



Case Study Report

Successful Fellows' Projects

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FAIMER[®]

TABLE OF CONTENTS

Executive Summary	3
Introduction	7
Study rationale: why are we doing this?	7
Evaluation purpose, questions and objectives.	8
Background	9
FAIMER Faculty Development Program Description	9
FAIMER Theory of Change	9
Methodology	11
Design	11
Ethical Approval	11
Site Selection	12
Qualitative Data Collection	13
Strengths & Limitations.....	15
Fellows' Bio-sketch and Project Summary	17
Results	23
Overview of Project Impact	23
FAIMER's Impact: Factors Associated with Project Success	24
FAIMER's Impact on Fellows' Personal and Professional Development	28
Ripple effect of FAIMER's faculty development program on key stake holders, the healthcare delivery system & sustainable changes in the community.....	35
Challenges/facilitators Fellows Experienced	41
Conclusions	43
Lessons Learned and Recommendations	44
References	46
Appendix	47

Executive Summary

Background & Context. The Foundation for Advancement of International Medical Education and Research (FAIMER) strengthens global health professions workforce by offering faculty development programs that aim to enhance necessary knowledge and skills related to leadership and management, education methods, project management and evaluation, assessment, and educational research and scholarship. This report summarizes the methods, key findings, inferences and recommendations for next steps to guide future strategic direction and advancement of FAIMER's educational program through a case study of three successful community health-based projects. The FAIMER Theory of Change was used as the theoretical paradigm to inform the design of the study and interpretation of results.

The primary **purposes** of the case studies were to: 1) understand and identify reasons for the success of the community-based projects; 2) examine the pathways at the individual- (Fellows) and system-level (peer/colleagues, institutional, national and regional changes) by which the project-centered FAIMER program has made an impact upon community health, and (3) document lessons learned and recommendations for effective strategies from implementing successful projects and how FAIMER might contribute to meeting these needs and priorities.

Methods. The case study approach was used since it is useful to identify the *why* and *how* of implementing successful projects and the influence that the FAIMER faculty development education program had in implementing the project and to understand the impact of the project. It also helps in gleaning lessons learned for FAIMER Institute as well as for future Fellows. Using the FAIMER Theory of change as a guide, the cases focused on the following areas: (1) Project; (2) fellow personal attributes; (3) impact (institutional, community, nation and region); (4) challenges and pitfalls; (5) implications, benefits, applications.

The method also allowed the investigators to shift from solely depending on self-reports of Fellows to triangulation and validation of information about the project from multiple key informants and stakeholders, who spoke to the success of the Fellow and the project. Qualitative methods such as in-depth interviews and key informant interviews were used to gather information. Rich data were collected and analyzed.

The three FAIMER Fellows were selected for this evaluation project all implemented community-based projects that addressed public health concerns for underserved, vulnerable populations in their countries, India, South Africa and Brazil respectively.

Key Findings. For all three Fellows, Drs. Sahai, Conradie and Freitas, the FAIMER experience (both the institute learning as well as the project component) had a positive impact at the individual- and system-level. The individual Fellows and their circle of stakeholders all spoke to this during the interview process. Each of the Fellows and projects highlighted in this case study accomplished significant and positive impacts on a variety of stakeholders as well as health education and delivery systems. While each of the Fellows was well-recognized by peers and colleagues for their clinical acumen and innate leadership characteristics, the wide gamut of stakeholders credited the role the FAIMER Fellowship program in further developing and strengthening a range of skills and competencies that expanded the impact of their influence and the success of their projects. The Fellowship experience enabled each Fellow to develop or enhance their leadership competencies and negotiation skills, improve their project management skills, teaching skills and expand their professional networks.

Highlights include:

FAIMER's Impact

Factors associated with project success

- A core success factor was selecting a project based on an accurate identification of a public health need – insufficient healthcare providers given population size and issues affecting rural patient populations (Dr. Sahai, Dr. Conradie and Dr. Freitas); racially-influenced disparities in access to healthcare (Dr. Freitas).
- all three developed increased leadership competencies which heightened their ability to execute their projects in an effective, organized manner.
- Stakeholder engagement and ability to motivate and sustain the involvement of stakeholders was critical to all three projects. Peer, colleagues and institutional leaders ascribe it to participation in the FAIMER Fellowship directly contributed to expanding his skills and competencies in these areas.

Fellows' personal and professional development

- Personal growth and professional transformation - the impact of the FAIMER Fellowship on all three individuals was transformative, both from the perspective of the individual Fellow as well as the stakeholders interviewed.
- Leadership competencies - strengthened Fellows leadership, organizational and collaborative/negotiation skills to execute their vision to improve student learning processes. All three Fellows were recognized in their institutions and nationally.
- Teaching skills – Students and colleagues related stories of teaching excellence, innovation, better classroom and experiential learning, and characterized all three Fellows as excellent role models who inspired them

Ripple effect of FAIMER on key stake holders, health care delivery system & the community

- Increased confidence in their clinical abilities and a seamless transition to becoming a healthcare provider.

