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Leveraging the "living laboratory": On the emergence of the entrepreneurial hospital

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ABSTRACT

For years, scholars have debated the "commercial ethos" in higher education, and the rise of the entrepreneurial university. But what of the "entrepreneurial hospital"? Largely unnoticed by scholars, this unique organisational form differs from the entrepreneurial university in some significant ways, not least in its capacity to *use* its innovations, and to count patients—and even patient populations—amongst its human capital. Accordingly, this article provides an initial conceptualisation of the entrepreneurial hospital, along with an exploration of its larger implications. Using twenty-six semi-structured interviews with key-informants (2008–2009), who work in two networked organisations within a single academic health science system in a Canadian province, our analysis identifies distinctive characteristics of an entrepreneurial hospital. Informed by grounded theory, especially situational analysis, we derive from our data an illustration of potentially incommensurate understandings of the entrepreneurial hospital's resources. On one hand, our study participants view patients and patient populations as a resource for research, linking its value to the contribution it can make to improved, more cost-effective care. On the other hand, some also see commercial potential in this resource. In both cases, exploitation is accompanied by perceived obligations to make proper use of patient populations, and to "give back" to the public-at-large, including through the *entrepreneurial* search for new ways of mobilising the resources of publicly-funded health care. Thus, a key task of the entrepreneurial hospital is to invent and mediate new uses for its care infrastructure and the unique resource constituted by patient populations. By drawing together care and research in new ways, the entrepreneurial hospital promises increased capacity for biomedical innovation. Yet, as it invents and mediates new uses for patient populations and health care infrastructure, the entrepreneurial hospital stands to significantly redefine both systems of care and the bonds of social solidarity.

Introduction

> The province of Ontario *has identified cancer as an area with unique opportunities for supporting research and innovation*. Exploitation of these opportunities is expected to impact the burden of cancer and also lead to the creation of innovative industries and commercial partnerships (OICR & The Government of Ontario, 2009: 2 –emphasis ours).
>
> Unlike most other jurisdictions with individual tertiary care centres, BC manages all cancer patients from first diagnosis to final outcome on a province-wide basis. *With access to a single demographically complex population of uncompromised patients*, our world-class clinicians offer an unprecedented setting in which to evaluate new patient management protocols (LifeSciences BC & The Government of British Columbia, 2006: 4 –emphasis ours).

The war metaphor once dominated descriptions of cancer (Sontag, 1977/1989: 66); today, however, war is passé. In populations, cancer (and disease in general) is viewed less as battlefield and more as an area of opportunity for research, and perhaps even as a crucible "for the generation of wealth and health" (Rose & Novas, 2005: 456). Thus, for example, in the above quotations, cancer signifies not simply a struggle to be waged, but also an incentive for innovation creation and commercialisation. Drawn from *oncology asset maps*—government-sponsored marketing documents aimed at accelerating the commercialisation of public-sector life sciences research—these quotations suggest that

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something more than disease is being transformed into an opportunity; patients, too, are being enrolled to provide an element, as it were, of the material of innovation.

It would be easy enough to dismiss such statements as marketing rhetoric, but we read them here as an invitation to reconsider the "commercial ethos" in contemporary health research and health care. For years, scholars have debated the "commercial ethos" in higher education, and the rise of the entrepreneurial university (as we discuss below). The "entrepreneurial hospital," as we call it, has—by contrast—gone largely unnoticed. Perhaps scholars who have taken note of the commercial ethos in biomedicine have assumed that whatever holds true for universities also holds true for hospitals. However, because its human capital is vested more heavily in health professionals and patients than professors and students, and because it has the capacity to *use* its innovations in clinical settings, the entrepreneurial hospital differs from the entrepreneurial university in important ways.

This article, therefore, emphasises the distinctive features of the entrepreneurial hospital. As it has not yet been subject to sustained empirical attention, we are wary of making premature generalisations—however, to aid our discussion, we propose the following working definition. *An entrepreneurial hospital is one that explicitly seeks to constitute patient populations and care infrastructure as distinctive assets (or resources) in pursuit of entrepreneurial aims*. For example, entrepreneurial hospitals may partner with a pharmaceutical company to conduct a clinical trial of a drug that they could subsequently use in clinical settings. Or, they may seek to connect basic and applied researchers who will develop technology to address particular problems. In many cases, the entrepreneurial hospital will have acquired business acumen and expertise, perhaps concentrated in an in-house technology transfer group. As we have defined it, the concept could be applied equally to public, non-profit hospitals, private, for-profit hospitals, or any hybridization of these organisational configurations.

