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WEB PAPER

Integrating service learning into the curriculum: Lessons from the field

KIRK L. SMITH[1], YASMIN MEAH[2], BELINDA REININGER[3], MILES FARR[4], JESSICA ZEIDMAN[4] & DAVID C. THOMAS[2]

[1]University of Texas Medical Branch, USA, [2]Mount Sinai School of Medicine, USA, [3]University of Texas Health Science Center, USA, [4]Massachusetts General Hospital, USA

Abstract

The authors, representing two of the "signature" community service learning (CSL) programs in the 2010 Flexner Centenary volume of *Academic Medicine*, provide details of their programs – Frontera de Salud, a community-based program at the University of Texas Medical Branch, and the East Harlem Health Outreach Partnership, a clinic-based program at the Mount Sinai School of Medicine – specific to the task of integrating CSL into the medical school curriculum. They explain the nature and purpose of CSL, note gaps in the present curriculum which CSL aims to fill and highlight elements of CSL that are highly pertinent to Association of American Medical Colleges, Accreditation Council for Graduate Medical Education and Liaison Committee on Medical Education guidelines for undergraduate and graduate medical education. They also discuss barriers to the integration of CSL into the medical school curriculum and detail ways to overcome the logistic and fiscal challenges involved in making this highly effective and rewarding educational experience available to students of medicine.

In the February 2010, Flexner Centenary volume of *Academic Medicine*, several authors, including two of our own, emphasized the potential roles of social and community service in filling evolutionary gaps in medical education. Reforms at the turn of the twentieth century, they noted, "established science as the focus and foundation of medical training." Present medical education, in consequence, has been shaped by two imperatives: (1) the acquisition of biomedical knowledge and (2) mastery of the technical skills needed to deploy that knowledge. While the result has meant better lives for many Americans, the biomedical trend has also led to a misconception of medicine as a "natural science, as opposed to being a social endeavor that is informed by the natural sciences."

> As a result, medical training and medical practice have strayed from their original focus on the human condition and the social mission of medical schools (Muller et al. 2010).

The current medical model houses healthcare primarily within the confines of medical center hospitals and clinics and promotes acute intervention. Students educated within these confines are inclined to understand medical care as episodic and procedural. That model made most sense when the diseases afflicting Americans were primarily specific entities such as TB, bacterial pneumonias, syphilis and the like. With the concurrent development of counter-agents (salvarsan, sulfa drugs, penicillin, etc.), it appeared only right that medical students at the turn of – and well into – the twentieth century should concentrate on biological theory, discrete physiologic functions, and definite agents of cure, and that their skill-set should comprise a technical armamentarium of diagnostic procedures and sophisticated therapies. Moreover, the reductionism implicit in that program simplified training: setting aside the social and environmental context of health and disease, medical instruction became one of arduous detail rather than expansive scope, with a curriculum rigorously fixed on the biomedical model and organ-specific interventions.

Practice points

- CSL teaches skills needed to manage the current disease environment.
- CSL fulfills mandates established by national accreditation agencies.
- Elements necessary for effective CSL have been identified.
- Means have been developed for integrating service learning into the medical school curriculum, including strategies to overcome logistic and financial obstacles.

The effectiveness of that education is now under review, due in part to biomedical success. Vaccination and intervention have eliminated smallpox; TB resurges, but not in the 'white plague' proportions of the past; for those with access to highly active therapy, HIV is no longer inevitably fatal. A different kind of disease now engages medicine in the US as patients live long enough to suffer the chronic diseases of a Western lifestyle that is sedentary, calorie rich, environmentally polluted and open to unhealthy habits: diabetes, hypertension, cardiovascular disease, asthma, and COPD,

Correspondence: K. L. Smith, Department of Internal Medicine, The University of Texas Medical Branch, 2.500 Rebecca Sealy Hospital, Galveston, TX 77555-0168, USA. Tel: 1 409 7610543; fax: 1 409 2669776; email: klsmith@utmb.edu

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for instance. This shift occasions concern that physicians' training – technologically driven, pharmacologically inclined and hospital-centered – leaves them insufficiently equipped to manage diseases whose most effective cure is prevention, i.e., maintaining lifestyles that resist disease. It comes as no surprise then to hear a call for academic medical centers (AMCs) to reset educational priorities to focus more on primary care and disease prevention (General Medical Council 1993; Association of American Medical Colleges 1998; Institute of Medicine Committee on Quality of Health Care in America 2001; Institute of Medicine 2002).

As the centenary article notes, Flexner himself anticipated this call. Indeed, the biomedical consequences of his "revolution" appear unintended in light of his observation that

> [T]he physician's function is fast becoming social and preventive, rather than individual and curative. Upon him society relies to ascertain, and through measures essentially educational to enforce, the conditions that prevent disease and make positively for physical and moral well-being (Flexner 1910).