- Developed greater understanding of the impact of the community setting on the management of disease and adherence to treatment.
- Acquired cultural competency, better communication skills due to projects e.g. Dr. Freitas' elective on cultural competency course being taught in community settings of the marginalized community of Quilambola or Dr. Sahai's service-learning project that included students tailoring public health messages on hygiene and nutrition to community members using their local idiom and metaphors.

Colleagues, institutional leaders & other stakeholders

- Fellows were viewed as role models who introduced them to new ways of teaching and assessing students.

Effects of medical education strategies & techniques on healthcare delivery system.

- All three Fellows designed projects that addressed the dual need of healthcare delivery and public health problems, i.e., Dr. Sahai's project addressed the gap of shortage of healthcare providers coupled with the high prevalence of anemia in impoverished communities; Dr. Conradie designed and implemented a rural health medical curriculum.
- The projects addressed entrenched healthcare disparities based on race and ethnicity, rural and urban divide or peri-urban marginalized communities and were also instrumental in equipping healthcare providers with greater cultural sensitivity and improving the way the government supports healthcare delivery in remote areas.
- Participation in Fellow projects impacted students to pursue careers in pediatrics (Dr. Sahai), working in rural areas (Drs. Conradie, Freitas) as attested by former students and peer/colleagues.

Sustainable changes in the community

- Intra-and inter-institutional collaboration as well as working with local municipalities assured greater sustainability of community projects.

Key lessons learned & recommendations

Managing unanticipated transitions in Fellow lives.

- When a Fellow changes jobs or geographic locations during the Fellowship, it can have a negative impact on their ability to continue and complete their projects. Connecting them with previous Fellows who have experienced this might help to mitigate any challenges this presents. Also, if the Fellow suspects this could happen, building contingency plans into the project plan would also be advised.

Rethinking the role and responsibilities of Project Advisors.

- Developing mechanisms to ensure some consistency in the way project advisors work with Fellows. This could include some video overviews of the role; peer networks to share best practices and developing standardized mechanisms for how advisors and Fellows are matched.

FAIMER convening to foster collaborations.

- FAIMER may consider fostering more connections among the Regional Institutes and the Philadelphia FAIMER Institute to highlight best practices for project design and implementation and share that broadly among Fellows and project advisors.

Increasing rigor in project program evaluation

- Dissemination of successful projects such as these can serve to inform approaches to medical education beyond the local and country arena. Helping Fellows to think about how to publish their results at the outset of project creation could result not only in expanded scholarship for the Fellow but serve to enlighten a wider circle of colleagues about the benefits of such initiatives.

Conclusions & Looking ahead

The success of three projects highlighted in this case study went beyond the core aspects of the projects' design and implementation to the impact they had on the individual Fellows, stakeholders, the healthcare delivery, and ultimately on the communities they served. All three projects set a precedent for differing reasons. Dr. Conradie, for his innovative approach to the curriculum of rural school; Dr. Freitas for community setting for his elective course to address entrenched health disparities based on race and ethnicity in the Quilombola community; and Dr. Sahai for the focus on student-lead patient interview, communication skills as well as designing messages for mothers on nutrition and anemia. This positive effect will likely flourish as FAIMER continues to expand its educational outreach, taking into consideration feedback from relevant stakeholders, to evolve, grow and strengthen.

Introduction

The Foundation for Advancement of International Medical Education and Research (FAIMER) is a not for profit organization, in partnership with the Educational Commission for Foreign Medical Graduates (ECFMG). The organization is committed to improving world health by promoting excellence in international health professions education through programmatic and research activities. FAIMER concentrates its activities in developing regions in Asia, Africa, and Latin America. FAIMER has 11 Regional Institutes (FRIs): four in India, two in China, two in Africa, one in Indonesia, one in Brazil, and one in Chile. The FAIMER Institute, Philadelphia, USA has designed a faculty development program for Health Professions Educators (HPE). The implementation of the faculty development program varies by region in terms of focus and length. As part of the Fellowship, each FAIMER Fellow conducts an education innovation project in his/her home institution. The program is offered in two on-site and two off-site sessions, organized in four Curriculum Themes: project management and evaluation; education methods; leadership and management, and education scholarship and research. A fifth curriculum theme Quality Assurance has been added to the FAIMER Institute in 2017. Health professions educators who complete the fellowship acquire skills necessary for serving as leaders and change agents for implementing curricular transformation at their home institutions, which are intended to lead to improvements in healthcare practice and delivery.

Study rationale: why are we doing this?

