

The tacit bargain in short-term medical missions

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Summary

Short-term medical missions (STMMs) refers to a grassroots form of transnational aid wherein physicians who are gainfully employed in wealthy countries travel to low- and middle-income countries (LMICs) to provide direct medical care to the poor who have limited or no access to medical services. An impression has been conveyed in related literature that this activity is increasing, although data to support the impression of growth is not found. Based upon a prior literature review, the United States (US) leads among the four countries that most commonly source these deployments, along with Canada, the United Kingdom, and Australia. These trips are distinguished from other humanitarian medical efforts by several features: (a) they are planned in advance rather than as a response to natural disasters, famine or conflict; (b) they are short term, lasting a day to a few weeks; (c) the physicians involved are not compensated monetarily for the work.

STMMs are not regulated by any agency of the US government, nor a dedicated professional society. The meager but growing body of literature that provide evidence concerning the practice describes positive elements of the therapeutic output of these trips, guidelines and comparisons of organizational models, as well as potential negative externalities that may include, among others, inadequate follow-up of medical or surgical care, the risk of physicians providing treatments outside their training and skillset, crowding out the efforts of local physicians, and creating dependency on these traveling teams by dampening investment in local healthcare services by host country authorities. The literature also provides a body of reflective articles by physicians on their personal experiences during STMMs, but lacks research evidence on the motivational determinants for US physicians to participate in these excursions and the magnitude of the physician manpower and economic resources expended annually.

Upon this background, **Chapter 1** introduces the two main aims of this research: (1) to characterize the determinants and motivations of US physician participation in STMMs, and (2) to gather an estimate of the economic and manpower resources employed. Three complementary methodologies were utilized to satisfy these aims. First, a systematic review of the literature sought to analyze published information on social, economic and diplomatic aspects of STMMs from prior published work that may

addresses these aims. Is there an undercurrent of professional peer influence or nationalism in physician motivation? How well organized is the activity in the US or internationally? What is already known about supply side costs and how participation is affected by them? Secondly, a survey sample of the US physician population was taken to gather numeric data on the prevalence of physician participation in STMMs vis-à-vis other options for voluntary professional work, personal and composite costs associated with STMMs, the magnitude of the human resource investment, and the demographic and professional variables that predict participation or otherwise characterize the profile of participating physicians. Lastly, physicians who had repeatedly traveled on STMMs were interviewed to collect and analyze qualitatively their narratives on motivations to participate. The empiric findings from these overlapping approaches of the dissertation are then organized into Chapters 2-6, followed by the general discussion of the findings in Chapter 7. While the dissertation is focused only on the supply side of the activity, i.e., physician motivation and inputs, Chapter 7 provides, for context, a brief reflection on the receiver side of STMM-based care as it corroborates reported aspects of physician motivation, a brief comparison of STMMs to Médecins Sans Frontières (MSF), the most widely recognized long-term form of direct medical assistance, comments on the motivations of STMM-promoting non-governmental organizations (NGOs) where relevant to physician participation, and how the global debate on aid relates to STMM activity.

The results of the systematic literature review are compiled in **Chapter 2**. Forty-one unique articles from a search spanning the 67 years between 1947 and 2014 met the criteria for their relevance to STMMs and to at least one of five key questions around which the review was focused: (1) evidence for critical analysis of STMMs with respect to normative values of volunteering, altruism, and philanthropy; (2) evidence for professionalization of the activity of STMMs; (3) evidence for analysis of the transactional nature of the interface of physicians and patients in this setting or other market mechanisms at play; (4) data on personal costs or cost-effectiveness of STMMs; and (5) evidence of spill-over effects with respect to attitudes on foreign aid or on US diplomacy. Most articles bearing useful information appeared in specialty surgical journals since 2000. Little is found on formal analysis of motivation, market or transactional features, or the aid or diplomatic implications that might conceivably accrue to this transnational activity. Information on costs are mostly limited to single experiences. There is an accumulating body of instructions on how to conduct STMMs, guidelines for specialty trips and ethical considerations, yet the level of professional codification has, so far,

not led to the development of any central national or international organization for the advancement or professionalization of STMMs.

The results of the survey of US physicians referred to as the Physicians' Giving Back Survey (PGBS), conducted by email, are divided among Chapters 3-5. A description of the general scope and types of physician volunteering is provided first, followed by assessment of the economic and manpower inputs in the STMM form of volunteering, and lastly the demographic characteristics of physicians who participate in STMMs that may provide clues to motivation. One-sample chi-square testing verified that the respondents to the survey were statistically similar by to the US physician population in three characteristics (race, marital status, and type of medical degree (MD vs. DO)), and statistically dissimilar in five other characteristics (gender, age, domestic or foreign medical training, religion, and region of the country). The distribution of PGBS respondents by specialty closely resembled the distribution among the US physician population.