To regain this social function, the profession must align itself with present circumstance – *away* from a care regime enthralled by the singular values of the laboratory, hospital, and clinic whose emphasis on "acute inpatient and procedure-oriented care" is captive to healthcare finance, and *toward* a medical training that is more public-minded, adept at prevention, and competent to address the social and physical environment affecting health and disease. In doing so, the aim is not to reverse the biomedical trend, but rather to strike a better balance between basic scientific and technical expertise and the social acuity needed to sustain public health.

In support of this re-alignment, Agrawal et al. (2005) note the present generation of American medical students' marked orientation toward service, and suggest that embracing it would assist a paradigm shift of pedagogic priorities. In particular, such a shift is accomplished through broad adoption of community service learning (CSL), a teaching method whereby physicians gain competency in preventive practice, public health and social service through the experience of actually delivering care to communities in need. CSL has achieved broad acceptance within the academic medical community, increasingly so since the mid-1990s, when program descriptions began to proliferate in the medical education literature (Seifer 1998; Seifer et al. 2000; Academic Medicine 2005; Hunt et al. 2011; Community-Campus Partnerships for Health 2012). The centenary *Academic Medicine* article concludes with a description of three "signature" CSL programs at Mount Sinai School of Medicine, the University of New Mexico Health Sciences Center in Albuquerque, and the University of Texas Medical Branch (UTMB) at Galveston.

Our article describes the means employed by two of these signature programs, the service-learning models at UTMB and Mount Sinai, in facilitating the desired shift in medical schooling. While Flexner's report detailed the use of laboratory, clinical, and didactic instruction in the training of physicians, it left the means for shaping their social function unspecified. In retrospect, the result is unsurprising: without a program to guide its formation, that role waned, whereas under the tutelage of a detailed curriculum focused on biomedical science and technical facility, the physician's role as expert proceduralist has grown more pronounced. To redress the imbalance, we support the program of curricular reform based on CSL and, based on our own experience, propose the following elements as necessary to the CSL curriculum: field experience;[1] community engagement; public health and preventive practice; social justice; familiarity with healthcare policy and financing; the mechanics of healthcare delivery systems; and interdisciplinary teamwork. Most of these items have been specified by other authors and all are intimated in the literature (Deans 1999; Sternas et al. 1999; Williams et al. 1999; Wolff & Maurana 2001; Bligh 2002; Howe et al. 2002; Link & Phelan 2002; Ottenritter 2004; Farmer 2005; Gilkey & Earp 2006; Gruen et al. 2006; Kristina et al. 2006; Moskowitz et al. 2006; Parsi & List 2008; Maeshiro et al. 2010). We identify them as a cluster that can be augmented, but not reduced: they are elements essential to meaningful service learning. In the paragraphs below, we will expound on these elements and their pedagogical implications, confront objections to integrating CSL into the curriculum, and identify means for overcoming barriers to service learning in order to facilitate wide dissemination of this highly effective and rewarding pedagogy.

To illustrate methodology, we will briefly describe the programs at UTMB and Mount Sinai, one primarily a public health program immersed in community, the other a primarily clinical-based endeavor housed in an AMC. Though there are structural differences between the two programs, their commonalities are striking: both grew organically from dual missions to serve a specific community and to teach medical trainees how to address community needs through interdisciplinary models of care. We learned, however, that missteps in developing these programs often came from a mere transplanting of the acute care model onto community-based service. We admit to short-sightedness in these early stages in developing delivery systems of care that initially mirrored the medical-centered episodic model of care. As a prescriptive paper, we will attempt to build upon the literature by emphasizing necessary components of service learning, and trust that revealing lessons learned during our infant growth phase will prove useful.

Frontera de Salud, UTMB

UTMB's CSL program began as a volunteer organization of medical, nursing, and health professions students. Founded in Galveston in 1998, *Frontera de Salud* (*Frontera*) (Health Frontier: http://fronteradesalud.org) has since grown to include chapters at the University of Texas Health Science Centers in San Antonio and Houston (UTHSCSA and UTHSCH), as well as undergraduate affiliates at UT Brownsville and UT Pan American, and serves communities throughout south and central Texas and along the Texas Gulf Coast. The service program was initiated as an outreach to Cameron Park – a low socio-economic status, primarily Mexican–American *colonia* at the southernmost tip of Texas – in partnership with *Proyecto Digna*, a non-profit

advocacy organization working to improve basic living conditions in Cameron Park, e.g., clean water, adequate sewage, paved streets, access to emergency services, etc. When the students began their work, Cameron Park held approximately 6000 residents; per capita income was $2200; 69% of residents lacked insurance or other mechanisms of access to care. In consequence, the community offered a robust CSL experience: social and cultural barriers to challenge students' civic engagement; economic and health disparities to excite ideals of social justice; a spectrum of disease – e.g., diabetes, hyperlipidemia, and hypertension – amenable to a prevention strategy; and opportunities for service exemplary of the care-giver's ethic.