This study was commissioned by FAIMER in Summer, 2017. The study sought to evaluate the processes and pathways through which the faculty development programs have an impact upon the health communities. Since an innovative project is central to accomplishing the goals and objectives of the program, successful projects were the lens through which the ripple effect of the FAIMER program was examined. Specifically, this evaluation sought to examine the impact of FAIMER Fellows' successful community-health focused projects on (a) individual Fellows and systems (institutional, national or regional), (b) to document the ripple effect of the project within the institution, community, national and region, if any; and, (c) identify lessons learned and recommendations. The aim was to document and analyze implementation of FAIMER program operations and activities, so as to provide information needed for strategic implementation of the FAIMER education program.

Evaluation purpose, questions and objectives.

Primary Purposes:

- a. To conduct case studies among a subset of Fellows to understand and identify reasons for the success of the community-based projects;
- b. To examine the pathways at the individual- (Fellows) and system-level (peer/colleagues, institutional, national and regional changes) by which the project-centered FAIMER program has made an impact upon community health; and,
- c. Based on the findings, document lessons learned and recommendations for effective strategies from implementing successful projects and how FAIMER might contribute to meeting these needs and priorities.

Questions and objectives:

The overarching evaluation question of interest: Does a successful FAIMER project have an impact on community health via individual (Fellow) – and system-level (home institution, national or regional)?

Specific evaluation questions of interest are:

- a. What are the reasons for the success of the project from the multiple perspectives of the Fellow and stakeholders?
- b. What aspects of FAIMER Education program and FAIMER fellowship contributed toward the success of the project?
- c. What are the lessons learned and recommendations?

Objectives:

Identify factors associated with project success from multiple perspectives of Fellows, project advisor, institutional supervisor, institutional leader/s, peer/colleagues, other FAIMER Fellows in the institution, beneficiaries such as learner/student, community members/leaders, and patients.

Map the ripple effect of FAIMER Fellows on systems (institution, community, nation and region) and provide recommendations based on the patterns of success identified.

Determine the factors that are facilitators or impediments that affect the success of Fellows and their projects and recommend policies & procedures to optimize success.

Background

FAIMER Faculty Development Program Description

Health professions educators have an interest in linking faculty development programs with improvement in community health and healthcare (Mennin et al. 2013; Burdick et al. 2011; Burdick 2006). Faculty development programs can be potentially instrumental in supporting and promoting socially accountable institutions and improve health curricula and activities that target individual-level and system-level capacity building. At the individual-level, capacity building can run the gamut of participation in meaningful learning opportunities for application of new learning and knowledge, hone on a career focus and career advancement (Gusic et al 2010; Nchinda 2002). At the system-level, it requires strengthening, managing and dissemination of the domain of knowledge as well as skills in interaction and relations to create a shared vision, organizational capacity such as leadership and management and programmatic capacity that entails developing projects that meet community needs (Foster-Fishman et al. 2001). An important component of the systems-level is developing social networks for the development of functioning communities of practice in health professions educators that can effectively help develop a cadre of “field leadership” (Mouradian and Huebner 2007). This will encourage collaboration and diffusion of knowledge in the field of health professions education. Projects are integral to individual- and system-level capacity building as they provide the opportunity to apply new skills especially in the areas of leadership, management, education methods as well as research and scholarship.

