prevention in the USA and Canada). Thus, under the biomedical model, primary prevention of breast cancer is practically impossible.

Pathologizing communities

Though global health governance recognizes the social determinants of NCDs, illness is often attributed primarily to the
behaviour of individual patients (Glasgow 2012). WHO’s proposals for combating NCDs, therefore, include population-level interventions (e.g. taxes on tobacco and alcohol or restrictions to advertising—Alwan and World Health Organization 2011, p. 56). These interventions are meant to induce the affected or potentially affected population to modify the risk behaviour (e.g. alcohol and tobacco consumption, unhealthy diet and lack of physical activity). More specifically, in the literature on breast cancer in the developing world, the subjects of compliance become certain categories of people living in the global south: those living in rural communities far away from urban centres with oncological facilities, those who rely on traditional healers, those whose cultural beliefs clash away from urban centres with oncological facilities, those who comply become certain categories of people living in the global south: those living in rural communities far away from urban centres with oncological facilities, those who rely on traditional healers, those whose cultural beliefs clash with what is established biomedical knowledge, etc. Thus, improving awareness of the disease and eliminating the stigma, fatalistic cultural attitudes or harmful religious ideas about modesty associated with breast cancer are seen as central to the cancer care continuum (See e.g. Azaiza et al. 2010).

Many authors problematize traditional, indigenous or communal belief systems incongruent with biomedical knowledge as drivers of screening behaviours and therefore poor breast cancer prognoses in the global south10. El Saghir et al. (2011) of the Breast Health Global Initiative identify population ‘alternative belief models’, as well as cultural perceptions of breast cancer treatment as ineffective and expensive, as aggravating factors in the prevalence of late-stage presentation. Woldeamanuel et al. (2013) highlight Ethiopian breast cancer patients’ patronage of traditional healers—often to seeking biomedical care—as troublesome. With regards to high case-fatality rates in the Palestinian Authority, Azaiza et al. (2010) frame barriers to professional screening—including harmful cultural beliefs among Palestinian women—as the problem. In Nigeria, where late-stage presentation is prevalent, preference for traditional medicine is identified as a contributor to late-stage presentation by Ibrahim et al. (2011). Khan et al. (2011) present cultural beliefs and the prevalence of traditional medicine use among Malaysian university students as impediments to breast cancer control.

Related notions of fear and ignorance among women as biomedical subjects are cited as barriers to early detection. Azaiza et al. (2010) concerned with the implications of fear and cancer fatalism, relating the latter to religiously among Palestinian women. Ibrahim et al. (2011) and Khan et al. (2011) cite ‘ignorance’ and ‘stigma’ as major obstacles. Woldeamanuel et al. (2013) identify lack of awareness and understanding, stigma and the sense of hopelessness surrounding the disease as problematic. Non-adherence to chemotherapy and radiotherapy (‘defaulting’) is framed as a failing on the part of fearful and ignorant patients (Ibrahim et al. 2011), and affective psychological reactions to cancer diagnosis overpathologized as psychiatric disorders (see Kang et al. 2014; Wang et al. 2014).

Economic and institutional limitations are also recognized in the literature and deemed to be one of the primary causes of non-adherence. Woldeamanuel et al. (2013), for example, acknowledge institutional barriers and the challenge Ethiopia’s tiered health care system poses. In their survey of breast and cervical cancer screening behaviours in 15 developing countries, Akinyemiju et al. (2012) recognize not only individual factors, such as socioeconomic status, but also country-level characteristics, such as gross national income, as contributors to low screening rates. Solutions suggested in this case include increased governmental expenditures on health care. Khan et al. (2011) recommend the implementation of educational programs to mitigate harmful perceptions of the symptoms, causes, prevention, diagnosis and treatment of breast cancer. Although Ibrahim et al. (2011) recognize that awareness campaigns and other educational efforts have been unsuccessful in reducing late-stage presentation in Nigeria, they nonetheless conclude that the solution will come from (improved) information dissemination.

