The Residency Program in Social Medicine of Montefiore Medical Center: 37 Years of Mission-Driven, Interdisciplinary Training in Primary Care, Population Health, and Social Medicine

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Abstract

Founded in 1970 to train physicians to practice in community health centers and underserved areas, the Residency Program in Social Medicine (RPSM) of Montefiore Medical Center, Bronx, New York, has graduated 562 board-eligible family physicians, general internists, and pediatricians whose careers fulfill this mission. The RPSM was a model for federal funding for primary care residency programs and has received Title VII grants during most of its history. The RPSM has tailored its mission and structured its curriculum to promote a community and population orientation and to provide the requisite knowledge and skills for integrating social medicine into clinical practice. Six unique hallmarks of RPSM training are (1) mission-oriented resident recruitment/selection and self-management, (2) interdisciplinary collaborative training among primary care professionals, (3) community-health-center-based and community-oriented primary care education, (4) biopsychosocial and ecological family systems curriculum, (5) the social medicine core curriculum and projects, and (6) grant support through Title VII. These hallmark curricular, training, and funding elements, in which population health is deeply embedded, have been carefully evaluated, regularly revised, and empirically validated since the program's inception. Practice outcomes for RPSM graduates as leaders in and advocates for population health and the care of underserved communities are described and discussed in this case study.

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Beginning in 1988 with *The Future of Public Health*[1] and in subsequent publications, the Institute of Medicine (IOM) has explored the challenges facing the American health system: a strained safety net,[2] widespread health disparities,[3] a workforce that lacks diversity,[4] and a chasm-like divide between clinical medicine's focus on individual health and public health's focus on population health.[5] The IOM defined public health broadly as "what we as a society do collectively to assure the conditions in which people can be healthy,"[1] which clearly includes both individual-oriented clinical care and population-oriented public health. The IOM has also twice examined the public health workforce.[6–7] In its 1996 report, *Primary Care: America's Health in a New Era,* the IOM argued that primary care is the "logical foundation for the U.S. health care system of the future."[8] A theme common to all of these reports is that physician education can bridge this historical divide and promote an integrated continuum from primary care to public health.

At a 1998 conference entitled "Education for More Synergistic Practice of Medicine and Public Health," Harvard historian Allan Brandt described social medicine as "situated on the San Andreas fault between medicine and public health" and described the relationship between these two as "characterized by critical tensions, covert hostilities, and at times, open warfare."[9] For some, social medicine is not a clinical but a critical and theoretical discipline responsible for prescribing a more ideal health system rather than practicing within the current one. In contrast, the Residency Program in Social Medicine (RPSM) of the Montefiore Medical Center (MMC) and Albert Einstein College of Medicine (AECOM) has been successfully training primary care physicians collaboratively in family medicine, internal medicine, and pediatrics for underserved communities within a population health and social medicine framework since 1970. For 37 years its mission, vision, and hallmarks have remained focused on improving the health of medically underserved communities even as its curriculum, organizational structure, and clinical settings have changed and evolved. In this article, we describe the RPSM as a case study of graduate medical education (GME) that has successfully integrated individual patient care and population health.

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Historical Background and Context

Foundation

The Bronx is the nation's poorest urban county and New York City's poorest borough,[10] now with 1.4 million residents, more than half (51%) of whom are Latino and one third (33%) of whom are African American.[11] To serve residents of the South Bronx, the Dr. Martin Luther King, Jr., Health Center (MLKHC) was established in 1967, and its founders sought primary care physicians who could work in interdisciplinary teams with nurses, social workers, and family health workers, and who could provide comprehensive, culturally sensitive, and