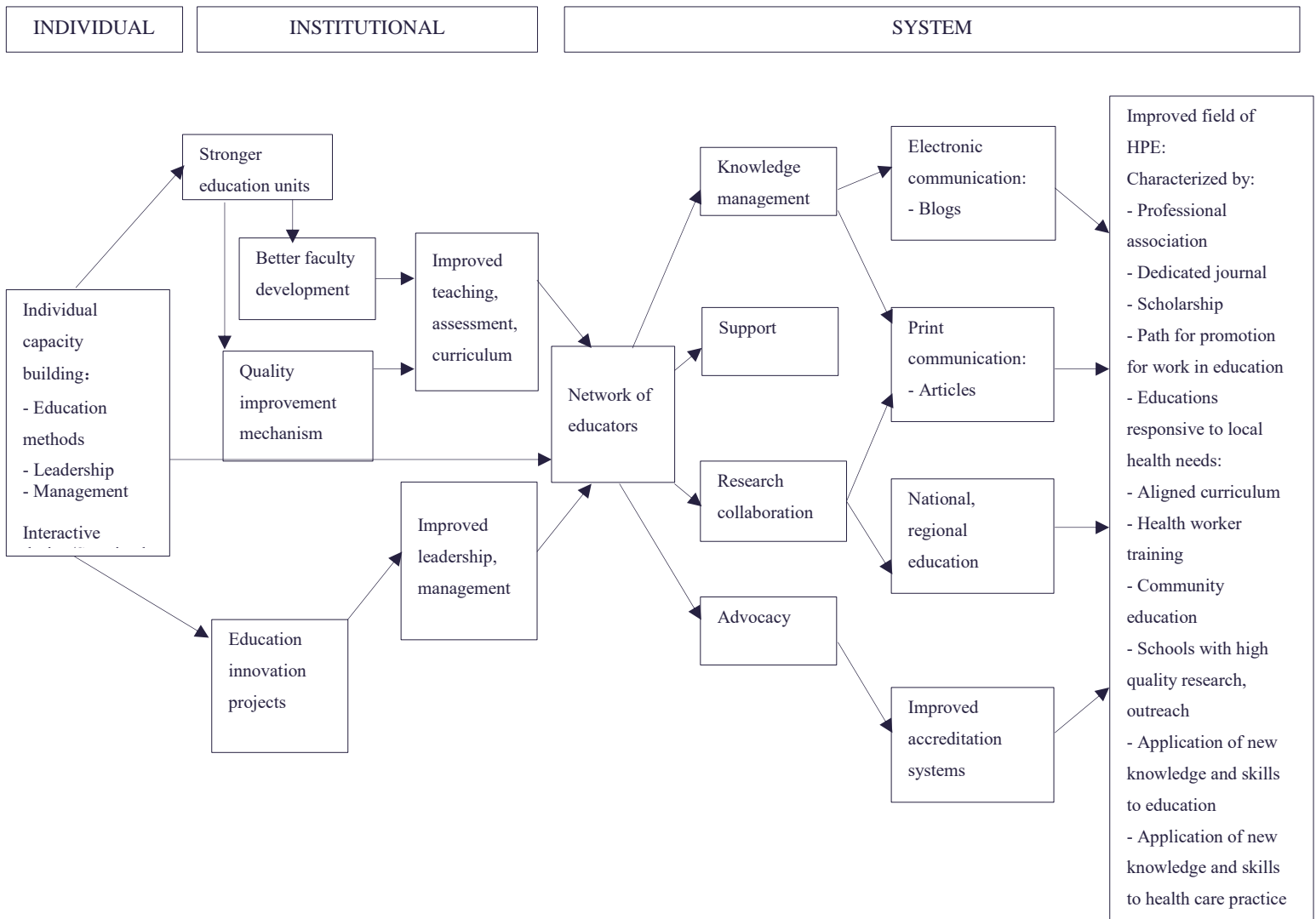
FAIMER Theory of Change

Briefly, the key goals of the FAIMER faculty development program are (1) enhanced knowledge of education methods; (2) strengthened leadership and management skills, and (3) creation of a network of educators that in turn, leads to a strengthened field of health professions educators. Fellows enhanced knowledge; skills are applied to an innovative project which in lead in turn builds individual- and system-level capacity in health professions education. Further, the building and fostering of networks of individuals and institutions health professionals present Fellows with opportunities to leverage individual-level personal and professional growth and system-level (institution, community, and nation) growth.

Figure 1 summarizes the hypothesized effect of the Fellowship with the individual projects as central to the FAIMER faculty development program. The project provides the opportunity to apply the evidence-based learning and opportunity to practice the skills taught. A great majority of FAIMER Fellows' projects tend to focus on educational goals such as student assessment, curriculum development/evaluation, teaching methods, professional faculty/development, clinical skills training and quality assurance with indirect pathways to

improving population health. Approximately 17% of the projects are community-based with direct effects on population health outcomes. **For this year's study (2017-2018), the focus is on successful community-based project.** The FAIMER Theory of Change was used as the theoretical paradigm to inform the design of the study and interpretation of the results.

Figure 1 FAIMER Theory of Change, first published in *A model for linkage between health professions education and health: FAIMER international faculty development initiatives* (Burdick W et al. 2011).



Methodology

Design

Case Study design is used for a gamut of reasons such as, to expand and elaborate a theory, to produce new theory, to challenge existing theory, to provide an explanation for a situation, to gather evidence for a basis to apply solutions to situations, to explore, or to describe an object or phenomenon (Stewart et al. 2006; Soy, 1997). According to Yin (2003), case study design should be considered when the focus is on how and why. Case studies originate from the "...desire to derive an up-close or otherwise in-depth understanding of a single or small number of cases set in their real-world contexts" (Bromley, 1986, p.1). The objective of case study research is not statistical research, and the aim is not to produce outcomes that are generalizable to all populations. This study seeks to understand the impact on community health using successful projects as the use case. There is no systematic documentation or evaluation of the ripple effect of the implementation of Fellow projects their successes and challenges as they transform the health of the community as health educational leaders and providers. As such, it is essential to study a sample of Fellows with successful projects and the context in which they function to identify and recommend strategies for improving the FAIMER faculty development program.