There is now a growing literature on the deleterious impact of market-based reforms and neoliberal globalization on health care delivery and equity in various contexts (e.g. Janes et al. 2006 in post-socialist Mongolia; Labonté and Schrecker 2007, 2011 and Labonté et al. 2009 globally). In the face of growing privatization and commodification of care, however, rarely is the neoliberal economic model that pervades health-care delivery systems in LMICs implicated in the discourse on accessibility and affordability of cancer screening and care and in questions of compliance (or even perhaps in the complex aetiology of the disease). In other words, in the context of resource-poor settings, the focus remains on problems that are perceived to be created—and can therefore be corrected—by women as compliant biomedical subjects. The problem resides with the patient who needs to alter her behaviour, rather than with ‘the values and principles that ultimately give shape to the social and economic environments injurious to health’ (Glasgow 2012, p. 72).

Global and local power relations, including relations of gender, are relevant to the study of breast cancer only insofar as certain cultures (or religions) are imbued with gender discriminatory practices, gender inequity and gendered notions of modesty that prevent the internalization of biomedical knowledge. Ethnocentric ideas about what it means to be a ‘woman’ in developing countries are posited in contrast with the model of ‘empowered patient’. The active medical subject is an ‘empowered woman’ who becomes so thanks to biomedical and technological advances and information imparted by Western-trained medical experts (see e.g. Pillay 2002). Furthermore, as health and illness are seen in isolation from larger social, political, cultural and economic contexts, gender as a social relation of power and gender relations do not appear as relevant to the biomedical approach. Disease happens to men and women as biological entities but the conditions in which people are gendered as biomedical subjects (thus the effects of gendering on people’s experiences with breast cancer and the biomedical establishment) are removed from the purview of investigation.

In this respect, community behaviours and attitudes that conflict with biomedical compliance are ‘[w]hat is out of control in the dystopia of lifestyle pandemics’ (Whitmarsh 2013, p. 309), where low levels of awareness are seen as the crisis. The ‘valorization of information’—i.e. the elevation of biomedical knowledge—is then key to ‘overcoming deleterious cultural traditions, family habits or beliefs’ (Whitmarsh 2013, p. 313). In other words, the biomedical perspective identifies and pathologizes groups of people—those who smoke, consume
alcohol, eat poorly, are sedentary, follow harmful cultural traditions, etc.—as always having the potential to become sick and thus always in need of biomedical expertise. The ‘empowered patient’ is she who rejects ‘the desires, cultural attitudes and familial traditions’ that conflict with biomedicine and knows herself biomedically (Whitmarsh 2013, p. 313). As Anderson (2012, p. 36) notes, however, a focus on behavioural modifications is ‘unlikely to produce major shifts in outcome’ for malignancies such as breast cancer, whose complex aetiologies defy simple biomedical solutions. More importantly, this narrow focus is a reflection of biomedicine’s own set of cultural beliefs, which need to be constantly interrogated for the sake of improving health and saving lives (see Glasgow 2012).

Furthermore, discourse on patients’ non-adherence needs to recognize the reality that in low-resource settings, excruciatingly painful treatments are largely delivered without the accompanying palliation needed to help patients endure it (more on palliation later). In addition, in low-resource settings where late-stage diagnoses prevail, success rates for such treatments are relatively low. Understandably, patients are less likely to be ‘compliant’ when they see and experience unbearable amounts of pain associated with treatments for which there is little hope of success. Thus, non-adherence should be understood as a phenomenon inextricably linked to the experience of pain. ‘Defaulting’ should be framed as not the failing of the patient, but rather as the failing of a much larger system.

Núñez (2012), a Cuban sociologist with personal experience of breast cancer, offers a unique and compelling perspective that details the complex social and emotional experience of breast cancer in a middle-income country. While Núñez acknowledges the importance of early screening as critical to reducing breast cancer morbidity and mortality, she deviates from the compliance model’s focus on education and ‘empowerment’ of individual women as the solution. Rather, Núñez constructs a nuanced and empathetic understanding of the emotional responses to cancer symptoms and diagnoses that critiques the role of gender relations, social norms and popular media in late-stage presentation. Her emphasis on the importance of strong doctor–patient relationships characterized by ‘mutual exchange of knowledge’, too, is a departure from the top-down biomedical model of care, which positions doctors as bearers of expertise and patients as compliant recipients of biomedical information and health interventions. In her work, we see the strong potential that lies in a more critical interdisciplinary approach to breast cancer in developing countries.