Initially, *Frontera*'s effort was directed at screening community residents for disease on the assumption that the main route to improved health was clinical access: individuals with or at risk for disease need only be directed to medical management. The naivety of that assumption was soon apparent. Cameron Park is a community of working poor: too young and earning too much to qualify for public assistance, self-employed or employed by businesses that provide no health insurance, and lacking means to purchase coverage themselves. Private providers would not accept them and, with all the goodwill in the world, local public clinics could not accommodate ever-larger volumes of unsponsored patients. The strategy of clinical access thus fell short of a comprehensive solution. Beyond revealing the depth of the access crisis, the shortfall brought home to the student volunteers the inadequacy of their own education. Trained to think of disease in organ-specific, patho-mechanistic terms and to regard hospital and clinical practice as the pinnacle of care, the students came to Cameron Park expecting to project their schooling onto the community. Health screenings recreated the environment of the clinic: healthcare professionals-to-be wearing white coats, performing diagnostic procedures. In advising residents "to go to the doctor," the volunteers faithfully recapitulated their interventionist training. The problem was – there was no doctor to see. To sustain the outreach, *Frontera* had to change course: *away* from a clinical strategy of treating known disease, *toward* a program of community-based preventive care.

The turn occurred in moments exemplary of service-learning. During screenings, students would dutifully record residents' vitals, informing Ms X, for example, that her blood pressure was consistent with hypertension. The issue then became Who owned that diagnosis? Was it Ms X who, moments before, was perhaps unaware of any trouble, but now, because of the students' intervention, was a patient with disease? Or was it the student whose intervention, in a sense, created the disease by identifying Ms X as a person with pathology? The question is not trivial. If hypertension were Ms X's problem, then the student had rendered sufficient service by bringing it to her attention. However, if the service-renderer owned the diagnosis as well, then resident and volunteer were united in a common cause. In that case, bidding someone who all too likely had no access to care to seek medical attention would be an abrogation of responsibility. So the volunteers began to focus on prevention and on changing the environment in which community members like Ms X exercise their options for healthy living. In the case of Cameron Park (and many similar communities), that environment was dominated by the lack of knowledge about, and means to pursue, healthy lifestyles; a dearth of exercise facilities; local markets purveying low-cost but high-fat/high-salt foods; elevated rates of depression and, more generally, despondency compounded by a legacy of neglect. To manage the challenge before them, the volunteers began to educate themselves, tutored by the circumstances of the community.

Their education was aided by alliance with *Proyecto Digna*. *Frontera* became the advocacy organization's healthcare wing; in turn, the students learned valuable lessons in community organization and collaboration, as well as the practical arts of program building and sustainability. An example will illustrate this service learning. Early in the outreach, residents began requesting visits to home-bound family members. One of the women of the *colonia* (call her Tina) offered to act as interpreter, guide, and cultural interlocutor. The students subsequently learned that Tina was among a group of Cameron Park residents trained as community health workers (CHWs, known locally as *Promotores de Salud*, i.e., health promoters). This was the students' first acquaintance with CHWs and the system of community-based preventive healthcare that, in places like Cameron Park, had for decades been struggling to be born. Realizing that the CHWs offered a solution to the screening conundrum (referring residents to clinical management was unlikely to lead to care; referring them to a self-management program involving CHWs could), the volunteers began to organize step-by-step, in tandem with *Proyecto Digna* and with the active participation of the community, a healthcare delivery system based on the CHWs. Soon, a cadre of five promotores was assisting of five *promotores* was assisting the volunteers with the health screenings and home visit program. The CHWs also began conducting home visits on their own and *Proyecto Digna* undertook to recruit a full-time community nurse to supervise the burgeoning health promotion program. In the event, the project attracted a master's level nurse who brought with her considerable administrative and fund-raising abilities. Responsibility for the health needs of the *colonia* devolved onto a new entity, *Proyecto Juan Diego* (PJD), which established dedicated facilities in Cameron Park complete with exercise and class-room space, a community garden, and offices from which to administer a variety of social services.

The consequence of this integrated effort – coordinated across a variety of agencies individual, grass-roots, administrative, academic and political – is evident in the evolution of the student volunteer's screening, education and counseling activities. These were transformed from well-meaning, but often futile exercises that served mainly to indict failures of the healthcare system into "healthy living events" integrated into a comprehensive health promotion system, e.g., self-management classes; aerobics, Latin dance, and walking groups; healthy eating events; cooking demonstrations, etc. Residents with or at evident risk for disease are now referred to the community nurse, who, besides following them regularly at the PJD facility, arranges periodic home visits by the CHWs as well as appointments at a community clinic subsidized, as necessary, by PJD and *Frontera*.[2]

East Harlem Health Outreach Partnership, Mount Sinai School of Medicine

In 2004, students and faculty at Mount Sinai created the East Harlem Health Outreach Partnership (EHHOP), the medical school's first student-run, attending-directed free clinic. EHHOP serves East Harlem, a neighborhood immediate to the medical school which has a high density of Mexican immigrants and, disappointingly, one of the highest burdens of disease in the city of New York. Access to healthcare is poor for individuals in East Harlem who in many cases are undocumented or because of age or income do not qualify for Medicare or Medicaid; 21% of East Harlem adults are uninsured, compared to a 13% average for other Manhattan neighborhoods (Olson et al. 2006). Furthermore, East Harlem adults are sicker than their Manhattan neighbors with the highest rates of diabetes, asthma, coronary artery disease, and HIV in the city. It comes as no surprise that many rely on the emergency room for care. For these individuals, EHHOP provides comprehensive primary care and social work services free of charge, operating with the dual mission of serving the uninsured while also teaching medical students best practices for delivering primary and preventative care.