The case study approach is useful to identify questions pertaining to causality vis-à-vis (a) *why* and *how* of implementing successful projects and the influence of FAIMER faculty development program in the successful implementation and impact of the project and, (b) gleaning lessons learned for FAIMER as well as for future Fellows. Thus, the cases will focus on the following areas: (1) project; (2) fellow's personal attributes; (3) impact (institutional, community, nation and region); (4) challenges and pitfalls; (5) implications, benefits, applications.

What is success? Success was defined by a combination of different factors. This included an examination of project outcomes that meet FAIMER concatenated outcomes of interest as presented in Figure 1 Theory of Change as well as the perceptions of stakeholders (e.g. FAIMER faculty, the Fellow's institutional directors) who may have directly observed or felt the benefits of the success.

Ethical Approval

The study protocol was reviewed and approved by University of Pennsylvania Institutional Review Board (IRB). All elements of informed consent were included in the information provided to participants. Consent was assumed for all those who chose to participate in the program evaluation without documentation of informed consent. All data were stored and managed with standard guidelines to protect confidentiality.

Site Selection

As mentioned earlier, these case studies were an examination of successful community projects conducted by Fellows in the regions where FAIMER faculty development programs are being implemented for many years - South Africa, Brazil and India. For our purpose, a Fellow and his/her successful project serve as the case, or unit of analysis. Further, in sites with multiple Fellows, data was collected from other Fellows in order to explore if there was a ripple effect of a Fellow's success that influenced fellowship application and project selection of subsequent Fellow/s.

Sampling. Purposive sampling was used to identify and select information-rich cases related to the phenomenon of interest (Palinkas, Horowitz, Green, Wisdom, Duan, & Hoagwood, 2015).

Recruitment and selection of Fellows. Participants eligible to participate in this case study were those who had successfully completed their fellowship and projects within the past five to eight years, i.e. 2000 to 2017. To identify, recruit and select successful Fellows, a participatory approach was used with FAIMER program operations staff and Directors of Regional FAIMER Institutes. The input from staff was combined with the assessment of information from "Projects That Work," an open competition that FAIMER conducts. Candidates apply for competitive awards for successful projects by responding to a comprehensive questionnaire.

FAIMER Fellows with successful projects were identified by combining data from "Projects That Work" and soliciting the recommendations of the Regional Directors of South Africa, India and Brazil. The Evaluation Team went with the suggestions of the Regional Directors/Co-Directors in selecting Fellows. The rationale being that the Regional Directors are the "experts" who know and run the program and have an insight as to criteria for "best in practice" and "what not to do". Selected Fellows identified the key informants and stakeholders who were most knowledgeable about his/her project and would be able to provide the interviewers information about the project success. **Table 1** is a summary of interviews conducted for this study by site.

Table 1. Summary of case studies participants by site

	South Africa	India	Brazil
Primary	Fellow=1	Fellow =1	Fellow=1
Other FAIMER Fellows	1	0	2
Project Advisor	1	1*	1
Institutional Leader	1	0	1

Supervisor	0	0	1
Peers/Colleagues	2	4	2
Learners/Students	0	4	6
Patients/community members/leaders	0	0	1
Total	N=6	N=10	N=15

* Dr. Sahai's Project Advisor was hard to reach so Dr. Burdick, who recommended her was interviewed in lieu. Dr.

Sahai is a Philadelphia Institute alumna.

Qualitative Data Collection

Qualitative data collection in English language speakers for the India and South Africa sites were conducted by Lesley Mallow Wendell, President of the consulting firm, Rosewood Consulting Group. Lesley is a skilled facilitator who is a recognized expert in leadership and organizational assessment and development. She has conducted focus group discussions and interviews as part of the evaluation of the FAIMER Institute with Fellows as well as institutional Deans and Faculty members since 2008. Due to her familiarity and knowledge of the program goals, objectives and expectations, she brings an expertise, e.g. using appropriate probes and/or details that will enrich the data collection process considerably. To ensure a standardized process of data collection, Ms. Wendell worked with Silvia Setubal, PhD who conducted the interviews in Portuguese with the selected Fellow and stakeholders in Brazil. Interviews were conducted via Skype or Zoom.

Qualitative method approach used were in-depth personal interviews with individual Fellows; key informant interviews with the Direct Supervisor, Institutional Leaders, other FAIMER Fellows and interviews with peer/colleagues and beneficiaries of the project such as learners/students were conducted. Testimonials from beneficiaries such as community members and leaders as well as patients were encouraged if feasible. Dr. Freitas obtained a testimonial since he worked directly in the community settings; as for the other Fellows, Dr. Conradie has already retired and is working in an emeritus capacity at Stellenbosch University currently while Dr. Sahai was transferred to another city, further, it is likely that patients, community members/leaders were indirect beneficiaries of their projects. Evidence of success were also gathered. Examples of materials included memorandum of understanding (project related MOUs with other institutions or entities), reports, letters (written testimonials, promotion or raise, commendations, grants/funds awarded etc.), photographs of award ceremonies, newsletters, peer-reviewed articles etc. that spoke to the impact the project or recognition of the fellow (Available on request).