Our research suggests that the entrepreneurial hospital brings with it new opportunities and challenges for health care, many of which remain under-examined. In this article, we probe its implications using twenty-six semi-structured interviews with key-informants. Our informants, who work in two different, networked organisations within a single *academic health science system* in a Canadian province, describe efforts to assemble and organise resources into unique configurations that will foster biomedical innovation (the phrase *academic health science system* (Davies, 2008) intends to capture *both* academic health centres—more commonly known in Canada as academic health science centres—*and* the complex constellation of relationships that have grown up around these centres as they have oriented towards the sometimes incommensurate tasks of care, research, education and innovation). We explore these descriptions, focussing on how patients and patient populations might be assets or resources. This exploration reveals that a key task of entrepreneurial hospitals in Canada is to invent and mediate new uses for patient populations and care infrastructure while also reconciling differing "regimes of value" deriving from obligations to *both* improve health *and* generate wealth (Waldby & Mitchell, 2006: 59).

To set up our analysis, we first introduce readers to literature on the entrepreneurial university. We next discuss contextual factors related to the emergence of the entrepreneurial hospital in Canada. Following a brief discussion of method, we then present findings from the analysis of our interview data. We conclude by discussing some implications of the entrepreneurial hospital for care providers, and by calling for more research into its implications for patients, systems of care, and their broader publics.

Academic context: the entrepreneurial university and industry–academy relations

In the early 1980s, in conversation with a Mertonian sociology of science preoccupied with assessing normative structures, Henry Etzkowitz (1983) suggested that while opportunities for commercial utilisation of scientific research were frequently available, "the traditional ethos of science did not permit them to erode the boundary between science and private, profit-seeking business" (p. 824). This contrasted deeply, Etzkowitz argued, with the (then) "present situation", where "many academic scientists no longer regard such constraints as necessary or right" (1983: 198). Taking a case-historical approach, Etzkowitz began advancing the idea that scientists—and universities—were becoming more "entrepreneurial" in conjunction with the "growth of a commercial ethos within academia" and "a normative change in science" (1998: 824). Today, Etzkowitz et al. have created a veritable industry around this idea, making the aspirational argument that "the entrepreneurial university" is (and ought to be) evermore "the centre of gravity for economic development, knowledge creation and diffusion in both advanced industrial and developing societies" (Etzkowitz & Viale, 2010: 596).

The idea of the entrepreneurial university occupies a central, and not uncontested, place in contemporary debates about the commercialisation of science (see, among many: Bok, 2003; Colyvas & Powell, 2009; Etzkowitz, Webster, & Healey, 1998; Owen-Smith, 2005a,b; Powell, Owen-Smith, & Colyvas, 2007; Slaughter & Leslie, 1997; Stuart & Ding, 2006). Rothaermel, Agung, and Jiang (2007) identify four major themes in this growing debate, focussing on 1) the nature of the entrepreneurial research university, 2) the productivity of technology transfer offices (TTOs), 3) new firm creation, and 4) networks of innovation. Within and across these themes, much empirical attention has been accorded to entrepreneurial activities in the biomedical sciences.

Some scholars have gone so far as to accord biomedical research a privileged position in the cycle of innovation and academic commercialisation, as evinced for example by Rettig's colourful characterisation of this sector as "the spaceship of hope, the mule train of progress" for innovation (1994: 21). While not sharing Rettig's rhetorical aplomb, others have nevertheless signified the importance of biomedicine in the apparent entrepreneurial turn of the university by, for example, taking the presence or absence of a medical school to be a key variable in the measurement of researchers' and universities' proficiency at the commercialisation of technology (Chapple, Lockett, Siegel, & Wright, 2005; Estabrooks et al., 2008; Siegel, Waldman, & Link, 2003; Thursby & Thursby, 2002). Some recent scholarship even concentrates analysis solely on universities with medical schools, or solely on biomedical researchers (Bercovitz & Feldman, 2008; Czarnitzki & Toole, 2010), suggesting that biomedical entrepreneurship is becoming a sentinel site for understanding academic entrepreneurship more generally. That universities with medical schools would have captured the attention of scholars examining academic entrepreneurship is not surprising when one considers certain key commercialisation metrics. In the United States, for example, medical schools are thought to account for the majority of university invention disclosures (Bercovitz & Feldman, 2008; Mowery & Ziedonis, 2002). A similar view is evident in scholarship focused on Canada (Herder & Johnston, 2007; Rasmussen, 2008; Read, 2007).

Yet, in spite of this attention to biomedical entrepreneurship, scholars have accorded surprisingly little consideration to the specificity of innovation, commercialisation, and technology transfer activities as these are manifest *in health care organisations*. Indeed, Hicks and Katz's 1996 characterisation of hospital-based