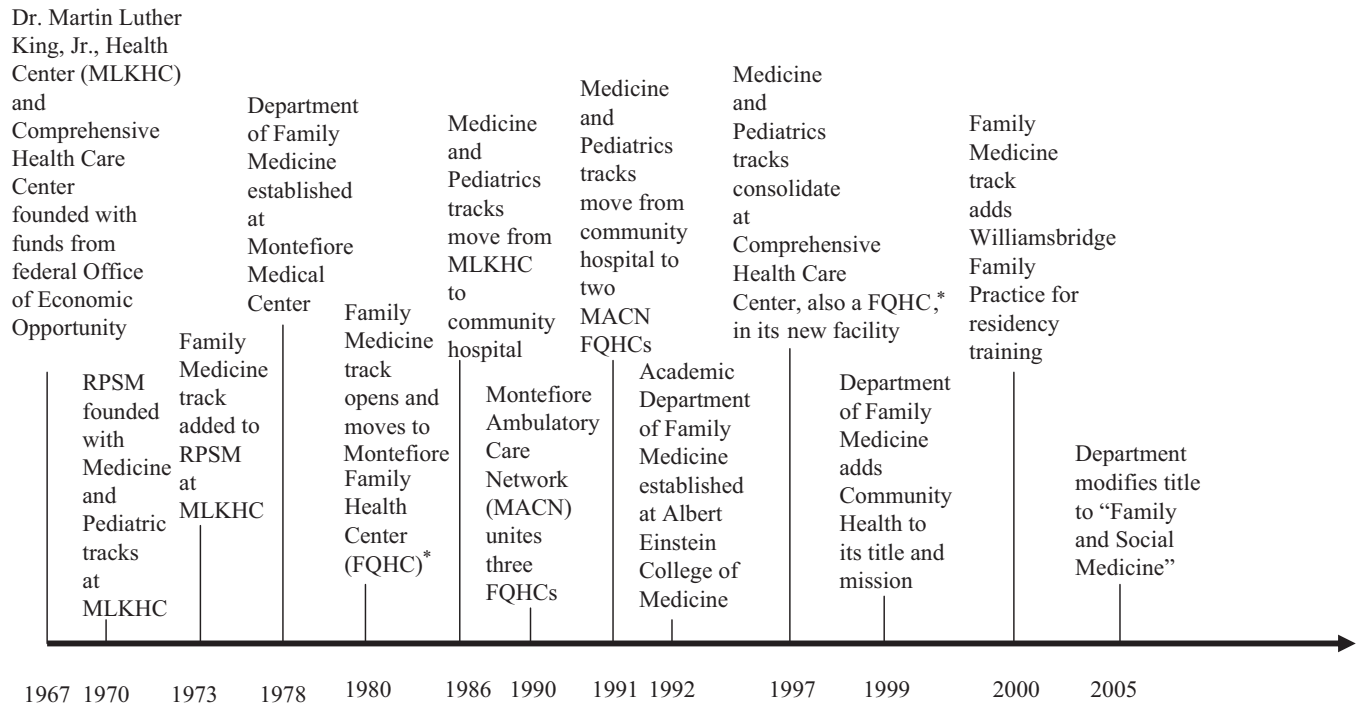

Figure 1 Historical timeline for Residency Program in Social Medicine (RPSM).
* Federally qualified community health center.

community-oriented care (Figure 1). MLKHC was then the flagship of the neighborhood health center movement, the forerunner of today's federally qualified community health centers (FQHCs). MLKHC was sponsored by the leading federal agency in President Johnson's War on Poverty, the Office of Economic Opportunity. Health centers then provided not only comprehensive health and social services, but often housing, job training, and legal services, too.[12] MLKHC's founders, unable to recruit such physicians, decided to train them on-site in collaboration with MMC. Together, the leaders of MLKHC and MMC recruited the RPSM's first residents in internal medicine and pediatrics in 1970 and then added family medicine in 1973. When Title VII of the Health Professionals Educational Assistance Act of 1976 first created federal grants to support primary care residency programs focused on underserved populations, the RPSM served as one of its models.

In 1978, MMC's Department of Family Medicine (DFSM) was founded with the RPSM as its core, and MLKHC became organizationally independent of MMC, with its own board of directors. RPSM's family medicine track outgrew MLKHC's satellite clinic, and in 1980 it moved to its current home, the Montefiore Family Health Center (FHC). In 1992, the DFSM secured its own geographic inpatient service facility and became a full academic department at AECOM.[13] MLKHC's finances deteriorated after the severe federal budget cuts of the Reagan administration in the 1980s, so the social internal medicine and pediatrics tracks had to move, eventually consolidating at the Comprehensive Health Care Center (CHCC) in 1997. Both CHCC and FHC are FQHCs, funded through Section 330 of the U.S. Public Health Service Act, under the aegis of the Bronx Community Health Network. The social internal medicine and pediatrics tracks are an integral part of the DFSM, as well as of their parent departments of medicine and pediatrics, which provide oversight and accreditation, organize inpatient rotations, and coordinate the National Residency Matching Program numbers.

Mission and vision

Since its founding, the RPSM has repeatedly returned to reassess its commitment to its original mission to meet the health care needs of the medically underserved. Our founding credo was (and still remains) *Make a Difference*, and our current vision statement reads, "Promoting health and social justice in the Bronx and beyond. . . . " Each of these serves as a call and challenge to end health care disparities and social inequities before such terms were mainstreamed by *Healthy People 2010*.[14] The current RPSM mission statement reads,

> In order to improve the health of underserved communities, our mission is to (1) train excellent primary care physicians grounded in the biopsychosocial model who are effective advocates for social change, (2) deliver quality, community-oriented primary care, (3) generate new knowledge and innovations in health care and medical education, and (4) maintain and enrich the physical, spiritual, intellectual, emotional, and material resources necessary for these tasks.

Although population and public health are not explicit terms in the mission and vision statements, they are clearly implied in the phrases *health of underserved communities*, *community-oriented primary care,* and *promoting health . . . in the Bronx and beyond,* as well as in how the RPSM has emphasized the *social* in the *biopsychosocial model*. The vision statement's call for social justice and the mission statement's call for advocacy for social change also encompass the IOM definition of public health as collective action.

Hallmarks of Innovation

In reviewing "innovative generalist programs," Urbina et al[15] identified the

RPSM as the leading example of the strategy in GME, both to "develop separate tracks for primary care" and to "offer residents a common generalist curriculum." The RPSM also employs the other two innovations they describe: establishing community-based, continuity practice sites and training physicians in managed care systems. These strategies, rooted in the social innovations of the late 1960s, are embedded in the hallmarks that distinguish the RPSM: (1) mission-oriented resident recruitment and selection and self-management, (2) interdisciplinary, collaborative training among primary care professionals, (3) community-health-center-based and community-oriented primary care (COPC) education, (4) a biopsychosocial and ecological family systems curriculum, and (5) the social medicine core curriculum and projects.[16] The sixth hallmark, federal funding through Title VII grants, came in the late 1970s. These innovations are each described briefly below.

1. Mission-oriented resident recruitment and selection and self-management

Recruitment and selection. A shared commitment to the underserved is an essential criterion for recruitment and selection of residents and faculty and accounts for much of the success that the RPSM has had in recruiting, training, and graduating physicians of color;[17,18] in creating a diverse faculty and staff; and in graduating physicians who make careers of practicing in underserved communities. Consistent with the evidence that minority physicians are more likely to practice in underserved communities,[19] RPSM recruitment includes explicit commitments to diversity. In addition, both the RPSM curriculum and faculty development overtly include topics about race, racism, and culture.[20] Special recruitment efforts include sending residents and faculty to staff booths and make presentations at the annual meetings of the American Medical Student Association, Boricua Latino Health Organization, and Student National Medical Association, seeking to recruit applicants who share our mission. Fourth-year student electives, such as our course, Research-Based Health Activism, offer potential residency candidates an opportunity to learn our approach to advocacy and population health.