Details of each qualitative method are described below.

In-depth Interviews with Fellows. In-depth personal interviews were conducted with the three primary Fellows – the focus was on the cause and effect of the successful project as well as in understanding contextual factors that are related to the personal characteristics of Fellows; effect of FAIMER faculty development program, goals and impact; the home institution such as support, resources, supervisory and leadership support, motivation and encouragement; and, local health needs identified and met by the project selection (see **Attachment A** for the guide).

Key Informant Interviews with institutional leader, direct supervisor, project advisor and other FAIMER Fellow(s). For each Fellow, interviews were individually conducted in-person with the Institutional leader and, as well as each Fellow's corresponding Supervisor. Fellows who were selected for FAIMER Fellowships after the primary Fellow's success were also interviewed to find out motivations for applying, the ripple effect of the successful project on their career decisions and project choices. Interviews were based on a common protocol that ensures that key questions are addressed and so that comparisons could be made across individuals and settings when conducting analysis of the data. (See **Attachment B** for Key Informant guides).

Interviews with students/learners and peer/colleagues. It was originally proposed that focus group discussions would be conducted with student/learners and peer/colleagues. However, it was not feasible to schedule focus group discussions given that the participants were busy professionals who were widely dispersed within the country post-graduation. The guide developed for the discussions were therefore used for interviews that were conducted either online or via platforms such as Zoom or Skype (see **Attachment C** for FGD/interview guides).

Testimonials from community members, community leaders, patients. Fellows were requested to seek testimonials from community members, community leaders and/or patients, if it was feasible or applicable. For projects that have had an impact on community health, the evaluation team sought to obtain testimonial from community member/leaders or patients, if applicable and feasible. A caveat of note here is that since this is not a prospective study, it is likely that it may not be feasible to contact community members, leaders and/or patients since projects may no longer in operation.

Qualitative Data Analysis

The main goal of qualitative data analysis is to identify and compare themes that emerged from different data sources. Dr. Freitas' data were gathered early in the study and used as the preliminary data to identify categories and themes. Evaluation Staff, Shiyao Yuan also coded, categorized and identified themes on data from Dr. Freitas using the software R to

manage data. Analysis and interpretation of data from Drs. Sahai and Conradie was based on preliminary data analysis conducted by Setubal and Yuan. The final data analysis and interpretation was conducted by our consultant, Lesley M. Wendell. Themes from the texts, after reading through transcripts were extracted and she looked for examples that suggest processes, actions, assumptions, and consequences (Glaser & Strauss, 1967). She also sought for metaphors, repetitions across informants, and shifts in content that may indicate relevant themes.

Reliable findings are confirmed through multiple data sources such as interviews with multiple key informant interviews for each Fellow and across Fellows. Validity of findings is derived from agreement among the types of data sources, in addition to ruling out alternative explanations. As data was obtained through various methods, including personal and key informant interviews and documents, methodological triangulation was utilized. By constantly checking and re-checking the consistency of findings from different sources, triangulation, or establishing converging lines of evidence made the case studies findings as robust as possible.

Strengths & Limitations

- **Sampling**

Purposive sampling: Purposive sampling method used for the case study design can be subject to researcher/evaluator bias since it relies on researcher/evaluator judgment unlike probability sampling techniques that aim to reduce bias. The subjectivity and the non-probability-based approach of selection of the unit of study also reduce the external validity and thus the representativeness of the sample. To reduce researcher/evaluator bias in fellow selection, a participatory approach was used with FAIMER program operations staff, Directors of Regional FAIMER Institutes, and based on available five to seven years of Fellow data from “Projects That Work” where Fellows apply for competitive awards for successful projects by responding to a comprehensive questionnaire. The competition is open to FAIMER Fellows and IFME members. The staffs were the “experts” who know and run the program and have an insight as to criteria for “best in practice” and “what not to do”. Finally, the purpose of qualitative research is not generalizability as much as understanding the why and how of phenomena as in this study. We acknowledge and accept the limits to generalizability.