EHHOP began as an acute care clinic with the goal of serving as many residents as possible. Since it began, over 80% of the Mount Sinai student body has been involved as volunteers in the endeavor. When the clinic began operations, longitudinal care was deemed impossible due to the large number of patients and turnover of volunteers. Consequently, the clinic replicated the model of care and teaching found at the medical center: episodic, acute, and concentrated on "putting out fires." However, inasmuch as patients with chronic diseases such as diabetes, cardiovascular disease, and mental illness form the bulk of the patient population, that model needed re-direction once it became apparent that access to the clinic was but one step in a process of improved care. Three years after opening its doors, EHHOP adopted a chronic care model for its ambulatory service, marking a revolution in education for the Mount Sinai School of Medicine. In general, students are trained on inpatient ward services where care is acute and relationships with patients are limited to their hospital stay. Students' comprehension of the chronic management and complications of, for example, heart disease or hyperglycemia is, in consequence, inadequately informed – based largely on textbooks rather than experience. With its initial focus on episodic care, EHHOP had reinforced this training and, in the process, compromised care of its chronically ill patients. The revised model corrects that lapse as teams of student providers, led by a "Teaching Senior," collaborate with social workers to engage patients in comprehensive long-term management involving medical and self-care, as well as community resources. EHHOP thus provides a venue for students to stand at the forefront of care in the longitudinal management of chronic disease and to critically appraise their management.

This learning opportunity has been formalized by agreement with the medical school: faculty supervisors receive protected time, and selected senior students and participants in the MD/PhD program can choose to dedicate elective time to difficult-to-manage cases, e.g., diabetic patients with hemoglobin A1Cs consistently above 10, and mentally ill patients with co-morbidities. In the ambulatory setting, such patients receive sustained support via phone calls, home visits, and frequent clinic appointments with providers who are well aware of their needs and can partner with them to overcome barriers, reverse ill-behaviors and prevent complications. Caring for these patients, students work directly with social workers, dedicated physicians, and other student team members to develop communication skills, cultural and social sensitivity, and a deeper understanding of the multidimensional context of wellness. They learn to link patients with community, charity, and governmental resources. They gain insight into stages of change and, in collaboration with social workers, lead support groups for patients with mental illness, as well as counseling sessions on healthy lifestyles and disease self-management. They become adept at addressing domestic violence and mental health issues.

Through these activities, didactic instruction at Mount Sinai has been transformed, maturing from a generalized curriculum with little focus on vulnerable populations to one defined by community – not a mere transplanting of textbook concepts, but an experience-based education that emphasizes challenges specific to caring for populations in resource-limited settings. This curricular transformation is exemplified in EHHOP's monthly grand rounds. Formerly, these emphasized diagnostic and therapeutic algorithms, but are now a venue in which the psychosocial and economic dimensions of illness are interwoven into discussions of the medical management of disease. For example, recent discussion of a woman afflicted with an acoustic neuroma involved not only the diagnostic dilemma, neurologic manifestations, and medical management, but also the desperation of a clinical team struggling to care for an Aztec dialect-speaking immigrant contending with possible job loss if she were hospitalized, the painstaking negotiations with the neurosurgery team over emergency admission for impending brainstem herniation, and the effort to obtain the necessary financial documents. EHHOP grand rounds have thus become highly relevant to the circumstances of care in a system crippled by high costs, inequity, and compromised quality.

Quality, health equity, and cost-conscious care are essential to EHHOP's understanding of what it means to provide a medical home. To support this understanding, a Case-of-the-Week series, disseminated to faculty and students across the medical school, highlights diagnostic, and therapeutic decision-making in the context of evidence-based and cost-effective care. Cases stress the social dimensions of disease as these effect vulnerable populations and include such topics as assisting victims of domestic violence and caring for patients who, for various reasons, distrust authority, including the healthcare system. Monthly interdisciplinary rounds involve students, social workers, general internists, and psychiatrists in formulating concerted and comprehensive care plans. Mentored research emphasizes quality of care for the diseases most commonly encountered at EHHOP: diabetes, hypertension, and mental illness. Testament to this research is the Quality Improvement Council, founded by students and

dedicated to critically appraising the clinic's care in terms of equity, accessibility and the provision of quality care despite limited resources. Nowhere else in the medical school curriculum is clinical introspection or concentration on improving practice so consistently discussed or acted upon, evidence of Mount Sinai's commitment to giving students hands-on experience in effecting curricular change through service to community.

Elements of CSL

That, in summary, is *Frontera* and EHHOP's tale of service. However, our purpose is not to recount these organizations' accomplishments, but rather to investigate their pedagogical implications. That purpose is properly advanced by highlighting the elements shaping their service.

