Chapter 17
Whither Collaboration? Integrating Professional Services to Close Reciprocal Gaps in Health and Education

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When we try to pick out anything by itself, we find it hitched to everything else in the universe.

—John Muir, *My First Summer in the Sierra*

How are we to understand the compartmentalization of training regimes and work responsibilities that silo health and education professionals apart from one another even as inequality in health and education are inextricably linked? A voluminous body of research demonstrates, although all children are affected by physical and mental health issues impacting learning, children living in poverty and racial and linguistic minorities bear a substantially heavier burden (Chap. 17 Aud et al. 2010; Deaton and Paxson 2001; Hernandez et al. 2010; Price et al. 2011).[1] Not only are

[1] About one in five children now lives below the poverty line. Moreover, poverty rates continue to widen across racial/ethnic groups. At the end of the 1990s' economic boom, 23 % of Blacks had incomes below the poverty line. Within the span of a decade, however, Black and Hispanic poverty rates (38 and 32 %, respectively) had increased markedly, far exceeding the US average in 2010 (Lopez and Velasco 2011).

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minorities disproportionally uninsured due to soaring costs and barriers due to immigration and legal status (Ku and Matani 2001; Le Fanu 2002; RAND 2012), but especially those who are of low-income suffer disproportionally from disease and school failure, which, in a mutually reinforcing cycle, affect health consequences and life quality and expectancy across generations (Cohen and Schuchter 2013; Marmot 2002; Miller 1995; Olshansky et al. 2005; Ross and Wu 1995).

Without adequate health for lower income minority children and their families, there is little hope for closing the persistent gaps in educational performance that divide America (Currie 2005; Low et al. 2005; Rothstein 2004).[2] Yet, many administrators, parents, and concerned citizens remain unconvinced that intersectoral efforts at improving the health status of learners will pay dividends in enhanced educational and health-related outcomes (Symons et al. 1997). Thus, collaboration and bidirectional problem-solving between health and education systems and professionals does not routinely occur, despite growing evidence that it should (Bradley-Klug et al. 2010; Clay et al. 2004; Cutler and Lleras-Muney 2006; Roussos and Fawcett 2000; Shaw et al. 2011).

The Current Study

This chapter challenges the prevailing skepticism about whether the human improvement professions (e.g., primary care medicine, public health, social welfare, and education)[3] can reinvigorate the civically oriented purposes of professional life by acting in conjunction to effectively advance the well-being of all children. We are motivated by the potential for raising interprofessional collaboration to the status of a conscious social value simultaneously geared toward reducing disparities and increasing excellence in health and education. From this stance, we pursue the question of whether and how health and education professionals can formulate and implement, via university-sponsored consultation across disciplines, a metaprofessional culture and an integrated professional services system designed to

[2] Since the early 1970s, analyses of the nationally representative survey data have documented an enduring history of achievement differences, which reveal that whites enjoy relatively high-average student performance, while African Americans and some Hispanic and Southeast Asian subgroups experience relatively low-average student performance (Jencks and Phillips 1998). As early as kindergarten, racial achievement gaps already approximate 1 year of learning in both mathematics and reading (Fryer and Levitt 2004), and these gaps tend to increase as children continue through school (Alexander et al. 2007; Hanushek and Rivkin 2006). Moreover, children whose families are on the lower rungs of the social class ladder average far lower achievement levels than their wealthier counterparts (Duncan and Murnane 2011).

[3] We employ the terms "human improvement professions" as well as "human services professions" and "caring professions" interchangeably in reference to professionals who work directly with and on other humans in efforts to improve health, broaden understanding, and enrich human capabilities toward the ultimate goal of improving the well-being of society (Cohen 2011).

eliminate deep and persistent gaps in health and education, separating minority or poor students and otherwise socially enfranchised children.

A fundamental problem motivates our work: unhealthy children are academically challenged learners who must navigate systems of health and education that are interdependent, yet typically compartmentalized (Power et al. 2003; Rothstein 2004). We then identify prevailing market values that serve as the backdrop to ongoing reforms that are failing to produce excellent and equitable outcomes across both systems of care (Gawande 2012; Ravitch 2010). Then, we set forth a distinctly professional rationale for intersectoral collaboration,[4] presenting an integrated conceptual framework to inform the design and organization of mutually reinforcing work across the caring professions.

We note that amidst a hyperspecialized system of health and education and an increasingly compartmentalized workplace, finding common ground and dealing with critical social challenges in any organic and cooperative manner can be exceedingly difficult (Hessel and Morin 2012; Shaw 2003). Learning how to work together when health and education professionals are separately trained, are differently inducted into their respective occupations, and are taught to honor different legal and professional standards of practice, creates troublesome dilemmas that, to date, have been only partially addressed by research (Lechner and Stucky 2000; Nastasi 2000).