- **Data Collection Techniques**

Self-reported data. Self-reported data, such as in questionnaires and face-to-face interviews is limited by the fact that it cannot be independently verified. Self-report has several biases. These biases become apparent if they are incongruent with data from other sources. These

are: (1) **selective memory** - remembering or not remembering experiences or events that occurred at some point in the past; (2) **telescoping** - recalling events that occurred at one time as if they occurred at another time; (3) **attribution** - the act of attributing positive events and outcomes to one's own agency but attributing negative events and outcomes to external forces; and, (4) **exaggeration** - the act of representing outcomes or embellishing events as more significant than is actually suggested from other data. As mentioned earlier, we are triangulating data sources (reports, awards, grant funding, recognition, memos, interviews) as well as multiple stakeholder perspectives (institutional leaders at different levels of responsibility, project advisors, stakeholders etc.) to reduce self-reported bias.

- **Analysis**

Researcher/evaluator bias. Researcher/evaluator may have cultural and other type of bias, this is particularly relevant to qualitative methods used in a study. Bias is when a person, place, or thing is viewed or shown in a consistently inaccurate way. Bias is usually negative, though one can have a positive bias as well, especially if that bias reflects reliance on research that only support for researcher/evaluator hypotheses. In developing protocols, analysis and interpretation of qualitative data care was taken to work collaboratively with program leads, review the extant literature consistently, ensure at least two staff interpret data and meet regularly to develop code book and reconcile discrepancies in interpretation. Finally, investigators acknowledged and explained measures taken to avoid perpetuating bias.

Fellows' Bio-sketch and Project Summary

Kavita Sahai, MD, DNB, is a Senior Pathologist in the Indian Armed Forces. She is a Philadelphia Institute Fellow, 2013. Having completed her graduation and post-graduation from the Armed Forces Medical College, Pune she was a Post-Doctoral Fellow in oncopathology at the prestigious All India Institute of Medical Sciences, New Delhi. She has been posted as Professor of Pathology at the Armed Forces Medical College and has been Head of Laboratory Sciences at two of the largest post graduate teaching hospitals of the Armed Forces. She has been coordinator of the Medical Education Unit at the Armed Forces Medical College. A FAIMER 2013 Philadelphia fellow, she has a special interest in Undergraduate medical education. She has been awarded the IFME fellowship and is currently pursuing a Masters in Health Professions Education. She is the recipient of many professional and academic awards including the Vishisth Seva Medal for distinguished service from the President of India and has been commended by the Chief of Army Staff on two occasions. She has received the COAS Gold Medal for Best Paper in Pathology in the Armed Forces in 2018.



Project Title: Anemia Prevention in the Community: Students as Change Agents

Dr. Sahai selected her project to address the high incidence of anemia in the local population, a peri-urban village in New Delhi, India. The need for the project was identified as nutritional deficiency (especially affecting women of childbearing age), a need to increase the number of healthcare providers working in impoverished peri-urban communities and the opportunity to provide medical students with service-learning opportunities that might better prepare them for the eventual practice of medicine. She decided to involve medical students to help implement the project in the community, as they represent an underutilized resource that can be tapped for simple yet significant community-based health care initiatives. Service-learning has been shown to benefit students, improving interpersonal and communication skills, clinical skills, and understanding of community issues. However, service-learning had not yet been incorporated into the formal curriculum in India.

A pilot was therefore designed with 30 final year medical students who volunteered to conduct community health visits over a four-month period in a peri-urban village adopted by the Army College of Medical Sciences, New Delhi, India. Sixty-nine married women from the community consented to participate. Once the project was initiated, the medical students were educated to improve anemia prevention practices in the community. They learned to diagnose anemia clinically and confirm it by a field test. They evaluated the community

perceptions related to anemia and used health education to create change in the knowledge, attitude and practices of community women.

Dr. Sahai and her colleagues conducted two communication skills workshops and assessed student knowledge about the diagnosis, treatment and prevention of anemia using a 10-item questionnaire before and focus group discussion after the service-learning activity to obtain feedback from the students to learn about their experience and how well the training prepared them for their interactions in the community.

She and her colleagues developed a questionnaire to test the married women's knowledge, attitude and practices about anemia pre- and 3 months post-intervention. They also organized lectures with discussion sessions and street plays for the women. Students worked under faculty supervision to test the women and their children for anemia and carried out deworming and iron/folic acid supplementation in standard doses.



Brainstorming with the medical students



Communication skills workshop



Students interviewing women for questionnaire



Blood tests in progress for women and children

Hoffie Conradie, MBChB, DCH, MMed (Fam Med), FCFP (SA), is a 2011 SAFRI Fellow. Recipient of Projects That Work award 2014. Prof Conradie worked for more than 25 years as a rural doctor and family physician before joining Stellenbosch University in 2003 as a rural family physician and medical educator in Worcester, South Africa where he was responsible for the department's rural training program for undergraduate medical students in the surrounding district hospitals. In 2004 he was part of a team that established a rural postgraduate family medicine training complex. In 2009 he became director of the Ukwanda Centre for Rural Health. From 2010 he was the Founding Director and part of a team that established the first Rural Clinical School (RCS) in sub-Saharan Africa in Worcester. The Ukwanda RCS opened in 2011. For the first time, selected final year medical students could do their entire final year in a rural setting. This included the first year long longitudinal integrated clerkship for medical students in South Africa. As from 2012 allied health professions students were also allocated to the RCS for training, resulting in the first interprofessional rural training initiative in the country. As from January 2016 he is employed as a distributed learning facilitator for the Stellenbosch University Collaborative Capacity Enhancement through Engagement with Districts (SUCCEED) project in collaboration with Walter Sisulu University in the Eastern Cape and as from October 2018 the University of KwaZulu Natal (UKZN) in KwaZulu-Natal province in South Africa.