Emphasis on cost-effectiveness, quantifiability and medical capacity

The biomedical model conflates health with health care; i.e. the crisis of the breast cancer epidemic in the global south is seen not as a crisis related to the social determinants and underlying structures that contribute to poor health, but rather as more simply a crisis of poor medical capacity. Though rapid industrialization, urbanization, environmental pollution and the ‘negative effects of globalization’ (Alwan and World Health Organization 2011, p. 33; see also Labonté and Schreyer 2007) are recognized for the critical role they play in the rising burden of disease, these problems seem to be regarded as inevitable. Access to cancer care resources, then, are ‘at the heart of cancer control in both developed and developing countries’ (Jones et al. 2006, p. 2207). Where issues of basic oncological capacity persist, lack of access to expensive treatment is taken for granted. Emphasis is therefore placed on low-cost, highly ‘cost-effective’ solutions—such as smoking cessation, early screening programs, taxes and regulations, and in the case of infectious cancers, vaccination (Stewart et al. 2014).

The literature emphasizes that the growing burden of breast cancer in developing countries is exacerbated by lack of access to cancer diagnostics, drugs, radiotherapy, treatment facilities, adequate referral systems and palliative care—issues of diagnosis and care (CanTreat International 2010). Poor biomedical capacity is also a barrier to professional screening and therefore a contributor to the prevalence of late-stage diagnoses in the developing world (Azaiza et al. 2010; Akinyemiju 2012). Expanding access to treatment and palliative care, strengthening of health systems, expanded technological capacity and integration of breast cancer care services into health systems are presented as solutions (Igene 2008; CanTreat International 2010; Knaul et al. 2012). From scarcity of radiotherapy (Ashraf 2003) to tertiary care (Rivera-Luna et al. 2007), the problem of breast cancer in the global south is identified in the lack of biomedical capacity.

Another common thread in the literature on breast cancer in LMIC is the call for corporate businesses, pharmaceutical companies and state bureaucracies to work in tandem in order to improve access to cancer medicines (The Lancet Oncology 2013). This model has its roots in the early 20th century, when the Rockefeller Foundation put forth a framework of international public health management in the then-colonized world that sought the creation of public–private partnerships to advance national commitments to public health and emphasized quick, inexpensive fixes. Despite some glaring shortcomings (see Goetzschke 2012; McInnes and Lee 2013), this model is echoed in contemporary public health policies and practices (Birm et al. 2009; see e.g. IAEA’s Programme of Action for Cancer Therapy at http://cancer.iaea.org/; and the pilot project on breast cancer developed by the consulting firm Axios in Ethiopia at http://axios-group.com/index.php/en/our-services/case-studies/; Reeler et al. 2008). We find the literature on breast cancer in developing countries following suit with little critical engagement.

Oluwole and Kraemer (2013, p. 693) of the public–private partnership Pink Ribbon Red Ribbon state that public–private partnerships not only leverage considerable investments but also ‘capitalize on the particular efficiency and expertise of different organizations while avoiding duplication of effort among them’. Knaul et al. (2012) advocate for the mobilization of ‘all public and private stakeholders in the cancer arena, through new and existing global and national forums and networks dedicated to improving health outcomes and equity’ (21). The complex aspects of breast cancer and breast cancer experiences in the developing world are thus ‘converted into technical problems’, which can be efficiently and easily addressed through the integration of public and private apparatuses into the global market economy of professionalized
care (Kleinman 1995). Moreover, while the problem of access to cancer drugs is mentioned in several of the works under review, poor access is primarily framed not as a product of the neoliberal model of pharmaceutical governance but rather as a problem to be solved within and by that model (see e.g. Lingwood et al. 2008; CanTreat International 2010; El Saghir et al. 2011; The Lancet Oncology 2013; for a more critical view, see Knaul et al. 2012).