Going into the field consistently and with focused attention stimulates and cultivates learners, shaping an understanding of illness consistent with concepts imbibed on campus, but with comprehension improved by *field experience*: encountering disease in the community setting and noting the effect of environment, socio-economic circumstance, culture and lifestyle. Serving in the midst of community, CSLearners, whatever their background, cannot avoid confronting community realities and recognizing their own lack of understanding when, for instance, they counsel brisk walking to inhabitants of a neighborhood that lacks sidewalks and where stray dogs menace the unwary. Hands-on experience renders those realities pervasive and, moreover, increasingly personal as healthcare students bond with individual residents (Hart & Fletcher 1999).

A profound element of CSL then is *community engagement*. Typically, this is cashed out in terms of charity, namely, the altruism that students display in reaching out to the underserved and the sacrifice they impose on themselves in doing so. Certainly, that ideal is not to be discounted: service learning is forthright in its commitment to healthcare as a moral practice. However, the emphasis on charity, redounding to the credit of the care-giver, neglects operational aspects relevant to the care-recipient. Attention to the underserved has an existential bearing impossible to calibrate. Coming from care-givers whose social and economic circumstance are often remote from those receiving care, it constitutes proof that their needs matter, that they are worthy of care and that their input into their own care is paramount. Though the term has grown somewhat hackneyed with use, the trope of empowerment reclaims credence with application. Beyond the edification of learners, CSL empowers communities to take control of their health and the material resources necessary for well-being.

The curricular correlative of community engagement for CSLearners is liberation from a primarily clinical and hospital-based indoctrination to a more public health-minded focus. Engaging pathology at a social and environmental level motivates students to educate themselves on topics outside the usual didactics: civil society, advocacy, behavioral change, preventive best practices, etc. – detailed and specific competencies whose deployment constitutes substantial expertise. Moreover, strategic emphasis on prevention allows students, whatever their level of training, to contribute meaningfully to care. From the first day, they can be taught to take blood pressure and blood glucose readings, check for physical findings such as acanthosis, conduct diabetic foot exams, etc., actions that benefit not only community residents, but the students as well, reinforcing on-campus H&P instruction. They can also master the rudiments of prevention counseling and assist in the adaptation and implementation of specific activities such as healthy cooking classes and aerobics exercises imbedded in evidence-based prevention programs. Preclinical students can assist and develop administrative protocols to access community-based and institutional medical care and engage in advocacy to navigate systems and overcome bureaucratic hurdles to obtain specialty care for patients who need it, and to support legislative and policy initiatives. Such mastery only improves with use so that medical students active in outreach are, by their fourth year, fairly sophisticated practitioners of *public health and preventive practice*.

Having instructed over 1000 students, the CSL programs at UTMB and Mount Sinai are evidence of the progress AMCs can achieve in returning focus to medicine's social mission. That mission must, perforce, confront *social justice*. For the health professional, this bears most heavily in terms of the millions denied care. The crisis of the un- and under-insured needs no emphasis. What does merit attention is the students' response, which has transformed abstract hand-wringing into concrete action bent on relief; thus, the students' rejection of the received wisdom that disparity could be eliminated merely by improving clinical options. CSL engenders a more sophisticated approach aimed at social determinants of health and the roots of disparity. In community-based settings, efforts turn to improving infrastructure to provide adequate transportation, safe public spaces and sanitation and changing the context in which individual residents make health decisions, e.g., provision of walking trails and exercise spaces, prevailing on local grocers to stock heart-healthy and ADA-compliant foods, integrating physical education into after-school programs, and making self-management education and fitness and nutrition activities readily available in places and at times convenient for users. In clinical settings, CSLearners become adept at navigating the healthcare system and identifying and accessing lesser known or less understood systemic mechanisms such as the Breast and Cervical Cancer Control System and the State Children's Health Insurance Program. Such familiarity with *healthcare policy, financing, and mechanisms of healthcare delivery* is far beyond that typical of students (and often of experienced providers). Comprehension of the system is a dividend of CSL paid in the currency of access.

Finally, CSL advances *interdisciplinary teamwork*. Given the varied needs of communities, community service learning naturally lends itself to a multi-disciplinary approach, each of the healthcare professions bringing its own skills to bear on problems at hand. Rather than one profession operating as a nexus for referral, CSLearners typically function as interprofessional teams, i.e., medical, nursing, allied health, and public health students addressing issues and arriving at a plan together with lay workers and community members. In the process, each instructs fellow providers, thereby enriching the educational experience and inspiring mutual respect.

Moreover, because the experience is focused throughout on service, teams are imbued with a shared sense of purpose and moral commitment – an inestimable aid in breaking down professional barriers and eliminating rivalries. CSL encourages a collegiality of mutual appreciation as opposed to the tense *modus vivendi* too often seen in institutional settings.