Chapter 3 illustrates that uncompensated medical teaching is the most common domestic profession-related pro-bono activity among US physicians (54% participation), followed by the waiving of fees in their practices for patients with limited ability to pay (39%). Thirty-seven percent give monetary or donations-in-kind to charitable organizations. Overall, 32% of US physicians in this cross-section had been on at least one STMM. Twenty-six percent donate time to professional organizations or to patient support organizations. Other less common activities include providing care in free clinics after usual practice hours, unpaid screening physicals for schools and other athletic team organizations, and medical relief in domestic disasters. Pediatricians, surgeons and anesthesiologists were linked more commonly with STMM activity, whereas adult medicine physicians were more linked with providing services in free or sliding scale clinics. A robust profile of the typical physician volunteer did not otherwise emerge. Overall, nonetheless, US physicians are shown to play their part in the American generosity that topped the World Giving Index in 2014.

The principal findings drawn from the PGBS regarding the magnitude of personal and cumulative expenditures on STMMs and the physician manpower inputs are conveyed in **Chapter 4**. The results appear to confirm the impressions of prior authors that STMM numbers and participation are on

the rise. The evidence is illustrated by an increasing prevalence of new, first-time participants over the span of the survey years, increasing numbers of STMMs per year, and increasing new participants as a percentage of survey respondents in practice at each year. The proportion of new, first-time participants is keeping up with, if not slightly exceeding, the number of physicians entering practice during each survey year.

Cumulative data from 908 trips show an average STMM duration of 11.8 days. If 10 days of each trip is spent seeing patients, the number of STMM work days for 2012, based on the proportion of participants in the survey extrapolated to the population, suggest that nearly 5800 full time equivalents of physician time were expended in that year on STMMs. The back drop for this transferred physician economic output is the challenge that the US faces from a chronic shortage of tens of thousands in needed physician manpower and insufficient post-graduate training positions.

Physicians spend an average of about \$3815 on direct expenses including airfare, organizational fees, and equipment and supplies. While away from their regular jobs, their opportunity costs average \$7791 per trip. Within the current tax regime, 100% of STMM direct expenses are generally deductible from income; however, 63% of physicians think that the deductibility is something less.

A sensitivity analysis of global costs that included a multiple of the physicians' direct costs for up to four support persons or students per physician, applying airfare and organizational fees and excluding the equipment and opportunity costs that apply to physicians, suggests that by 2012, cumulative costs approximated \$3.7 billion US dollars. This figure can be benchmarked to other direct aid objectives of the United States Agency for International Development (USAID) such as contributions to the International Organizations for Peacekeeping Activities (\$3.7B), Consular Affairs and the Border Security Program (\$2.8B), and to Humanitarian Assistance (\$4.1B). The backdrop of STMM cumulative expenditures is that the forfeited tax revenue, while behaving as an indirect subsidy for an aid activity not regulated by the government, represents an opportunity cost to the central government whose alternatives can be seen in crumbling US infrastructure.

Capturing the profile of the typical participant and their life circumstances may convey insights into why some physicians pursue STMM activity. Regression models of demographic and professional characteristics of STMM participants from the PGBS, developed in **Chapter 5**, tell us that STMM participation is predicted by being among the surgeon and anesthesiology grouping or among pediatricians, by being in the older age category (56-73), and by being married. Religion did not predict participation. Descriptive statistics suggest that these physicians tend to participate later in their careers, having few or no children at home. They also tend to have a somewhat lower than average US physician income. Indeed, STMM participants were statistically less likely to divulge their highest taxable income than non-participants.

A number of inferences may be drawn from these findings. The plight of underserved children may be a relative powerful draw for pediatricians. Surgical STMMs may be, in some ways, more manageable, since patients can be pre-selected for a low number of relatively routine procedures that have huge impact on the quality of life for the individual. STMM participation is more prominent during a time in life when the physician is not scrambling to start a career and not in the peak of family demands. Physicians in the lower half of the income strata may be intrinsically less driven by wealth accumulation, and their opportunity costs are proportionately lower.

Chapter 5 also looks at where physicians go on their pro-bono activity for clues to pre-existing ties that may draw them to the activity. Whereas 57% of Asian physicians reported doing their STMMs on the Asian continent, no other racial, ethnic, historical or language ties could be identified. Sixty percent of STMMs from the US sample were conducted in Latin America; the relative nearness of this region makes it less time-consuming and costly to travel to these countries.