Another kind of partnership advocated by the literature under review refers to hospital-to-hospital co-operation. Closing the Cancer Divide (by the Harvard’s GTF.CCC), e.g., sets up a ‘non-zero-sum’ framework where cancer care, prevention and palliation are integrated in existing systems, with the help of new technologies and ‘partnerships’ with institutions in developed countries (Knaul et al. 2012). Partnership is, however, a misnomer for the kinds of relationships envisioned, which are not based on egalitarian exchange of information and resources. Rather what is proposed is a top-down model, where hospital and research institutions in North America and Europe impart biomedical know-how and technical expertise to institutions and professionals in the global south. This, again, reflects an overreliance on technical solutions to a more broadly political problem (Glasgow 2012).

Finally, as intervention is framed as economic efficiency, the failure to biomedically intervene in the cancer epidemic is seen in its economic costs (Engelgau et al. 2012). Knaul et al. (2012, p. 70) estimate economic savings of a ‘prevention-plus-treatment scenario’ for breast cancer at 60% across all WHO regions, though, as we have seen, prevention is only understood in terms of compliance, rather than along broader structural lines. Farmer et al. (2013) contextualize the GTF.CCC’s (and others’) cost-effectiveness arguments as created in response to earlier global health policies, which deemed cancer treatment to be unaffordable for low-resource countries. Nevertheless, both approaches maintain a narrow focus that subordinates health and health care to economic and financial calculations, rather than framing it as a question of rights.

Relatedly, the biomedical approach of the literature on breast cancer in LMICs places undue emphasis on that which is measured and measurable. Biomedicine seeks to ‘[uncover] layers of reality to establish with precision what is certain and fundamental, and [for] establishing criteria against which orthodoxy and orthopraxy can be certified’ (Kleinman 1995, p. 29). This preoccupation with the quantifiable, however, can obscure that which is unmeasurable; Janes et al. (2006, p. 25) argue that ‘efficiency-based reforms’ that are grounded in the orthodoxy and orthopraxy can be certified’ (Kleinman 1995, p. 29).

This misconception, they subordinate palliation to prevention, early detection and treatment. In a different work, the same group of researchers describe poor access to pain control, and opioids in particular, as ‘one of the most appalling and unnecessary global health disparities between rich and poor countries’ (Knaul et al. 2012, p. 53). The authors implicate poorly designed international regulatory frameworks in the persistence of poor access to palliation, arguing that the International Narcotics Review Board works harder to restrict illicit use than to ensure access to needed relief. The Board regularly approves government controlled narcotic quotas that are not consistent with the epidemiological prevalence of clinical pain (Knaul et al. 2012; see also Farmer et al. 2013). While criticizing an excessive, fatalistic and paternalistic focus on palliation, then, these researchers call for greater attention to be given to the issue of palliative care and for its integration into the cancer care continuum.

Some other studies point to excessively restrictive domestic laws, complicated bureaucracies and international legislation’s preoccupation with erecting barriers to illicit drug trafficking as obstacles to the prescription and administration of chemical palliation (Lohman and Human Rights Watch 2011; Lamas and Rosenbaum 2012). Rajagopal et al. (2001) claim that the ‘draconian’ regulations that constrict access to opioids in India are rooted in prevailing fears about addiction, misuse and diversion of opioids among policymakers and physicians (see also Lamas and Rosenbaum 2012). The challenge of palliation in Africa has also been examined in particular. Although palliation can improve significantly quality of life for
patients and families, and oral morphine is relatively inexpensive, palliation is rarely offered to African cancer patients (Lingwood et al. 2008). While palliative care for human immunodeficiency virus and acquired immune deficiency syndrome (HIV/AIDS) patients has been a high priority, little has been done for cancer patients (Harding et al. 2013).

In this review, we do not mean to dismiss the critical problem of pain management and access to opioids in LMICs. We wish to emphasize, however, on the one hand, the need to address pain and suffering in all their material and non-material dimensions and, on the other hand, the need to question the neoliberal economic model, under which regulatory frameworks and domestic laws are inscribed.