Objections to CSL

Initiated as charity, volunteer efforts lend themselves to serious pedagogical endeavor. What, then, of charity? One criticism of CSL is that interjecting an explicitly curricular motive adulterates the altruism implicit in volunteer efforts (Rhode 2005). We counter that, far from diminishing volunteerism, education aimed at rendering service more active and effective affords students opportunity to explore motives consistent with the highest ideals of the profession. As the centenary article noted, the Flexnerian revolution, promulgated on widespread social support, and state subsidy, established academic medicine as a public trust (Ludmerer 1999). Repayment for that support takes various forms, from the taxes physicians pay on salaries enhanced by education to *pro bono* care of the indigent. The former may be the more macro-economically advantageous to society, but it is the latter that speaks to the ideals of the profession and seems more expressive of trust. However, *pro bono* care is on the decline and when it does occur is redolent of *noblesse oblige*, i.e., physicians repay their privilege by *ad hoc* displays of charity. The difficulty of such a system is not only its randomness. Linking altruism to privilege suggests that to gain more of the former requires providing more of the latter: hence, the call for debt relief of doctors who 'sacrifice' themselves to primary care. The nuances of this *quid pro quo* are outside the precincts of the present article, but point up the fact that appeals to physicians (and physicians-to-be) typically assume their self-interest, e.g., financial or other material gain. Which puts into question their motive in pursuing medicine as a career: Why do students choose to become doctors?

Service learning assumes that those students come to the healthcare professions motivated by a desire to serve. Initial enthusiasm is often quashed, however, by a "hidden curriculum" operating parallel to approved course and clinic work (Hafferty & Franks 1994). As aspirants to the medical degree continually defer gratification and adjust themselves to a healthcare system often at odds with altruism, they fall prey to a culture of external validation that valorizes financial and social preferment. The ethos of care fades as attention is fixed on income and lifestyle. That transition is, to some extent, simply an aspect of growing up and not altogether lamentable, except when manifested in extreme self-interest. Incorporating service learning into the formal curriculum promises an effective counter to imbalance, forestalling the corrosion of ideals by involving aspiring physicians in self-forgetful pursuits. Disinterested care of others becomes simply part and parcel of their education and the social function a foregone conclusion. Moreover, as preceptors of CSL endeavors, we have found that such service, conducted in a thoughtful and consistent manner that does real benefit to communities does not just preserve and activate students' idealism. It also provides them an abiding satisfaction that, once lodged, is hard to displace. In our experience, we have found that service learning, far from foreclosing volunteerism, encourages ventures supererogatory to curricular requirements, i.e., raising the bar to stimulate activity *en masse* does not exhaust students' desire to do good or deter them from exceeding curricular expectations.

Overcoming objections I: Congruence of CSL with academic objectives

In meeting objections to CSL, it is worthwhile highlighting the pedagogy's congruence with academic objectives. For example, reaction to the hidden curriculum is one of the prime concerns driving medicine's present emphasis on professionalism, originally conceived as a project to arrest a perceived slide into commercialism and self-service (American Board of Internal Medicine 1995). The Accreditation Council for Graduate Medical Education (ACGME) specifies the skill-set for competency in professionalism: it includes altruism, sound ethical practice and cultural competence (ACGME Outcome Project). For residency directors charged with teaching and assessing such variable, wide-ranging, and admittedly subjective qualities, CSL offers relief by priming students for residency. CSL is, by definition, an exercise in *altruism*, involving as it does unrecompensed service and the sacrifice of time that might otherwise be devoted to recreation or other self-directed ends. Moreover, such learning provides the detail necessary to achieve skill in *sound ethical practice*. Compromised by poverty and neglect, the underserved – when ill – are a highly vulnerable population. Serving that population with honesty, integrity, and respect focuses scruple, making CSL excellent training for the ethically adept. Moreover, maintaining ethical character, while also bridging socio-economic, educational, and linguistic differences is an effective primer in *cultural competence*, challenging students to examine their own values and those of their medical culture in response to those of the communities they serve. This awakens sensibility and is an endowment to draw on in future practice.

A compelling case for integrating CSL into the medical school curriculum, then, is its correspondence to, and satisfaction of, accreditation requirements. Of particular relevance are those of the Liaison Committee for Medical Education (LCME), beginning with the accreditation agency's requirement that medical schools "make available sufficient opportunities for medical students to participate in service-learning activities" (LCME web site). Within that mandate, directives especially salient to service learning are those directing that the curriculum include behavioral and socio-economic subjects, that students attend to the social and cultural circumstances of patients, that clinical instruction include preventive and chronic care, that medical schools teach medical ethics and human values and that they foster self-initiated learning. The table below summarizes the

elements we deem essential to a CSL curriculum and notes their relevance to LCME requirements.