Accordingly, with an eye toward the American University's historic role as an incubator and common training ground for most of the professions (Gray 2012; Kerr 2001; Stevens et al. 2008; Sullivan 2005), we focus the second part of the chapter on university-sponsored adaptations and the university's promise for recruiting, training, and inducting a new corps of professional "change agents," who have both the capacity and the willingness to spur collaborative interdependence across medicine, health, social services, and education.

We start out by briefly reviewing research that illuminates the reciprocal nature of inequality in health and education.

Gaps in Health and Education Are Reciprocal and Ecologically Situated

Poverty and restricted access to health care services continue to exacerbate deep racial, social class and linguistic inequality in children's health, school readiness, and academic performance (Currie 2005; Duncan and Murnane 2011; Hernandez

[4] What makes this rationale distinctly professional, as we articulate more fully below, are the structure of the work tasks we set forth and the purposes to which these tasks are linked—purposes associated less with the pursuit of efficiencies on behalf of industry than with public purposes on behalf of human flourishing (Gardner et al. 2001; Mitchell and Kerchner 1983; Sullivan 2005).

et al. 2010; Jencks and Phillips 1998).[5] Compared with other industrialized nations, the United States continues to perform poorly on numerous indicators of health status and educational performance (Avendano et al. 2009; Fleischman et al. 2010).[6]

The three most prevalent physical health issues impacting academic achievement outcomes are vision problems, persistent asthma, and obesity (Basch 2010; Hernandez et al. 2010; Rothstein 2004). The three most prevalent mental health issues are attention deficit hyperactivity disorder, depression, and anxiety (Bhatia and Bhatia 2007; Fergusson and Woodward 2002; Loe and Feldman 2007). The incidence of each of these health challenges is elevated among historically underrepresented minority children from poor urban areas. While 20 % of all children suffer from vision impairments, for example, the rates are twice as high among urban Black and Hispanic youth who are substantially less likely to receive treatment (Ethan and Basch 2008; Olfson et al. 2003). Poor mental health also disproportionally affects student performance among low-income minorities who also have limited access to related services (DeSocio and Hootman 2004; Hernandez et al. 2010).

Each of these challenges, when considered separately, has only a small impact on the persistent gaps in educational achievement and attainment. In the aggregate, however, low-income and minority youth are cumulatively disadvantaged, which helps perpetuate the gaps across generations (Freudenberg and Ruglis 2007; Marmot 2002; Rothstein 2004). In a recent review of health disparities and gaps in school readiness, health economist Janet Currie (2005) estimates that racial differences in health conditions may account for as much as one quarter of the racial gaps in socio-emotional and cognitive abilities.[7]

Children are situated ecologically within families and reside in increasingly segregated neighborhoods and communities where schools are charged with their for-

[5] Concentrated poverty and compromised physical and mental health are not only associated with low test-score performance but also with school dropouts (Ross and Wu 1995). Blacks, Hispanics (especially immigrant Hispanics) and low-income students are much more likely to drop out of school and experience decreased health and occupational status than their White, East Asian, and high-income counterparts (Levin et al. 2007; Rumberger 2011). These findings prefigure problematic trends in educational attainment at the college level, where, between 1971 and 2009, the gap in bachelor's degree attainment between Blacks and Whites increased from 12 to 18 percentage points, while the gap between Hispanics and Whites grew even more, increasing from 14 to 25 percentage points (Chapman et al. 2013; Ream et al. 2012).

[6] The Patient Protection and Affordable Care Act of 2010, and the Supreme Court's recent decision to uphold the Act, should help reduce the number of uninsured Americans, but formidable challenges and health disparities will still remain. Disproportionate numbers of low-income minority children still lack access to health care due to rising poverty and rising costs (Hernandez et al. 2010). In 2009, 7.5 million US children under 18 had no health insurance. Compounding the effects, 16 % of these children were also living in poverty (Price et al. 2011). Under the Affordable Care Act, all families under 133 % of the federal poverty level will be eligible for Medicaid, and those under 400 % of the federal poverty level who are otherwise uninsured will be eligible for subsidized health insurance (Elmendorf 2010).

[7] Additionally, since educational attainment is a social determinant of future health outcomes, health problems in childhood that affect educational attainment can in turn cascade to affect health problems in adulthood (Case et al. 2005; Cohen and Syme 2013; Lê et al. 2013).