Self-management. RPSM residents actively participate in the management and design of their educational program. Residents assume significant recruitment, administrative, and problem-solving responsibilities, including selecting, interviewing, and ranking applicants within and across disciplines. This participation grew both from resident activism in shaping the early training experience in collaboration with a small, then-embryonic faculty and from a common belief in self-management. Active resident participation continues as a "flattened hierarchy" that promotes the learning of community-participatory planning. Self-management and resident participation conform to the principles of adult education[21] and help residents develop effective management, leadership, advocacy, and team skills.[22]

2. Interdisciplinary collaborative training among primary care professionals

Although many have called for closer collaboration among family medicine, internal medicine, and pediatrics, the RPSM remains the only integrated GME program for all three primary care specialties in the United States. Our three residencies share the following: mission, faculty, curricula (in systems-based practice and interpersonal and communication skills), community orientation, offices, support and administrative staff, and budget.

As described in the past,

> The common training experience teaches the differences between disciplines and promotes mutual respect, cooperation, and support for primary care within each discipline. Each discipline brings special strengths to conjoint learning experiences. The developmental perspective of pediatrics emphasizes health promotion, anticipatory guidance, and disease prevention; the scientific, problem-focused approach of internal medicine emphasizes differential diagnosis and proven interventions; and the contextual perspective of family medicine emphasizes relationships and interactions between doctor, patient, and family.[23]

Interdisciplinary teams. The interdisciplinary teams developed at MLKHC included not just the primary care disciplines but also nursing, health education, dentistry, obstetrics–gynecology, pharmacy, and family health workers. Recently emphasized in the Accreditation Council for Graduate Medical Education (ACGME) core competencies[24] and Chronic Care Model,[25] teamwork grew from necessity in serving the diverse and impoverished South Bronx, and interdisciplinary teams remain central to accomplishing the RPSM mission. MLKHC's legacy of a diverse and interdisciplinary staff is now incorporated into the RPSM faculty, which has included physicians, psychologists, social workers, health educators, pharmacists, family therapists, nutritionists, family health workers, and public health professionals. Follow-up studies found that RPSM graduates who worked in teams such as these had twice the percentage of poor patients and three times the percentage of working class patients in their practices as those who did not.[23]

Clinical partnerships. A major training innovation, which RPSM graduates report as a most valuable learning experience, is the clinical partnership whereby two residents share their hospital and health center practices.[23] This allows both to go on rounds in the hospital in the morning and one to care for their hospitalized patients during the rest of the day while his or her partner sees their shared continuity patients at the community-based FQHC. The partnership system reduces the conflicts between the demands of in- and outpatient care, facilitates compliance with resident work rules, and provides time for the social medicine projects (described below) and social medicine and psychosocial curricula (described below). Residents learn communication and negotiation skills and how to develop long-term, professional relationships. What was created initially to solve logistical and scheduling problems and to promote ambulatory continuity has proven to be a powerful pedagogical tool.

3. Community-health-center-based and COPC education

Recent initiatives to promote teaching in community health centers recognize that students and physicians trained in such settings are more likely to practice in health centers and in low-income communities.[26] The RPSM has dealt with the logistical and financial challenges of community-based continuity practice and education over its entire history. Currently, residency positions at our two FQHCs are supplemented by a third community-based clinic, the Williamsbridge Family Practice. Because

of the seminal link between residency training and the community health center movement, COPC has been taught and practiced in the RPSM since its beginning,[27] and the IOM cited the Montefiore Family Health Center as one of seven models chosen as case studies for its 1984 report on COPC.[28]

4. Biopsychosocial and ecological family systems curriculum

The RPSM's behavioral science curriculum includes explicit training in the social and population components of race, ethnicity, gender, socioeconomic class, and the urban environment. Four principles are emphasized: the concept of process as reflected in human development and individual and family life cycles; the doctor–patient relationship; the person-in-situation or biopsychosocial, ecological systems model; and the context of practice.[29] The behavioral science curriculum is progressive, focused on interviewing skills and the doctor–patient relationship during the first year; health and mental health assessments at the individual, family, and community levels during the second year; and intervention skills during the third year (Chart 1). Most resident continuity sessions, home visits, and videotape reviews are supervised by both physician and behavioral science faculty, who teach collaboratively, thus modeling the interdisciplinary approach to patient care and clinical supervision. Attention is focused on clinical reasoning, learning how to listen, critical pedagogy, advocacy, and reflection-in-action.[30]

The diversity of the Bronx has demanded continuous efforts to develop genuine respect and support for all types of diversity and appropriate educational experiences to enrich cultural sensitivity and promote multiculturalism. The continuity practices, home visits, and social medicine and orientation projects have led many trainees into the community, and the biopsychosocial and social medicine curricula have brought the community inside the training program.

5. Social medicine core curriculum and projects

The social medicine core curriculum has evolved over time and incorporates formal courses in medical Spanish, evidence-based medicine (EBM), and health systems, as well as a monthlong orientation and ongoing seminars on the broader health system and determinants of health[31] (Chart 1). Social medicine projects have also evolved from laissez faire explorations to more structured and rigorous research, education, outreach, and quality-improvement initiatives.

Core curriculum in social medicine. The core courses of Medical Spanish; Evidence-Based Medicine: Epidemiology, Community Assessment, and Research; and Understanding Health Systems and Health Teams are structured as monthlong, block rotations, with one taken each postgraduate year. Small-group seminars are held every morning for four weeks, so residents may attend their continuity practices during the afternoons. The core courses include required readings, faculty and guest lectures with discussions, resident reports or critical appraisals of literature, role-playing exercises, debates, and other methods of interactive and experiential learning. (Course syllabi are available on request.)

Both the EBM and health systems courses have been evaluated by pre- and posttest examinations of content knowledge and skills self-assessment. Among the 80 residents from the family practice and pediatric specialties who completed the EBM course from 1998 to 2005, mean examination scores increased 54% ($P < .000$); there were no differences by gender, track, or year of residency. Nine measures of self-confidence in EBM skills increased significantly ($P < .05$) for all residents, but the use of literature reviews increased significantly only for residents who applied them to their own practices. From 1996 to 2005, among 110 residents from all three specialties in the health systems course, posttest knowledge improved over pretest scores by 38% ($P < .000$), without differences by gender, track, or year of residency. There were broad, statistically significant attitudinal changes following the course as well, reflecting residents' growing appreciation of the complexity of the health system. Residents reported statistically significant ($P < .001$) more confidence in their abilities to do work in underserved communities, health policy, and COPC. (Taught by adjunct faculty, Medical Spanish does not have comparable pre–post evaluations.)