Elements of CSL	Findings	LCME Requirements Petinent to CSL
Field Experience	Any community can serve as host to CSL experience, with two caveats. Community is variously defined, but we adhere to the traditional, i.e. community is a collection of households geographically circumscribed, having socio-economic features in common and a shared identity. We further hold that effective CSL requires that service be directed to communities in need, where students' contributions will have real benefit, and challenges abound to sharpen care-givers' skills.	IS-14-A. An institution that offers a medical education should make available sufficient opportunities for medical students to participate in service-learning activities, and should encourage and support student participation. ED-5-A. A medical education program must include instructional opportunities for active learning and independent study to foster the skills necessary for lifelong learning.
Community Engagement	CSL should not be 'parachuted in'. Learners should partner with local entities (organizations and individuals) known to, and trusted by, the community. Local knowledge and acceptance are advanced by home visits and family-level initiatives. Learners should prioritize solidarity and community empowerment: rather than outsiders doing good for the community, communities progress by individuals exercising means to do good for themselves.	ED-21. The faculty and medical students of a medical education program must demonstrate an understanding of the manner in which people of diverse cultures and belief systems perceive health and illness and respond to various symptoms, diseases, and treatments.
Public Health and Preventive Practice	While acknowldeging that many CSL initiatives are clinic-based (e.g. student-run free clinics), we beware the tendency of such experiences to reinforce the biomedical model of high-cost technological intervention. We encourage CSL experiences that augment clinical training and extend learners' comprehension and skills beyond an organ-specific procedural focus. Community-based public health and disease prevention initiatives serve the educational needs of medicine in the 21st Century: accessible to all, readily implemented both at the system and individual level, and offering immediate, significant health dividends at even the most moderate levels of participation. We encourage educators to promote CSL activities consistent with the levels of impact framed by the Health Impact Pyramid, e.g. activities that prioritize socioeconomic and environmental factors. We encourage action based on The Guide to Community Preventive Services.	ED-10. The curriculum of a medical education program must include behavioral and socioeconomic subjects in addition to basic science and clinical disciplines. ED-13. The curriculum of a medical education program must cover all organ systems, and include the important aspects of preventive, acute, chronic, continuing, rehabilitative, and end-of-life care. ED-15. The curriculum of a medical education program must . . . include content and clinical experiences related to . . . determinants of health, and opportunities for health promotion
Social Justice	CSLearners who take on socioeconomic factors will, perforce, find themselves promoting social justice. It is incumbent on mentors to channel those activities responsibly, assisting them to ends commensurate with comity and sustainable benefit.	ED-23. A medical education program must include instruction in medical ethics and human values and require its students to exhibit scrupulous ethical principles in caring for patients and in relating to patients' families and to others involved in patient care.
Healthcare Policy, Finance and Delivery Systems	The impact of policy and finance on healthcare delivery systems are everywhere to be seen. Consequently, most any CSL initiative will serve, so long as there is studied attention to that impact. More than registering their influence, CSLearners should develop detailed knowledge of policies relevant to their service and a sophisticated appreciation of the economics of care. The goal is to realize their role as drivers of policy and finance, rather than passive or alienated respondents.	ED-7. The curriculum of a medical education program must include current concepts in . . . the effects of social needs and demands on care.
Interdisciplinary Teamwork	CSL naturally lends itself to a team approach, engaging varied skills of health professions students. The shared experience of service establishes bonds supererogatory to academic imperatives.	IS-12. Medical students should have opportunities to learn in academic environments that permit interaction with students enrolled in other health professions

Overcoming objections II: Logistics and funding

Students favor CSL (they are, e.g. the main advocates of the pedagogy's move into the UTMB curriculum). Faculty are typically supportive, the more so when concerns are allayed as to the putative inhibitory effect on volunteerism. Obtaining administrative support is the main challenge and hinges on three factors: educational benefit, logistics, and funding. Based on our own experience, we offer the following points as response to the challenge of obtaining administrative support:

(1) The alignment with AAMC, ACGME, and LCME priorities noted above should be sufficient proof of CSL's educational import and relevance.

(2) Communities abound for service partnerships and rare is the campus that does not currently host student-led

initiatives. Logistic challenges can be met, in large part, by ramping up and replicating existing service ventures, involving community-based preceptors as faculty adjuncts, and making use of community resources and relationships already in place.

(3) To avoid injuring the volunteer spirit, it is important that student leadership of service-learning initiatives be preserved. Certainly, students will vary in their affinity for CSL. As service learning is integrated into the formal curriculum and participation becomes mandatory, those who otherwise would have volunteered can demonstrate their commitment by rising to leadership roles in specific projects, thereby gaining responsibility and experience consistent with their commitment. In addition, allowing students to assume a range of responsibilities commensurate with their service orientation will aid in evaluating student performance (participants can declare their own level of interest and aspiration). It will also help ensure the effectiveness of CSL activities, with the more avid service learners assuming greater responsibility for success, while the less avid – including those who might never have participated if participation were voluntary – take support roles. Finally, granting students' initiative in organizing and directing CSL ventures relieves what might otherwise be an unsupportable strain on faculty, a primary concern for administrators pressed to stretch faculty resources.