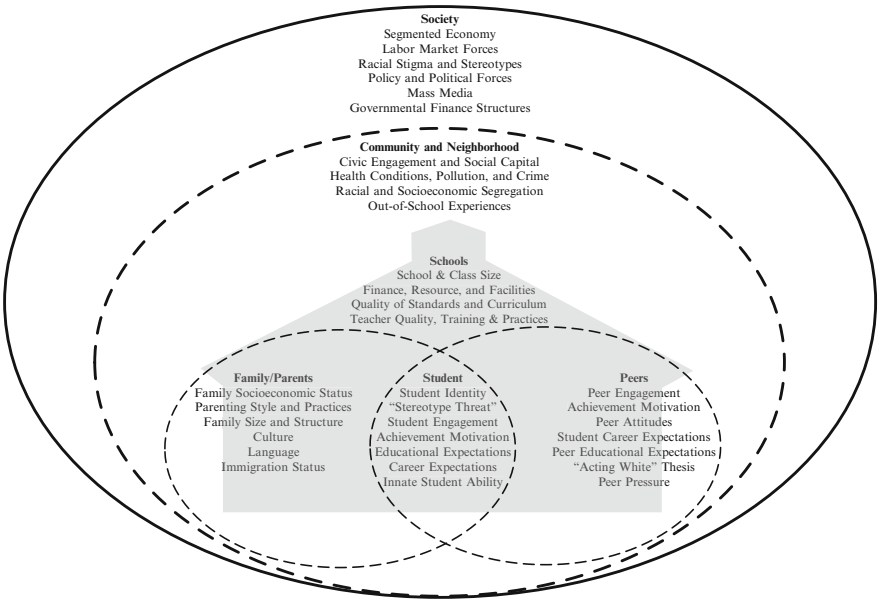

Fig. 17.1 Gaps in health and education are nested in overlapping settings (*Source*: Ream et al. 2008)

mal education, whether or not students are fortunate enough to breathe clean air, eat healthy food, and access adequate health services (Anyon 2005; Bronfenbrenner 1979, 1992; Ream et al. 2012). Each of these overlapping settings and networks conditions students' health and educational performance in ways that are entwined (see Fig. 17.1). We contend, therefore, that the entanglement of poverty, race, and inequality in health and education offers a rationale for collaboration across the professions and an ecological approach designed to disentangle the interwoven strands of this crisis.

Before we consider the challenges of university-sponsored coordination between systems, however, we pause to reflect on the common values that undergird ongoing and parallel reforms in health and education. Our brief focus on the backdrop and value logic of reform is important inasmuch as refortifying the human improvement professions depends on the core values and practices that can either legitimate or undermine collaboration amidst a crisis situation (Dimaggio 1988; Dacin et al. 2002).

The Gaps Are Often Framed as Market Inefficiencies

Physicians, public health officials, and patients as well as teachers, parents, and students have denounced the gaps in health and education as anathema to concern for patients and students and the professions' abiding commitment to accepting responsibility for the well-being of clients (Gardner 2007; Gawande 2011; Malina

2013; Rothstein 2004; Solomon 2007; Sullivan 2005). Contemporary discourse about inequitable and mediocre service delivery, however, seems most often to be framed not as a problem of collaboration across the professions but as a market problem of *inefficiency* in service to individual consumers (Cibulka 2001; Solomon 2007). Enhanced competition, better use of data, and greater accountability for physicians and teachers are often held up as the most efficient ways to bolster the professions if not also the means to separate trustworthy professionals from workers who are not.[8]

The prevailing efficiency narrative and accompanying free-market reforms are not without detractors, however. The same industries that have succeeded at leveraging size to improve efficiency have also tended to compartmentalize and devalue their employees (Gawande 2012; Solomon 2007). By creating hyperspecialization, individuation, and an overriding ambiguity over who is ultimately responsible for health and education outcomes, the imperatives of the market economy seem as likely to help perpetuate inequality as to mitigate the problem (Low et al. 2005; Ravitch 2010). Taken in the extreme, market-driven reform values may even undermine the work and integrity of the professions (Gardner 2007; Starr 1984; Sullivan 2005).

Thus, we articulate in the next section a decidedly *professional* rationale for interagency collaboration. Our rationale derives from the notion that professionals working toward the eradication of socially vexing problems—including reciprocal gaps in health and education—must bring together a diverse set of skills and wide-ranging expertise in order to decompartmentalize solutions. In keeping with the problem-oriented focus of our work, we reposition elimination of these gaps at the center of meaningful collaboration that undergirds "good work" among practitioners of human improvement.[9]

[8] At least since 1983, when the provocative *A Nation at Risk* report was delivered to Congress, the push toward standardized efficiency in education would appear to share with medicine a similar basis in market values. In the 1990s, for example, the emergence of hospital conglomerates and health maintenance organizations (HMOs) paralleled the emergence of public school management by private education management organizations (EMOs). In the *No Child Left Behind* (NCLB) era that followed, many reformers turned to tough business-accounting principles and data-driven efforts to produce higher test scores (Ravitch 2010). Fast forward a decade, and the Obama Administration's signal education reforms including charter schools, accountability, and value-added teacher models, continue to bare the imprint of market logic framed in the politics of education productivity (Cibulka 2001). Higher education is also increasingly designed for maximum measurability and market advantage. In competition for greater research funding and more competitive students, budget reforms and the allocation of resources are increasingly tied to metrics such as college graduation rates (Cummings and Finkelstein 2012; Gray 2012; Kirp 2009).