Since 1981, our social medicine rounds have been a two-credit course for students at the Columbia University Mailman School of Public Health. RPSM graduates can also receive advanced standing or graduate credits toward a master's degree in public health. Since

Chart 1

Residency Program in Social Medicine: Social Medicine and Behavioral Science Curriculum by Residency Year

Residency Year / Curricular Feature	PGY-1	PGY-2	PGY-3
Social Medicine Core Courses	Medical Spanish, Community Orientation	"Evidence-Based Medicine: Epidemiology, Community Assessment and Research"	"Understanding Health Systems and Health Teams"
Longitudinal Experiences	Social Medicine Project Planning, Implementation and Presentation Social Medicine Rounds (bimonthly) Behavioral Science Case Seminars (weekly) Psychosocial clinical consultation		
Behavioral Science & Psychosocial Curriculum	Interviewing Skills Doctor-Patient Relationship in Primary Care	Psychosocial Assessments (Individual, Family and Community Foci)	Intervention Skills in Primary Care: Individual and Family Counseling and Behavior Change

1996, when the transfer of academic credits to Columbia was formalized, 16 RPSM graduates have received 15 credits towards advanced degrees (15 for master's of public health [MPH] degrees and one for a doctorate of philosophy in education). Before 1996, five RPSM graduates, including the current DFSM chair, attended Columbia and earned MPH degrees. A total of 50 RPSM graduates earned MPH degrees; some graduates worked toward these before, but only one during, residency training.

Social medicine projects. All residents are required to complete a social medicine project of their own design; these range from qualitative and quantitative original research to health-center-based quality-improvement projects to targeted health education programs designed for the communities we serve. Projects are longitudinal, with a specific timeline for progress in each postgraduate year, and they may be conducted by an individual, partnership, or team which is mentored by faculty with appropriate expertise and undergoes regular group supervision. Financial support is provided when needed by departmental or alumni funds. Projects culminate each spring when third-year residents, as individuals, teams, or groups, present their outcomes in a series of three sequential social medicine rounds attended by faculty and peers. Among some of the social medicine projects that have led to enduring health services, successful research, and academic publications are projects that have focused on, respectively, establishing satellite, homeless, and school-based health clinics; assessing health literacy; and managing asymptomatic patients who are HIV positive.[32] In recent years we have emphasized longitudinal, mentored projects that produce results suitable for publication or presentation at professional meetings; from 2003 to 2006, residents' projects have resulted in 17 peer-reviewed publications and 36 presentations at national meetings.

First-year resident community orientation. Our monthlong orientation for first-year residents is designed according to the principles of adult learning theory.[21] Framed by Engel's[33] biopsychosocial model, the orientation's overall goal is to introduce residents to the philosophy, theoretical framework, and practice of social medicine in the Bronx. Its activities are structured around three themes: community, patient care, and the physician-as-person (Figure 2). In recent years, faculty have identified a specific clinical focus (e.g., diabetes, obesity, violence) as a unifying theme. First-year residents from all three tracks are freed from their inpatient duties and spend an average of just two clinical sessions per week at their FQHC to attend the orientation, which includes a daylong tour of the Bronx; meetings with community-based organizations and leaders; supervised home visits; experiential small-group exercises on health beliefs and behaviors; and seminars on the history of Bronx health institutions, continuous quality improvement, narrative medicine, and COPC. A community-mapping exercise gives residents a close-up view of where their patients live, shop, socialize, and worship. A collaborative community project, based on the month's theme, serves as the orientation's main conjoint learning vehicle. Together, the residents conceive, plan, implement, and evaluate this project, which culminates in a collective social medicine rounds presentation to the RPSM community as a whole.