(4) Formalizing the CSL curriculum necessitates methods to assess student achievement and grant credit for service learning. The attached table offers a guide to relevant objectives; evaluating, and crediting mastery of these objectives would constitute progress through the curriculum. Horizontal integration can be achieved as students' service experience is brought to bear on courses occurring in the standard curriculum simultaneous with that experience. Thus, for example, in the case-based approach characteristic of first and second year medical school instruction, we have witnessed the insight that CSLearners bring to small group discussions of e.g., diabetes, based on their interaction with actual patients. Vertical integration is achieved as students take roles in the service team commensurate with their level of training. For example, in clinical settings, beginning students can execute basic screening and physical examination maneuvers that benefit the patient while also honing novice skills. Upper-level students are capable of more advanced clinical roles and are competent to design and implement prevention and control programs, especially when those programs focus on fundamental elements of physical activity and healthy eating.

(5) As circumstances do the teaching and students engage in self-learning, faculty can take more rewarding roles as mentors and guides, rather than enforcers and didacts. Still, faculty must supervise initiatives and assume final responsibility for patient care, and if CSL becomes widespread, incentives must be adduced to secure adequate faculty participation, e.g., service teaching must carry weight in tenure and promotion and FTE must be granted for curricular design and evaluation of CSL.

(6) The very nature of CSL is helpful in surmounting financial challenges: communities sustain themselves, partners (often non-profits) maintain their own facilities, community-based preceptors are either volunteers or employed by local partners and, once support structures are in place, experience itself is free. Still, academic institutions must bear a measure of the cost. In this regard, it is worth noting that CSL, by benefiting the academic institution's public image, improves public and legislative support for host institutions. At the federal level, support for CSL is evident in increased funding for community-based participatory research by the National Institutes of Health and, in more direct fashion, in the National and Community Service Trust Act which has established a funding mechanism for CSL through *Learn and Serve America* (LSA). The LSA provides grants to higher-education institutions in the 250–500 thousand dollar range, sufficient to advance significant integration of CSL at individual institutions and certainly enough to make worthwhile the initiation of pilot programs (Corporation for National and Community Service Office of Research and Policy Development 2008).

Conclusion

In the end, pilot programs and a go-slow approach may be the best prospect for integrating CSL into the medical school curriculum in the short term. AMCs must accustom themselves to the pedagogy; curricula must be developed and best practices identified; and further research specific to undergraduate medical education must be completed before we can expect wholesale adoption of CSL by academic medicine. We would only point out that there is no essential impediment to adoption. One hundred years ago, medical education underwent a profound transformation. That transformation required acknowledgement of then-present shortfalls and a commitment to needed changes. With that example in mind, there is no reason to think that medical education cannot evolve again to serve the community and maintain its public trust. As Flexner observed, "when public interest, professional ideals, and educational procedure concur in the recommendation of the same policy, the time is surely ripe for decisive action" (Flexner 1910).

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Notes on contributors

KIRK L. SMITH, MD, PHD, is the Arnold P. Gold Associate Professor of Medicine at UTMB with appointments in the Departments of Internal Medicine and Preventive Medicine and Community Health; he is also a Co-founder and the current Director of Frontera de Salud.

YASMIN MEAH, MD, is an Assistant Professor of Medical Education and Medicine at the Mount Sinai School of Medicine. She is the Co-founder and Program Director of the East Harlem Health Outreach Partnership and Director of Mount Sinai's Longitudinal Integrated-Clerkship, InterACT.

BELINDA REININGER, DrPH, is an Associate Professor of Behavioral Science and Health Promotion at the UT School of Public Health. She is Co-director of the University of Texas Community Outreach program.

Miles Farr, MD, MPH, is a med/peds resident in the Departments of Internal Medicine and Pediatrics at Massachusetts General Hospital, and a former student Director of Frontera de Salud.

JESSICA ZEIDMAN, MD, is a Resident in the Department of Internal Medicine at Massachusetts General Hospital, and a former student director of the East Harlem Health Outreach Partnership.

DAVID C. THOMAS, MD, is an Associate Professor of Medical Education and Medicine at Mount Sinai School of Medicine.

Notes

1. This item recalls CSL's roots in the educational theories of Dewey (1916). He conceived education as "the idea of continuous reconstruction of experience" which, he urged, should reflect society at large: in experiencing and responding to social needs, the learner becomes adept at advancing society's interests.

2. A program so attuned to preventive measures and public health would not have been possible without the support, expertise and active involvement of the University of Texas Health Science Center Houston School of Public Health; indeed, the comprehensive system of healthcare delivery adumbrated above was designed and implemented in close collaboration with faculty at UT-SPH who were also instrumental in bringing the community-based care model to the attention of the Texas Department of State Health Services (DSHS). Denominated *Socios para su Salud* (Partners in Health), Cameron Park's disease prevention and control program came under the auspices of DSHS in 2006 with funding provided by the Center for Disease Control's Community Diabetes Program. Of greater consequence, the program also came to the attention of the Texas Legislature which perceived in the low cost, grass-roots prevention strategy a means to curtail the state's ruinous Medicaid expenditures. In 2009, the Texas Legislature provided $6 million to disseminate the Partners in Health model of community-based diabetes prevention and control throughout the state, beginning with the south Texas and Texas Gulf Coast regions (Cameron, Webb, Nueces, and Galveston Counties) originally identified, and served, by the *Frontera de Salud* service chapters at UTMB, UTHSCH, and UTHSCSA.

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