[9] The notion of "good work" derives from a problem-based professional ethos, whereby professionals' sense of their work as good is linked to the contributions they make to the well-being of society (Freidson 1994; Gardner et al. 2001). Elaborating on this point, William Sullivan (2005) argues that work that is good is often "undertaken within a context of peers who likewise seek to excel in doing such good work" (p. 14).

A Framework for Collaborative Civic Professionalism

We recognize the need to update the way we characterize problems of professional service delivery in health and education, and we think about this recharacterization in two parts. First, "civic professionals" have a fiduciary responsibility for working cooperatively to ensure knowledge creation and diffusion on behalf of their clients' well-being (Freidson 2001; Sullivan 2005). Second, a new form of "collaborative community" is essential for effectively integrating professional work designed to steer human improvers toward the eradication of the gaps (Adler and Heckscher 2006; Adler et al. 2008).

Regarding the first part, civic professionalism roots human improvement not only in the hard work and skill that underpin the so-called technical professional, but also in the ideals of functionally based service to society (Brint 1994; Tawney 1920). In effect, civic professionalism entails an idealized connection to professionalism as a public value geared toward humanizing modern work as work that is good not simply because it is financially rewarding but also because it is undertaken on behalf of all of society (Gardner et al. 2001; Sullivan 2005).

Regarding the second part, collaborative community derives from civic professionalism, but in the particular twenty-first century context of ascendant markets and technological expertise where professionals are sometimes pressured to act as the purveyors of expert services on behalf of industry rather than society (Adler et al. 2008). In the prevailing market economy, collaborative community is distinctive for its embrace of professionals who rely on collegial interdependence to assert their jurisdiction and expert judgment over customized service delivery on behalf of diverse clients (Freidson 2001; Montgomery and Schneller 2007; Parsons 1968).

The imprint of both civic professionalism and collaborative community is apparent in several emergent reforms and promising practices designed to foster student health in coordination with schools such as school-based health centers (SBHCs), full-service community schools, and the Obama Administration's Promise Neighborhoods program (Cohen and Schuchter 2013; Erbstein and Miller 2012; Kahne et al. 2001). Yet, the fragmented nature of partnership research and a lack of consistency in defining and operationalizing health–education partnerships as civic professionalism in praxis make it difficult to aggregate knowledge about how to make collaboration work toward the purpose of eliminating the gaps. Such fragmentation underscores the need for a unifying framework that can guide a more coherent agenda for the design of integrated health–education service delivery systems.

Our conceptual framework is informed by two sets of classic policy studies. The first is the RAND Corporation's well-known series of "Change Agent" studies, investigating the problem of education policy implementation in public institutions across levels of government (Berman and McLaughlin 1978; McLaughlin 2005). The second set derives from organizational theory and focuses especially on the hierarchical task structure entailed in professional work (Mitchell and Kerchner 1983; Rowan 1994). We link the second set of studies to the first set by

focusing on the task definition entailed in the change agent's professional work responsibilities.[10]

Illuminating the first set, the Change Agent studies revealed that it is exceedingly difficult for policy dictated from on high to change cooperative practice across diverse sectors in the workplace. This "implementation problem," discovered by policy analysts studying the Great Society's comprehensive intergovernmental initiatives (Pressman and Wildavsky 1973), found that the successful implementation of reforms demanding cooperation across systems ultimately depends on the professional characteristics of the agents of change at the end of the line (McLaughlin 2005). Accordingly, intersectoral reform has been consistently identified as a problem of the individual agent's technical *capacity* as well as the agent's *will* toward fulfilling the reform agenda (Berman and McLaughlin 1978; McLaughlin 2005). Capable and motivated individuals are the glue that links systems together (Power et al. 2003; Shaw et al. 2011).

Regarding the second set, the layered task structure of professional work (See Mitchell and Ream, Chap. 1, this volume) conceptualizes work responsibilities as a set of four interrelated types of tasks: (1) unskilled labor, (2) technical skill, (3) creative artistry, and (4) work geared toward fiduciary responsibility for client outcomes. The capacity of the change agent to fulfill the first two tasks—in this case, the diligent effort and skilled craftwork required to overcome barriers separating health and education systems—constitutes the performance-scaffolding upon which professional collaborators meet the basic requirements of the technical professional(Brint 1994).[11] Yet, beyond a set of precise technical skills, the civic professional must also possess the will to leverage creative judgment toward the goals of linking health and education in a more equitable and excellent service delivery system (Freidson 2001). Both skill at bridging disciplines *and* a desire to engage in intersectoral work emerge as critical components of the change agent's capacity to fulfill a professional calling in service to others.

In what follows, we build upon these findings to set forth ideas about the university-sponsored design and organization of interdisciplinary work that is good work because it aims to partner the professions for the explicit purpose of eliminating reciprocal gaps in health and education.

The University as Incubator of the Professions

Even amidst pervasive hyperspecialization and the siloing of professional domains of expertise, human improvers have persistently called for mutually reinforcing partnerships across the fields of health and education (APA 1995; Bradley-Klug

[10] To our knowledge, these two frameworks have not been combined for their value in guiding an agenda for targeted partnerships across the human improvement disciplines.