In **Chapter 6**, the empiric research of the dissertation moves on from the motivational clues and supply side inputs found in the quantitative methodology to the qualitative dimension wherein physicians are queried directly. All interviewees were repeat participants. Using semi-structured interviews, physicians who were identified through snowball recruitment were first asked to convey their conscious motives, followed by a series of question areas designed to probe how the social, economic, and diplomatic

matters of the foregoing chapters influence their decision to participate in STMMs. STMM participants were further asked about early experiences and role models, as well as the value systems that inform their decision-making, in search of patterns common to participants. Ultimately, the interviewees were encouraged to share their most personal reflections on patient encounters, and how they perceived their work was valued by host country recipients. Responses were processed by direct content analysis both manually and assisted by narrative research software.

The pre-eminent driver voiced by the majority of the interviewed physicians was satisfaction derived from helping the less fortunate. Other key motivators included the gratification that comes from personal learning through international interaction and the adventure of foreign travel, the “warm glow” of the perceived appreciation and gratitude from patients and local staff, the sense of renewal from practicing simple medicine devoid of administrative annoyances, and the legacy left through teaching host country healthcare workers and patients.

Physicians more commonly attributed their locus of decision-making on participation in STMMs more to personal core values than to faith or to medical oath. In order of theoretical concept of philanthropy, physicians matched their motivation foremost to the altruistic desire to contribute to the Public Goods, then to “warm glow” or Personal Consumption, and lastly to the gains of Investment Exchange. One theme that arose from the interviews is that a personality type not uniform among physicians is essential to the attraction to and good performance in STMMs. The elements of the personality profile include high confidence, flexibility, unselfishness, strong ethics, and a tolerance for arduous and less sanitary conditions. Deeply felt, positive, interpersonal connections in this setting were found to stimulate both cognitive and emotional triggers propelling repetition of STMM activity among these physicians.

In contrast, diplomatic objectives and considerations regarding effective foreign aid did not substantially enter into physician motivations towards the STMM process. While these physicians did not perceive the direct or opportunity costs as critical barriers for themselves, nor did they see the tax break as highly influential, they commonly acknowledged that these

economic factors, particularly opportunity costs, may be inhibitory to other physicians' decisions to participation in STMMs.

The narratives of Chapter 6 also mooted the notions that the increase in STMMs has been spurred by the enthusiasm conveyed in word-of-mouth communications from an ever-increasing pool of participants and from the abundance of readily found organizations online supporting a plethora of STMM opportunities from which to choose.

To conclude, **Chapter 7** stacks the results of the quantitative and qualitative elements of the dissertation against the two questions of the research: (a) why do physicians go on STMMs, and (b) what are the measurable impacts on the supply side.

By 2014, about 32% of physicians in the US had participated and about 25% had repeated participation in short-term pro-bono trips providing medical and surgical services to patients in LMICs. These physicians are somewhat more likely to be surgeons, anesthesiologists and pediatricians, to be among the lower half of US physicians in regard to income, to be in a later stage in their careers, and to be married with few or no children at home at the time of their STMMs. They display high levels of confidence, flexibility, ethics, unselfishness, and capacity to operate effectively in remote and arduous circumstances. Their core values are the primary source of motivation, and incentives to repeat are led by the satisfaction received in helping others, the learning and teaching involved, the gratitude felt, and sense of renewal. They are not impeded by the costs, and give little weight to conceivable spill-over effects that relate to diplomatic, foreign aid, or to tax effects on their related expenditures. No national or international organization dedicated to STMMs is driving the increase in the activity, but elements of professionalization are accumulating, most strongly in the specialty surgical literature.

The number of STMMs being deployed, physician participation, and the related expenditures are all mounting. The physician human resources input recently is approaching 5800 full-time equivalents. When compared with other government outlays for aid, STMM costs are material. Opportunity costs may be a quantifiable disincentive for physician participation.

The focus of this dissertation has been limited to the supply side of the transaction of STMMs. To provide value through context, Chapter 7 includes brief overview of the literature on receiver side sentiments that corroborate physicians' perceptions that their services are indeed valued by patients and host country staff. The objectives of NGOs that organize many STMMs are varied and strategic; the quality of an STMM program may reflect those organizational self-interests and will require ongoing evaluation. In contrast to STMMs, the physicians who pursue the long term deployments of MSF fit less well into the routine structure of day-to-day healthcare delivery and civil society, and activism is an extension of their medical professionalism. The concept arising from the global aid debate wherein listening to and abiding the bespoke needs of recipient communities appears paramount to effective assistance, and resonates well as a prescription for progress in the effectiveness of STMMs.