A glaring exception in the literature is Julie Livingston’s careful and compassionate ethnography of Botswana’s only cancer ward. Livingston (2013, p. 189–190) outlines many intersecting reasons for the ‘marginalization of concerns about pain’ in African medical practice: inadequate opiate stocks and difficulty of access to opiates when available; a colonially inherited health system where issues related to pain management are considered ‘something of a frill rather than an imperative in policy formulations’; concern about the development of black markets in highly addictive drugs; concerns about the development of addiction in patients and patients’ assumptions that pain relief is not possible, hence making it less likely for them to ask for it. However, she also presents ‘the need for a very different sort of pain politics than one that focuses on gate-keeping individual access to an assumed supply of palliative technologies, or on developing new analgesics’ (Livingston 2013, p. 184). In contexts of scarcity, then, a focus on compliance (whether it’s the state’s, the medical personnel’s or the patient’s) is misplaced. Rather, ‘socializing pain is one of the most significant tasks facing the oncology team, where the ward as a social space must do some of the proxy work of the family’ (Livingston 2013, p. 196).

Conclusion
This article has offered a critical analysis of the contemporary literature on cancer (breast cancer in particular) in the global south. We have evaluated the dominant biomedical approach to breast cancer in the developing world, which is characterized by a preoccupation with compliance with biomedical directives; the pathologization of communities and cultures; the reification of biomedical expertise and capacity as the answers to the crisis of the epidemic and an emphasis on cost-effective, technocratic solutions. We have highlighted where this approach is silent—on issues of social determinants of health, of pain and palliation and of gender and power relations. We have challenged the characterization of individuals as passive recipients of public health interventions and have called instead for an approach that understands the women (and men) who experience breast cancer in low-resource settings as people with agency and intentionality. We have also challenged the dominant approach’s focus on biomedical capacity as the most critical determinant of health. This narrow focus, we argue, obscures the complex set of factors that shape the breast cancer epidemic in the global south. It also fails to question the political norms embedded in the institutions and structure of the global economy, which are at the roots of health disparities (Glasgow 2012). We have argued for an approach that appreciates the diversity of factors, both ideational and material, critical to our understanding of and response to the growing breast cancer burden in the global south. The adoption of such an approach will provide a deeper understanding of ‘health care as wellness rather than the mere reduction of disease burdens and health care costs’ (Fischer 2013, p. 349) and challenge narrow conceptions of health as health care. We see a need for a ‘social justice model’ (Birn et al. 2009), which interrogates the unequal distribution of power and resources, as well as the values and principles that create the conditions for such unequal distribution. In her discussion of public health approaches to NCDs, Glasgow (2012, p. 72) advocates for a political critique that would identify and explore the ‘political determinants of health, or how the norms and ideologies that permeate systems of power and the vested interests of key stakeholders (e.g. public health researchers and policymakers) condition the well-being of the population.’ We believe that such a political critique is equally critical in the case of breast cancer in the global south, where the absence of such a model closes avenues for political intervention at the level of society, limits the possibilities of agency and ultimately the health and well-being of people with (breast) cancer.

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Endnotes
1 The irony of describing this disease with a biomedical phrase while critiquing the biomedical approach to it does not escape us. In other approaches to public health and medicine, what we commonly call ‘breast cancer’ could be described in different terms (e.g. as a mind–body–soul imbalance, as a spiritual disease, etc.). At the same time, we see no real purchase in problematizing a name which is now widely used to describe a particular set of potentially deadly changes in the breast’s ducts, lobules or skin. The possibility that some of this data may reflect a problem of overdiagnosis (see Goetzsche 2012) does not impinge on our findings and critiques.

2 The WHO measures ‘global burden of disease’ by disability-adjusted life year (DALY), which combines years of life lost due to premature mortality and years of life lost due to time lived in states of less than full health.

3 We interchangeably use low- and middle-income countries (LMICs), developing countries/world/regions, global south or low-resource settings to indicate the geopolitical scope of our attention. The
literature also uses different language. The WHO classifies ‘less developed regions’ as all regions of Africa, Asia (excluding Japan), Latin America and the Caribbean, Melanesia, Micronesia, and Polynesia and ‘more developed regions’ as all regions of Europe, Northern America, Australia/New Zealand and Japan.