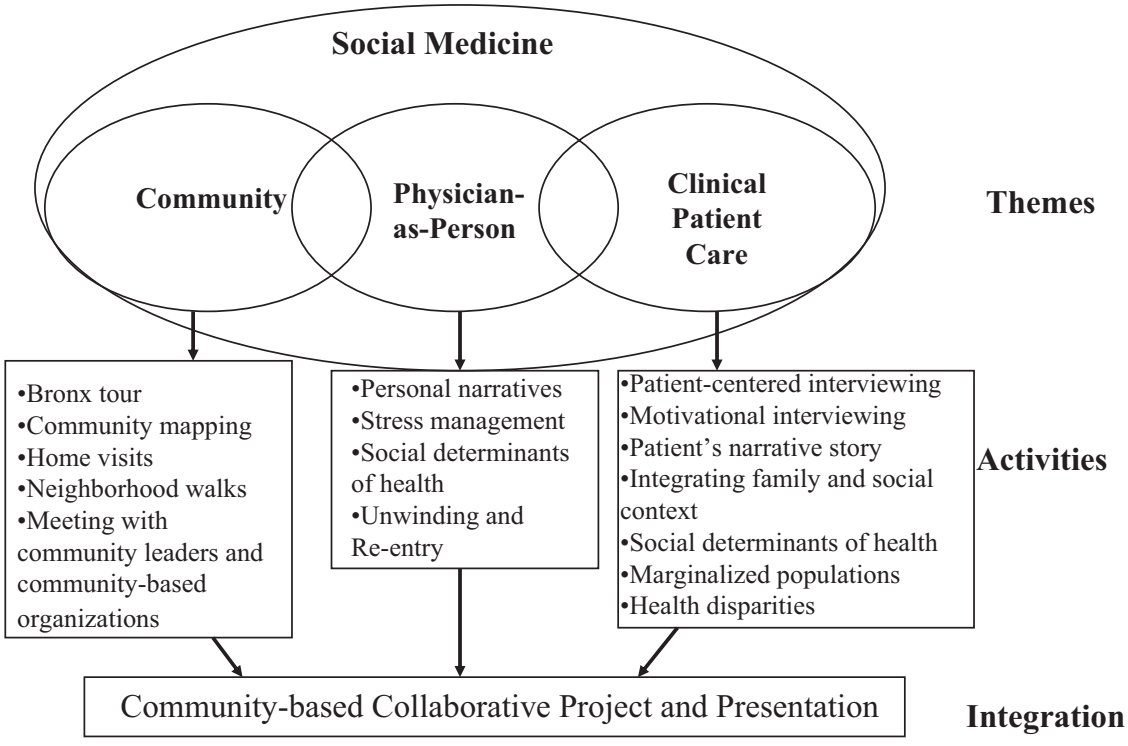

Figure 2 Schematic model of organizing themes, educational activities, and project-based integration of Bronx community orientation for postgraduate year one in the Residency Program in Social Medicine.

The orientation takes place several months into postgraduate year one, so residents might reflect on their development as physicians and the effect of training on their personal lives. Stress-management sessions are designed to help residents become more self-aware as clinicians and to help them develop professional resilience to sustain practice in underresourced settings. Weekly Likert-style quantitative evaluations with room for comments are conducted during the orientation. At its conclusion, qualitative data are collected using a nominal group technique (a more ordered approach to brainstorming that encourages all members to contribute ideas). These two data sources reflect resident satisfaction with the orientation.[21] Resident learning is assessed through an individual self-reflective narrative exercise and the residents' conjoint project presentation. Residents are not individually evaluated, and the rotation is considered pass/fail.

The RPSM is not the only GME program to employ block rotations for orienting residents to the community[34]; to teach EBM,[35] population health,[36] or advocacy[37]; to base continuity practices in FQHCs[38] or in underserved communities[39]; to organize resident partnerships to facilitate ambulatory training[40]; or to commit itself to public service.[41] The RPSM is relatively unique, however, in combining all of these elements.

Complementary medicines, alternative therapies, and palliative care. Education in complementary medicine and alternative therapies began in 1976 and continues today with dedicated faculty and structured electives for residents to observe acupuncture, biofeedback training, guided imagery, herbal therapies, homeopathy, hypnosis, shiatzu massage, and spinal manipulation. Self-care and patient education are emphasized, preparing RPSM graduates for the widespread use of alternative therapies by patients, especially in HIV care. We have published a book[42] and several manuals for primary care clinicians on general[43] and HIV[44] complementary care (the latter a social medicine project). Palliative care has recently been added to our curriculum, as well as to our own and hospital-wide inpatient services, so low-income, minority populations may now access them, too.

6. Grant support through Title VII

Because our mission is consistent with that of the primary care cluster of grant programs administered by the Bureau of Health Professions of the Health Resources and Services Administration (HRSA), the RPSM has received federal grants almost continuously for 30 years. These Title VII grants have supported curricular innovations and the tracking of our graduates' careers. They have provided resources and personnel to coordinate the social medicine curriculum, the community orientation, and residents' social medicine projects; to develop innovative clinical and quality-improvement initiatives at our health centers; and to conduct rigorous clinical evaluations using standardized patients from the community who have been trained to give feedback on resident performance in their continuity practices.

General competencies

The RPSM has aligned its principles with the six competency areas outlined by the ACGME: patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice.[45] They are integrated into curriculum development, resident assessment tools, and, most importantly, faculty development. This ensures that our faculty integrate the ACGME competency areas into our mission and intertwine them in teaching, clinical supervision, and experiential learning in the residents' continuity practices, the hospital, and their communities.

Outcomes

RPSM practice outcomes

How does a residency program measure its impact on the careers of its graduates? The RPSM maintains an alumni database[46] to track graduates' careers, subsequent practice sites, and academic degrees because HRSA awards Title VII grants partially on the rates at which graduates enter practice in underserved communities. In addition, a formal alumni association was organized in 2005 which also facilitates tracking the careers of RPSM graduates. Our database includes current workplace, title, advanced degrees, and contact information. RPSM files an annual report with HRSA and has published our outcome data as a whole[16,23] and specifically for graduates of social pediatrics.[47]

Tables 1 and 2 present descriptive demographic data (gender and race/ethnicity) for all 562 RPSM graduates by specialty discipline from 1970 to 2006. All three disciplines graduate a majority of female residents (53%–63%) and percentages (36%–44%) well above the national average of underrepresented minorities (i.e., African American, Hispanic, American Indian, and Native Hawaiian/Pacific Islander). Half of RPSM graduates practice in New York, 20% in New England and Mid-Atlantic states, 6% in California, and 3% each in Texas and Florida (Table 3).

Table 4 summarizes a survey of social pediatrics graduates (1970–2002) that was conducted for the doctoral dissertation of its former residency director.[48] Of 147 social pediatrics graduates, 137 (93%) have at some time practiced and 103 (70%) currently practice in medically underserved areas; 119 (81%) have at one time practiced and 75 (51%) currently practice in FQHCs; and 106 (72%) have at some time practiced and 79 (54%) currently practice in health-professions-shortage areas (both federal designations). On average, the social pediatrics graduates' patients were 70% Medicaid and uninsured and

Table 1

Residency Program in Social Medicine (RPSM) Graduates by Gender and Discipline, 1970–2006*

Gender	Family medicine: No. (%)	Internal medicine: No. (%)	Pediatrics: No. (%)	Total: No. (%)
Female	136 (59)	96 (53)	95 (63)	327 (58)
Male	93 (41)	85 (47)	57 (37)	235 (42)
Total	229 (41)	181 (32)	152 (27)	562 (100)

* *Source:* RPSM graduate database.