[11] By the term "technical professional," we mean to suggest the professional as purveyor of expert and individually marketable services—albeit not the broader obligation toward social responsibility entailed in higher order civically oriented notions of "social trustee" professionalism (Brint 1994).

et al. 2010; Cubic and Gatewood 2008; Shaw 2003).[12] Accordingly, pediatricians are encouraged to work with school psychologists on behalf of children with chronic illness (Bradley-Klug et al. 2010), school psychologists and nurses are encouraged to use both physicians' and educators' systems of diagnosis in the delivery of student services (Guttu et al. 2004; Nastasi 2000; Shaw et al. 2009), and teachers and school administrators are encouraged to develop strategies for identifying specific health factors that may be contributing to educational difficulties (Goldring and Sims 2005; Shaw et al. 2011). Yet, collaboration often lacks a basis in research (Sulkowski et al. 2009), is often conceived from within the discipline from which the particular recommendation is put forward (Clay et al. 2004; Goldring and Sims 2005; Power et al. 2003), and tends to play out in an ad hoc fashion (Dunsmuir et al. 2006; Power and Blom-Hoffman 2004; Schwab and Gelfman 2005; Shaw et al. 2011; Wodrich 2004). There remains substantial confusion about how to initiate and sustain partnership reform to solve pressing problems (DuPaul 2011; Erbstein and Miller 2012).[13]

Thus, we turn our sights to the research university as an institution that remains devoted to the pursuit of scientifically validated knowledge and the multidisciplinary development of professionals (Conant 1963; Flexner 1910; Kerr 2001). We are confident in the authority of the university to spur the independent professions to work *interdependently* toward eliminating gaps not only because of the university's traditional role as the chief port of entry for most of the professions, but also the historic context of American land grant universities' democratic responsibility for nurturing the establishment and growth of the professions on behalf of the broader American public (Gray 2012; Sullivan 2005).[14] Despite market imperatives that spur the increasing autonomy of the professional class, the university's institutional status and the overall legitimacy of the professions can be enhanced by working together toward solving critical social problems.[15]

There are few explicit guidelines, however, and no clear and widely shared understandings of what decisions reformers should develop with respect to encouraging

[12] Professional associations such as the Accreditation Council for Graduate Medical Education, the American Psychological Association, and the National Association of School Psychologists have consistently advocated policies and developed position statements endorsing positive interdependence across the caring professions (Dupaul 2011). The seven health professional education associations recently published a report envisioning how to educate health professionals in training, to be able to collaborate with others outside their discipline (IPEC 2011).

[13] We note that evidence from the Harlem Children's Zone (HCZ), one of the best studied examples of intersectoral collaboration in a single neighborhood area, is mixed. While the HCZ asthma program improved asthma diagnoses (Nicholas et al. 2005), and other programs appear promising (Northridge et al. 2002), these wraparound supports may not have an added benefit for educational outcomes above and beyond the schooling received in the HCZ Promise Academy Charter Schools (Dobbie and Fryer 2011; Dobbie and Fryer 2013).

[14] In this exercise, we are reminded not only of the German research model rooted in the pivotal founding of the University of Berlin, but also of the more contemporary and uniquely American "multiversity" aimed toward incubating the professions as instruments of social reform (Kerr 2001).

[15] By "legitimacy," we mean a condition in the transformation of institutions, "whereby other alternatives are seen as less appropriate, desirable, or viable" (Dacin et al. 2002, p. 47).The issue of legitimacy, as derived from institutional theory, seems crucial amidst substantial skepticism as to whether and how collaboration can add value across systems of care.

the university and the professions to cooperate more effectively in service delivery. In the absence of consensus, model programs and demonstration projects are often referenced instead (Shaw and Brown 2011). For example, the University of Geneva Faculty of Medicine sponsored a multidisciplinary series of dialogues that culminated in the design of an integrated medical curriculum, centered on problem-based learning via hands-on training in a Community Health Program (Chastonay et al. 1997; Chastonay et al. 2012).[16] Systematic reforms currently ongoing in health and education in the United States have spurred similar calls for universities to broaden the professional development of social welfare personnel and school psychologists (APA 1995; Shaw 2003; see Vanderwood et al., Chap. 16, this volume).[17] A recent special issue of the *Journal of Educational and Psychological Consultation* on new training approaches to medical and educational collaboration argued for a new "medical liaison" professional who could facilitate the implementation of multisystem collaboration as a "routine and expected part of both medical practice and educational service delivery" (Shaw and Brown 2011, p. 82).