4 Men comprise <1% of breast cancer cases in high-income countries (HICs) (Perkins and Middleton 2003: 239). A meta-study of male breast cancer in Africa (Ndomb et al. 2012) shows a male-to-female breast cancer ratio of 0.042 (higher than in developed countries). We are unaware of comparable statistics for other regions or LMICs as a whole.

5 The phrase ‘non-communicable diseases’ (NCDs) is used in the public health literature in opposition to ‘communicable diseases’ or infectious diseases.

6 Of the $28.2 billion spent on development assistance for health in 2010, just $185 million was dedicated towards NCDs. In contrast, donors spent $1.1 billion on tuberculosis; $1.9 billion on malaria; $5.2 billion on maternal, newborn and child health; and $6.8 billion on HIV/AIDS (Institute for Health Metrics and Evaluation 2012).

7 For example, Proctor (1995) attributes to discrepancies in funding the predominance of biomedical research in the USA. Similarly, Batt (1994) observes disparities in funding between treatment and primary prevention research.

8 See, e.g. the work of Mindry and collaborators on HIV/AIDS (Mindry 2010; Mindry et al. 2011); Youde (2010) on infectious diseases; Biehl and collaborators on AIDS and global health (Biehl and Eskerod 2007; Biehl and Petryna 2013).

9 Pharmaceutical and technical innovations are credited for increasing life expectancy for cancer patients in the global north, allowing the disease to be increasingly seen and treated as chronic. On the other hand, a new meaning of ‘communicable’ is emerging from global health’s focus on chronic diseases that refers to ‘conditions carried by industrialization, by increased exposure or access to pollutants, fast foods, sedentary employment and leisure’ (Whitmarsh 2013, p. 302).

10 For a discussion of the contested meaning of ‘community’, see Galarneau (2002).

11 It is important to note that the ‘longer lifespans’ explanation underplays the increased incidence of breast cancer among younger (<40) women in developing regions, a phenomenon that the biomedical perspective may find harder to explain (see Hisham and Yip 2003; Son et al. 2006; Kruger and Aupflsleist 2007).

12 The terms ‘adherence’ and ‘non-adherence’ have recently substituted ‘compliance’ in the medical literature. Ostensibly, compliance presupposes a more authoritarian doctor–patient relationship, while ‘adherence’ is based on a voluntary therapeutic agreement between patient and doctor (hence on a view of the patient as an agentic subject—Steiner and Earnest 2000). For our purpose, however, the terms are hardly distinguishable, as they both presuppose the existence of an entity (the doctor) who imparts her/technomedical expertise on a subject whose behaviour coincides (or not) with the expert’s advice. For a broader conceptualization of adherence that takes into consideration structural and organizational barriers, see Steiner 2012.

13 This is also the case of minority communities in the USA (and likely of marginalized groups in other countries of the global north), where the ‘racial gap’ in breast cancer mortality between white and African American women, e.g. has almost doubled (Parker-Pope 2014; see also Bunt et al. 2014). In the technical literature, breast self-examination (BSE), clinical breast-exam (CBE) and breast clinical screening (BCS) refer, respectively, to breast palpation by the patient or a medical professional and to mammograms, ultrasounds or other technological screening methods.

14 Danaei et al. (2005) discuss the contribution of modifiable risk factors (excluding reproductive factors) as causes of death for several kinds of cancer. They estimate that alcohol use, overweight and obesity and physical inactivity combined contribute to 18% of breast cancer deaths in LMICs, physical activity being the most important (10%).

15 Global Health institutions have engaged with traditional and indigenous healers in some cases, primarily in regards to primary care and HIV/AIDS, but so far only a short comment in recent issue of The Lancet addresses the possibility of such engagement with regard to cancer (Salaverry 2013).

16 We note that while non-pharmacological approaches to cancer management have been recognized to be effective (see, e.g. Perron and Schonwetter 2001; Guttsell et al. 2013), the literature on cancer in the global south is largely silent on such methods.

References