Table 2

Residency Program in Social Medicine (RPSM) Graduates by Ethnic or Racial Group and Discipline, 1970–2006*

Ethnic or racial group	Family medicine: No. (%)	Internal medicine: No. (%)	Pediatrics: No. (%)	Total: No. (%)
White	103 (45)	102 (56)	78 (52)	283 (50)
African American	61 (27)	35 (20)	29 (19)	125 (22)
Hispanic/Latino	36 (16)	25 (14)	28 (18)	89 (16)
Hawaiian/Pacific Islander	3 (1)	2 (1)	2 (1)	7 (1)
American Indian	1 (0.4)	0	0	1 (0.02)
Asian	10 (4)	7 (4)	4 (3)	21 (4)
Indian Subcontinent	14 (6)	6 (3)	7 (5)	27 (5)
Middle Eastern	1 (0.4)	4 (2)	4 (3)	9 (2)
Total	229 (41)	181 (32)	152 (27)	562 (100)

* *Source:* RPSM graduate database.

28% self-pay and privately insured.[48] Although recent comparable surveys of family and internal medicine alumni are not available, past RPSM graduate questionnaires have found no significant differences among any of the three disciplines.

To evaluate the effect of residency training over and above the self-selection process of medical graduates who are already predisposed to our goals, the RPSM employed a quasi-experimental design to compare 27 social intern medicine graduates from a five-year cohort (1978–1982) who responded to a follow-up, mail, postresidency survey versus those who applied to the RPSM during the same period but trained elsewhere (N = 80). [49] The HRSA-sponsored study demonstrated dramatically different residency training experiences between RPSM graduates and their "applicant controls" ($P < .001$). Residency curriculum elements statistically associated with primary care practice in underserved communities were many of the RPSM hallmarks—that is, continuity practice in an inner city ($P = .02$), social medicine project ($P = .005$), learning about the community of their continuity practice site ($P < .001$), epidemiology and biostatistics ($P = .07$), and Medical Spanish ($P = .01$). The study also found RPSM graduates practicing primary care with the underserved at a significantly higher rate than controls ($P = .03$). Multivariate analysis showed that both subspecialty training ($P = .001$) and higher percentages of middle class patients in residency patient panels ($P = .002$) were significantly associated with *reduced* rates of primary care practice in underserved communities, whereas minority physicians with higher percentages of minority residency colleagues were significantly more likely to practice in underserved communities ($P = .04$).

Table 3

Residency Program in Social Medicine 1970–2006 Graduates' Current Practice Locations by State and Region, 2007*

Practice location	No. (%)
New York	284 (50)
California	34 (6)
Connecticut	34 (6)
New Jersey	25 (4)
Massachusetts	23 (4)
Texas	19 (3)
Florida	17 (3)
Maryland	17 (3)
Southeastern states	37 (7)
Other Mid-Atlantic and New England states	16 (3)
Midwestern states	24 (4)
Pacific Northwest	13 (2)
Mountain and Plains states	15 (3)
Puerto Rico and International	4 (1)
Total	562 (100)

* *Source:* RPSM graduate database.

Empirical evidence generated through these follow-up surveys and comparisons of RPSM graduates to applicant controls lend only inferential support to the notion that the RPSM curriculum and training hallmarks contribute causally to the career and practice choices that our graduates have made. Because randomized study designs are not feasible, finding fair comparison groups for more rigorous studies will require creative and adequately powered designs.

Leadership and excellence

To fulfill the RPSM mission to "advocate for social change" and "generate new knowledge and innovation," our

Table 4
Practice Outcomes of Social Pediatrics Residency Graduates, 1970–2002*

Practice settings	At some point: No. (%)	Current: No. (%)
Medically underserved areas	137 (93)	103 (70)
Primary care practice	129 (88)	106 (72)
Community health centers	119 (81)	75 (51)
Health professional shortage areas	106 (72)	79 (54)
Federally-funded health centers	106 (72)	72 (49)

* *Source:* Ozuah PO, Stick SL. Practice locations of graduates of a social pediatrics residency. JAMA 2003;290(9): 1154. Ozuah PO. A Study of the Outcomes of Graduate Medical Training in Social Pediatrics [dissertation]. Lincoln: University of Nebraska, 2002.

graduates have become leaders at many levels. In the 2002 survey of social pediatrics graduates, 59 (41%) reported serving as leaders in regional and national professional organizations, 49 (33%) in their community health centers, 38 (26%) in their hospitals, and 38 (26%) in their medical schools, so that 85 (58%) reported serving in one or more leadership positions.[48] Current leadership positions held by RPSM alumni indicate a broad range of settings for their efforts, led by academic division and center directors and community health center medical directors (Table 5).

Our small program (graduating one to ten family physicians, one to six pediatricians, and one to six internists per year) and its graduates have won several national awards and have produced more than our share of prestigious Robert Wood Johnson Clinical Scholars, Kellogg National Leadership Fellows, and CDC Epidemic Intelligence Service Officers. RPSM graduates have served as medical directors at four of the seven major hospitals in the Bronx, at 23 FQHCs in seven states, and two for the National Health Service Corps. Six others have served elsewhere in the U.S. Department of Health and Human Services, including as HRSA's current chief medical officer; another serves as staff to the Committee on Oversight and Government Reform of the U.S. House of Representatives. Five have served as vice presidents and one as president of the New York City Health and Hospitals Corporation. Seven have served as assistant deans or higher in medical and public health schools. Six have served as health department assistant commissioners, including two of the three current medical directors of district public health offices established by the New York City Department of Health and Mental Hygiene in the South Bronx, Harlem, and Central Brooklyn.

Table 5
Leaderships Roles of Residency Program in Social Medicine Graduates by Track, 2007*

Venue and role	Family medicine	Internal medicine	Pediatrics	Total
Hospital				
Medical director/vice president	3	3	0	6
Department chair	5	0	2	5
Division chief/center director	7	8	7	22
Community health center				
Medical director	8	4	5	17
Associate director	2	2	2	6
Academic				
Dean (associate/assistant)	2	1	2	5
Department chair	3	0	3	6
Division chief/center director	15	15	5	35
Public health department				
Commissioner	0	0	1	1
Associate commissioner	0	0	1	1
Assistant commissioner	2	4	1	7
Other medical directors†	8	7	5	20

* *Source:* RPSM graduate database.
† This includes medical directors of institutes, consulting firms, geriatric centers, home care agencies, insurance companies, managed care organizations, mental retardation/developmental disorder centers, National Institutes of Health, occupational health centers, and pharmaceutical companies.