Calls for the expansion of a new liaison profession may not immediately resonate within the structurally conservative modern research university. Yet, there are encouraging exceptions to the university as an inherently conservative institution with few rewards for innovation (Chastonay et al. 2012; Shaw 2003; Walker et al. 2008). And "Even if you're on the right track," as Will Rogers once said, "You'll get run over if you just sit there." We are intrigued by the role the university could play in sponsoring the formation of the intersectoral liaison as an agent of change, and optimistic that the university's *raison d'être* and the best interests of the professions and their clients align with this objective. In the next section, we venture some ideas about the design of a graduate program of study that could fortify the agent's capacity and will carry out multisystem collaboration.

The Formation of Change Agents Within "Incubator" Universities

We posit that graduate students would be the appropriate target population for this academic training. We would endeavor to recruit and invest in the formation of "mission-driven students" (see Allen, et al., Chap. 3, this volume) with relevant

[16] The cumulative findings from research on this program indicate high satisfaction among medical students, increased ties between the faculty of medicine and community health partners, and moderate improvements in the health of the communities served. The learning objectives and teaching modalities emerged from university-sponsored deliberation among primary care physicians, epidemiologists, public health and bioethics specialists, occupational health professionals, as well as lawyers and historians (Chastonay et al. 2012).

[17] Because educational systems are increasingly addressing health-related barriers to instructional outcomes via new school-based health centers, school psychologists are increasingly concerned about the space between their current training and the roles required in SBHC (APA 1995; Shaw 2003).Indeed, the reciprocal relationship between heath-care service delivery and school systems has led to newly energized plans for consultation and collaboration across both systems of care (DuPaul 2011; Erbstein and Miller 2012; Shaw and Brown 2011; Shaw et al. 2011).

undergraduate and applied work experience in diverse communities who could then work in high-level policy and management positions and/or serve clients directly (Walker et al. 2008).[18] This could happen in multiple formats with increasing levels of commitment: (1) a seminar-style course serving graduate students from multiple relevant degree programs (e.g., Medicine, Public Health, Public Policy, Social Welfare, and Education), (2) a certificate that reflected the completion of multiple courses and mastery of intersystem collaborative skills by graduate students drawn from relevant degree programs, and (3) a full-fledged graduate degree program. These different initiatives would all cover more or less the same breadth of topics, but would increase in depth accordingly.[19]

These programs would seek to train people in the laboring, technical, and creative skills (i.e., the first three layers in the task structure of professional work) required for multidisciplinary collaboration as well as the habits of mind and the social dispositions of professional work (i.e., the fourth layer in the task structure) needed to solve social problems such as the co-occurrence of health and academic disparities. We posit that people in the human improvement professions assume that consultation is good but are underprepared and infrequently incentivized to move toward meaningful collaboration. Thus, we consider programs that would be designed to train people in the knowledge, skills, and fiduciary dispositions required for intersystem collaboration, with an eye toward fostering a metaprofessional culture in which partnership across health and education sectors is expected, legitimate, and profitable.

At the conclusion of participation in these initiatives, students would be able to identify possible points for entry into collaboration in their own work, how to speak persuasively in a shared language—e.g., the ability to distinguish a disability diagnosis made by a physician utilizing ICD-9 (international classification of disease coding system) and the diagnosis of learning disability made by an educator following IDEA (Individuals with Disabilities Education Act)—and how to partner effectively across the human services professions. The cross-cultural communication skills entailed in this sort of work are immediately applicable since existing state requirements already incentivize hospitals, districts, and schools to involve community

[18] The focus on graduate study is common among some other interdisciplinary professional degrees—both public health and public policy training is more common at the graduate level than the undergraduate level (Gebbie et al. 2003).

[19] In particular, the certificate would be something that people could earn alongside of whatever professional degree they received. This would likely require around four courses, including the proposed seminar, and would provide a credential that participants could more formally list on their resume. However, to offer such a certificate, this would require getting the support of several different professional degree programs that all have their own requirements, which would require a great deal of intersectoral collaboration to establish. For this reason, an initial university-sponsored deliberative convening among stakeholders followed by the initial seminar course seems like a logical and measured first steps. Then, the next level of intensity would be to offer a separate and unique interdisciplinary degree program. Again, the initial convening and seminar course may be the desirable first steps to assess the extent to which there is a receptive enough culture at the university and among stakeholders, including potential employers, for people to recognize that this could be a useful degree to attain.

members in collaborative governance such as hospital foundation boards and school site councils (Erbstein and Miller 2012).

The university is a unique place in which both systems- and individual-level pre-professionals can learn together, before the hierarchical, compartmentalized bureaucracies that exist in professional realities (as alluded to here and in earlier chapters) materialize. We envision that the seminar, certificate, and degree programs would create a network of respected colleagues and an *esprit de corps* within the class setting that these students would be able to maintain as alums, with the goal of having highly skilled agents of change in a variety of settings, where they can work not only with other people in their immediate circles but with each other across sectors toward the fulfillment of a mutually recognized social purpose that aligns with the core values of their profession.