Serving special populations

Because of its mission, RPSM graduates have not limited their efforts just to poor neighborhoods, but they have also pursued clinical care, leadership, education, and research in serving other underserved populations, including those with HIV, people with addiction disorders, adults with developmental disabilities, prisoners, refugees, and those who are homeless.[34,50] RPSM graduates have also pursued population-oriented disciplines, including school health and adolescent, geriatric, and occupational medicine (Table 6). When the AIDS epidemic began, RPSM graduates not only cared for these patients who were often stigmatized by others, but also led the federally funded New York AIDS Education and Training Center,[51] the New York State AIDS Institute's HIV Scholars program, and seminal programs for injection drug users,[52] adolescents, and "street" youth.[53] RPSM alumni include the new president of MMC,[54] the current director of Montefiore's Adolescent AIDS Program,[55] and the DFSM chair[56] and vice chair.[57]

Advocacy: "What we . . . do collectively to assure the conditions in which people can be healthy"

The RPSM affects primary care and public health policy through its faculty and graduates who have served as members or consultants to important state and national commissions, including New York State's Council on Graduate Medical Education (N = 4), Minority Health Council (N = 1), and Research Council Advisory Panel on Primary Physicians (N = 6), as well as on

Table 6

Number of Residency Program in Social Medicine Graduates Serving Special Populations, 2007*

Population	Number
HIV/AIDS	21
Homeless	12
Geriatrics	9
Adults with mental retardation and developmental disabilities	7
Occupational and environmental health	7
School-based health clinics	6
Adolescents	4
Prisoners	3

* *Source:* Residency Program in Social Medicine alumni database.

HRSA's national Council on Graduate Medical Education (N = 5), whose current executive secretary is an RPSM graduate. In addition, a graduate and past director of RPSM, who now directs the New York Academy of Medicine, chaired the IOM committee that published *The Future of the Public's Health in the 21st Century*.

RPSM faculty and alumni have led the national efforts to provide comprehensive family planning training, including emergency contraception and medical and surgical abortions, in family practice residency programs, now institutionalized under our Center for Reproductive Health Education in Family Medicine.[58–61] As advocates for the discipline of social medicine,[62] RPSM graduates and faculty have established both a social medicine portal (www.socialmedicine.org) with many links to Web sites, documents, presentations, and organizations devoted to social medicine, and an online journal, *Social Medicine* (http://journals.sfu.ca/socialmedicine/index.php/socialmedicine/index).

RPSM and Its Institutional Relationships

The RPSM was conceived, grew, and continues to evolve in a relatively supportive institutional context, an example of MMC's community service mission and long social tradition that includes founding our community health centers[63] and establishing the first hospital-based departments of social services and of social medicine.[64] MMC was a finalist in 2006 for the American Hospital Association's McGaw Prize for Community Service, and it received the Association of American Medical College Community Service Award in 1994, which was recently renamed the Spencer Foreman Community Service Award for MMC's retiring president. MMC has provided resources, flexibility, and stability while RPSM suffered growing pains when residency positions or ambulatory sites were added; during difficult transitions changing ambulatory practice sites; or after losses of grants, clinical sites, or key personnel. Likewise, RPSM has served MMC as a training venue for center, division, department, and hospital-wide leaders and as a laboratory for new programs, such as the school health program and what the authors of *In Search of Excellence* called a "skunk works," an organizational enclave where autonomy and entrepreneurship are fostered.[65]

To assure Medicare indirect GME reimbursements for resident time spent seeing their continuity patients, our FQHCs are licensed under MMC's operating certificate, which has centralized the formers' administration, oriented their priorities toward productivity and quality improvement in an integrated health system rather than community health, and constrained their innovation and finances (i.e., as hospital outpatient clinics rather than freestanding centers, so that their Medicaid reimbursements are capped in New York State).

In contrast to our long-standing, reciprocal relationship and shared mission with MMC, our short-lived collaboration with a community hospital that provided both a family medicine inpatient service and ambulatory, continuity practices for internal medicine and pediatrics proved to be far less beneficial. When this hospital realigned its teaching affiliation, we learned that our missions diverged and that we had to relocate precipitously. MMC's and DFSM's affiliated FQHCs provided our safety net.

Lessons Learned

Multiple demands of multiple departments

Other challenges to implementing the RPSM mission through its hallmarks have come from many quarters and have been addressed programmatically. The centrifugal disciplinary demands of the departments of medicine and pediatrics often erode residents' participation in and faculty members' commitment to RPSM's interdisciplinary education and administration, which we try to overcome with our conjoint social medicine administrative structure and activities. In addition, each specialty has adapted its own unique partnership model. Supervising faculty, fellows, and residents in other departments often do not understand resident partnerships or why RPSM residents need to leave the hospital bedside for their health centers or social medicine rounds; mitigating these misunderstandings requires continuous communication to other departments about RPSM resident responsibilities.

National standards applied uniformly to the unique RPSM

The Family Medicine Residency Review Committee (RRC) applies national norms for clinical exposure and resident productivity that do not distinguish between preparing rural and urban family physicians or between preparing physicians to care for primarily English-speaking or Spanish-speaking patients. In addition, the Internal Medicine RRC does not permit family physicians to cross-cover and supervise internal medicine residents. To meet its RRC clinical exposure and productivity requirements, family medicine has forged special arrangements for residents' obstetrical deliveries and has divided its continuity practice between two centers (i.e., FHC and Williamsbridge). Social internal

medicine has joined forces with a primary care track and no longer needs family physicians to cross-cover.