Any call for an ecumenical approach to the professional development of change agents may run counter to prevailing demands for efficiency and professional autonomy. Yet, we also suspect that the efficiency narrative limits the range of choices the university and the professions imagine as available to them, diverting their attention from the "low-intensity crisis of professionalism" (Sullivan 2005) this volume seeks to redress. Accordingly, we imagine the university's role in forming the skills and attitudes necessary for collaborative health–education reform, and we envision that these attributes would emerge from at least three facets of expertise: (1) academic science, analytic reason, and technical skills; (2) policy/politics, organizations, and collaborative leadership; and (3) people skills grounded in a humanistic understanding of intersectoral partnering and the values and social roles shared by civic professionals.[20]

Technical skills. In a political climate urging universities that receive significant amounts of public funding to become more accountable to the health–education crisis facing the nation, and in an era in which we are increasingly dependent on data, the ability to bring a wide range of research modalities to the practice of community-based work is essential (Gebbie et al. 2003). We identify three technical competencies (admittedly far from an exhaustive list) that may facilitate multidisciplinary scientific inquiry and praxis in partnership with local communities: (1) community-based participatory research (CBPR), (2) geographic information systems (GIS), and (3) cost–benefit analysis. CBPR is becoming increasingly desirable for its approach to developing and answering research questions in collaboration with community members (Minkler 2004; Minkler and Wallerstein 2008).[21] Geographic information systems (GIS) and cost–benefit analysis are two related

[20] Problem-based professional development and service learning are some pedagogical tools that may be useful in this setting insofar as students learn content, thinking strategies, and professional dispositions through solving complex real-world problems that render the techniques and understandings of single disciplines incomplete and inefficacious (Hmelo-Silver 2004; Sternberg 2008).

[21] The University of California Center for Collaborative Research for an Equitable California (CCREC), for example, is a multicampus initiative to advance the development of researchers and to fund multidisciplinary and intervention-oriented research done with community partners for community benefits (Minkler and Wallerstein 2008).

quantitative techniques, increasingly used in the policy and community spheres that could inform the improving of both systems. Yet, even though technical expertise in research methods is essential to intersectoral work, dwelling on the science of the health–education crisis without paying careful attention to the policy process, political dynamics, and leadership will not be enough.

Policy, politics, and creative leadership. Entrepreneurial agents of change cannot be fully effective without knowledge of policy, politics, and leadership. Understanding the role of multiple ecological contexts, perpetuating gaps in health and education, as per Fig. 17.1, only makes this skill more salient. Thus, we propose teaching the political history, implementation, and evaluation of major state and federal policies for education, public health and health care, social welfare, and housing and urban development. In addition, students would learn about bureaucracy and how it works, about how political interest groups strategically frame issues, and about values at the core of collaborative leadership (Cibulka 2001; Goldring and Greenfield 2002; Wilson 1989; Kirst and Wirt 2009). Organizational sociology could help students think systematically about stakeholders positioned within bureaucracies (see Montgomery, Chap. 5, this volume) and understand how institutional contexts shape professional realities within accountable care organizations, school district central offices, and schools (Fisher and Shortell 2010; Honig 2006). Still, although specialized knowledge of analytic methods and policy acumen may be essential, these skills also are essentially inadequate to do good work.

Humanistic understanding. At the third level of the professional task structure, where interpersonal engagement requires creative sensitivity, the change agent must also acquire the skill to read authority, ego, and social power processes that tend to impinge on collaborative endeavors and social capital (Erchul and Raven 1997). We encourage students to become trained in mindfulness, sociability, and empathy for both their work with diverse clients and their collaborative work with people from different training programs, informational systems, and organizational cultures (Lewis et al. 2012; Roeser et al. 2012; Tervalon and Murray-Garcia 1998). We also recommend students develop literacy skills in other languages, with the purpose of serving increasingly diverse linguistic communities.[22] Establishing and maintaining partnerships across systems of health and education requires grappling not only with professionals who honor different standards of practice, but also with challenging social dynamics around class, race, culture, and power (Erbstein and Miller 2012; Roussos and Fawcett 2000).

Finally, in order to align this admixture of technical skill, policy knowledge, and creative social intuition with the social norms associated with professional responsibility, we suggest training students in the history and evolution of the professions,

[22] Like "Medical Spanish" courses offered in some medical schools (e.g., Reuland et al. 2008), these courses may need to be developed with an eye toward the particular graduate student population, to be able to emphasize the vocabulary necessary for health, education, and social service needs. Such skills may be especially important in particular regions of the country such as California, where nearly 40 % of K-12 students have parents who do not speak English fluently (EPE Research Center 2011).

the university's role in developing esoteric knowledge and expertise, and the norms and civic identity that connect the professions to the larger society (Freidson 2001; Sullivan 2005). Situated at the fourth level of the professional task structure, this adds a uniquely integrative dimension to the structure of professional responsibility and a particular kind of responsiveness to others to whom the professional has special commitments because of the fiduciary nature of the work undertaken. It is via this apprenticeship that the agent's identity as a professional can be most broadly explored and developed.

However lofty the ideal of the systems change agent, we know that professional hierarchy can undermine authority even partially based in schools (Goepel 2009).[23] Whether agents would have the capacity to overcome barriers of this nature may depend partly on the rigor of the selection process, the stature of the programs where students are trained professionally, and whether there is general agreement across the professions regarding leverage points, where collaboration could add the most value. Of course, employers will need to concur that the agent's collaborative skills will be highly useful in the real-world setting. In other words, the agent's viability would hinge not only on capacity building, skill training, and symbolic legitimacy but also upon existing markets and organizational conditions that can either fortify or undermine intersectoral work. All of the changes that can be made to university-based preparation would amount to very little if agents graduate into an unreceptive professional environment. Accordingly, we must develop a framework of policies that facilitate partnership training across fields, promote the value of cooperative work in job descriptions across the human improvement professions, account for collaboration in workloads, and recognize and reward partnerships symbolically and monetarily (Erbstein and Miller 2012). "The question about professional responsibility today," as William Sullivan writes in this volume, "is how to realign the *conditions* of professional work so that they not only protect the interest of practitioners but also promote the enduring purposes of the professions as institutions of public purpose."

A Concluding Call for Disciplined Dialogue and Organizational Adaptation

This chapter sets forth a transdisciplinary response to an urgent problem: without improving the health of children most negatively affected by patterns of disparity, there is little hope for closing the racial and social class gaps in learning that

[23] While doctors are typically described as professionals with high status and specialist knowledge, school personnel have yet to fully recover from the post-1970 fall of public confidence in K-12 education (Gardner 2007; Sullivan 2005). In a recent field study in which pediatricians and teachers were interviewed in separate focus groups, Goepel (2009) found that while both doctors and teachers were concerned about gaining an awareness and understanding of each other's professional roles and responsibilities, school personnel often felt undermined by medical professionals who "did not recognize the difficulties of managing over 30 children at any one time" (p. 9).

continue to differentiate such a large group of people from mainstream society and its benefits. Yet, while official interest in the gaps may be at an all-time high, we have precious little to show for the past three decades of reform efforts professedly designed to tackle a reciprocal crisis that renders the perspectives and methods of siloed disciplines inefficacious (Jencks and Phillips 1998; Ream et al. 2012; Sternberg 2008). However honorable the impetus, there may be dire shortcomings to a system built upon values that fence off bodies of knowledge, in the name of efficiency, such that it becomes impossible for professionals to deal with the interconnected challenges of our lives in any organic manner (Hessel and Morin 2012).

Thus, we tapped a competing set of values based in collaborative civic professionalism, and from this stance, we referenced the RAND "Change Agent" studies and research on the task structure of professional work to imagine the formation of institutional entrepreneurs who possess the skill and will to execute intersectoral reforms designed to eliminate the gaps. We are optimistic about the change agent, particularly insofar as emergent calls for the formation of a new health–education liaison profession align with the expansion of the professions (Shaw and Brown 2011; Shaw et al. 2011). Yet, we are also aware of numerous barriers to multisystem collaboration and advise caution in moving forward too quickly. "The practical thing for a traveler who is uncertain of his path is not to proceed with the utmost rapidity in the wrong direction," cautioned Tawney, "It is to consider how to find the right one" (Tawney 1920, p. 2).

Thus, we conclude by advocating a university-sponsored deliberative forum marked by close scrutiny of relevant theoretical models (Borrell-Carrio et al. 2004; Bronfenbrenner 1979; Shaw et al. 2011), careful attention to exemplary intersectoral programs (Chastonay et al. 2012; Evans 1987), and rigorous inquiry of empirical evidence documenting collaboration (and barriers to collaboration) between health and education systems and professionals within these systems (Adler et al. 2008; Dobbie and Fryer 2013; Shaw and Brown 2011).

Deliberative dialogues— group processes that emphasize mutual understanding, transformative discussion, and alternative ways of thinking about a problem informed by research evidence—would need to be incentivized (Boyko et al. 2012). Relying on inadequate resources, generosity of spirit and heroic volunteers is unsustainable. We envision the support of philanthropic foundations as a catalyst for a series of dialogues, designed to enable stakeholders to think about and discuss:

- The most important questions to consider about how to link the professions for the purpose of eliminating the gaps in health and education;
- The backdrop in values and the meaning of concepts that are germane to key controversies about partnering toward elimination of the gaps;
- What we currently know from research about intersystem partnering and change agent entrepreneurs, what we do not know, and with what degree of confidence;
- Who is expected to employ trained agents of change;
- Possible implications of the above for the university-sponsored formation of entrepreneurial agents who are willing and able to spur collaborative interdependence across the human improvement professions.

Unwinding entangled gaps in health and education will require particularized knitting together of the civically oriented purposes of professional life and interdisciplinary knowledge of human improvement that are often sundered analytically in professional formation and practice.

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