Differences among disciplines

Differences in cultural values and leadership, teaching, and learning styles also contribute to tensions within and among the three disciplines, sometimes promoting and sometimes challenging our collaborative model along that "San Andreas fault line" between learning the specialized knowledge and skills of each specialty and the common interdisciplinary content of social medicine and population health. Organizational structure (e.g., a division of GME) and clear leadership (e.g., a director of RPSM) have supported and sustained the integrated model.

Meeting many recommendations

The 2003 IOM report, *Who Will Keep the Public Healthy?* recommended that all physicians learn both the ecological model of the determinants of health and 13 population-health content areas (i.e., epidemiology, biostatistics, environmental health, health services administration, social and behavioral sciences, informatics, genomics, communication, cultural competence, community-based participatory research, global health, policy and law, and public health ethics).[6] In its 2007 report, *Training Physicians for Public Health Careers*, the IOM recommended that "each graduate medical education program identify and include the public health concepts and skills relevant to the practice of that specialty" and also move toward assessing competencies; the IOM also added leadership, clinical and community preventive services, and public health emergency preparedness to its recommended content areas.[7] With the exceptions of genomics and emergency preparedness, the RPSM's curriculum and training hallmarks meet the IOM's recommendations almost completely.

Looking Ahead

Despite a renewed recognition of a physician workforce shortage[66] and the explicit goal of eliminating health disparities in *Healthy People 2010,* federal funding through Title VII for primary care and diversity programs, such as those which have supported the RPSM, have been drastically reduced. With *increased* federal funding for community health centers, many of these FQHCs are now suffering staff vacancies and experiencing difficulties recruiting physicians, dentists, and other health professions to meet their patients' needs.[67,68] Besides restoring federal funding for health workforce development, states, counties, and municipal governments as well as private foundations need to focus their resources on ensuring that the health workforce reflects our growing diversity and is equipped with the skills to reduce and eliminate health disparities.

Summing Up

The RPSM continues to pursue its "distinct and visionary" mission,[69] in which population health is deeply embedded, and the program remains committed to addressing the special challenges of poverty, the urban environment, and our changing health system. The RPSM nurtures and protects the idealism that brings people to medicine and gives them the knowledge, skills, and resilience to realize their ideals and leadership potential in serving stigmatized, oppressed, and impoverished *individuals* and *populations*. With creativity and innovation have also come unintended consequences and failed experiments, but never a doubt of our guiding goals.

The RPSM demonstrates a successful, mission-driven model for GME in family medicine, internal medicine, and pediatrics that seeks to integrate individual and population health. With Title VII funding, RPSM provides interdisciplinary and community-based primary care training enriched by mental health, nursing, public health, and social work faculty. Empirical evidence has begun to validate RPSM's training hallmarks that converge with the IOM's recommended content areas for public health. RPSM's graduates are fulfilling the mission as leaders and practitioners in underserved communities and with underserved populations across New York State and the nation. The RPSM *makes a difference*—in the lives of underserved people, in the careers of its graduates, and in the health system itself—and seeks to make health care an instrument of social justice.

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Teaching and Learning Moments

Learning to Listen

I recently traveled to Taiwan to participate in a conference on humanism in medicine. The conference was inspirational, but my greatest learning experience happened on a sight-seeing trip to the east coast of the island. After a three-hour train ride in which Taipei sprawl gave way to lush hills and the Pacific coast, I arrived at Hualien, ready to hike the world-renowned Taroko gorge. My conference hosts had arranged for me to be met at the station by an English-language guide. I had been told that Mr. Chen was an engineer who occasionally takes a day off to act as a tour guide. After a brief greeting, I climbed into Mr. Chen's car and we took off toward the gorge. Within a few moments I realized that my English language guide did not speak English. "You speak no English!" I announced, "How will you guide me?" Mr. Chen nodded, smiled, and continued to drive. After momentary panic triggered by the fantasy that the real Mr. Chen had been disposed of by this devious imposter, I collected myself long enough to reach my host by cell phone. We discovered that there had been (surprise!) some misunderstanding. She asked to speak to Mr. Chen. When he returned the phone to me, my host relayed: "He says you are talking very fast and asking a lot of questions. He doesn't understand you. He says once you get to the gorge he will be able to describe the sights to you." Then she said the most remarkable thing: "Liz, this gentleman seems to have poor comprehension skills. So what I suggest is that you not talk unless absolutely necessary. Instead, you should just listen." There seemed to be little choice but to try to follow her advice.

Any residual doubt I had about Mr. Chen's character was assuaged by the following observations: whenever we passed a group of children on the trail he would say something in Chinese which evoked peals of laughter, and he would pick up any trash we encountered and carry it in his backpack until we reached a garbage can. Mr. Chen did not "describe" the sights in the way I anticipated, but instead pointed his flashlight at bats hanging from the humid roofs of caves, led me across a bouncy suspension bridge to a quiet ledge and unwrapped rice and seaweed cakes for lunch, and gently moved me out of the path of oncoming mopeds. If he had known English, I would have asked all about the history and nature of Hualien. Instead I had no choice but to immerse myself, unmediated by language, in the natural beauty of this most beautiful place. Most amazing were the sounds—I had never before noticed the way in which sounds are layered. In this case, delicate bird calls on top of buzz-saw cicadas on top of pounding water, all echoing within the gorge. A friend once described to me failing a military physical when it was discovered that he had no depth perception. What an epiphany the first time he put on eyeglasses and realized that everyone else saw the world in three dimensions! As a result of my Hualien experience, sound for me now exists in three dimensions. The next time I go to the symphony I plan to wander between flutes and cymbals, float between strains of violas and cellos.

I do not know whether the changes wrought in me in Taiwan will last. I do know that now, whenever someone in my life seems not to "get me," I will try to remember to say to myself: "this person is having difficulty understanding. And therefore, maybe, I should just stop talking. and listen." You can hear the most incredible things that way.

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