Project Title: The Development of a Curriculum for the Worcester Rural Clinical School

Dr. Conradie's project involved the development of a Rural Clinical School (RCS) at Worcester, situated about 100km from the Tygerberg campus of The Faculty of Health Sciences (FHS) of Stellenbosch University (SU). Worcester Hospital has specialists in all the major disciplines and is the referral hospital for 7 district hospitals in the Boland Overberg Region of the Western Cape Province in South Africa.

Training health professionals in rural areas increases their preparedness for rural practice and their subsequent likelihood of working in a rural area. The concept of an RCS was pioneered in Australia where medical students are allocated to a rural health service for one year of their clinical training. Student exposure to rural practice for a prolonged period has improved the retention of doctors in rural areas substantially. Parallel with the establishment of RCS's has been the development of a new initiative in medical education called continuous longitudinal integrated clerkship (CLIC) in North America and parallel rural community curriculum (PRCC) in Australia.

In the longitudinal model, medical students do not follow the traditional rotations through different specialist departments but are allocated to a family physician with the support of

other specialists in a rural health service for one year of their clinical training. Instead of learning specialist disciplines in compartmentalized sequence, the curriculum is centered around what each patient presents clinically. In other words, rather than learning about diseases in the abstract and later encountering them in the clinical setting, medical students learn as they encounter patients who present with a certain condition. This model also provides more continuity between the student, his/her patients, tutor and the community they live in. The longitudinal model has also now been adapted in urban settings. The FHS of SU implemented the longitudinal model in the Worcester RCS.

Dr. Conradie's project focused on the planning, development and implementation of a new curriculum for the longitudinal model at the RCS for FHS at Worcester.



Students doing hoe visits in Avian Park student clinic



Student in consultation with patients



First group of students in 2011 with HOFFIE, Dr. Therese Fish, Deputy Dean of Health of Community Engagement



Student doing group with students at Avian Park Clinic

Reginaldo Antonio de Oliveira Freitas, MD, MBA, PhD, is a Brazil FRI Fellow class of 2015. Currently, he is Professor at Federal University of Rio Grande do Norte and General Director of Santos Dumont Institute. Dr. Freitas-Júnior has a comprehensive educational background. He is an Obstetrics/Gynecologist specialist with a doctoral degree in medical sciences (2003) and an MBA in public administration. He also holds a law degree



and aggregated skills in medicine, law and business in his FAIMER project implementation entitled *Barriguda Project: promoting maternal health in a quilombola community of Brazil*. With results of this project he was one of recipients of the 2018 Projects That Work award. Dr. Freitas is affiliated with the Santos Dumont Institute as its health center director and is a faculty member in the Federal University of Rio Grande do Norte (UFRN) Obstetrics Department and with their Master's in Health Education Program. The Institute is a non-governmental organization (NGO) which is affiliated with UFRN and receives funding from the Ministry of Education (MEC) in Brazil.

Project Title: Barriguda Project: Promoting Maternal Health in a Quilombola Community of Brazil

Dr. Freitas' project was designed to address healthcare inequities occurring in a poor rural community of color. He was a gynecologist/obstetrician in private practice when he joined the Santos Dumont Institute as its health center director and is a faculty member in the Federal University of Rio Grande do Norte (UFRN) Obstetrics Department and the Master's in Health Education Program. The Institute is a non-governmental organization (NGO) which is affiliated with UFRN and receives funding from the Ministry of Education in Brazil. It was at the Institute, which is located in Macaíba district, where the Capoeiras *quilombola* community resides, that Dr. Freitas recognized that there were significant incidences of maternal mortality, high rates of eclampsia, a lack of prenatal care, and the absence of a family medicine team to provide healthcare to the community.

In Brazil, black women have worse health indicators than white and brown women, including higher rates of maternal mortality. The Quilombola community represents an ethnic minority group within the Brazilian black population who are still fighting for equal rights in relation to the ownership of their lands and expansion of full citizenship for obtaining equity in healthcare. As a historically persecuted and excluded group, the Quilombola face greater difficulties in accessing public health, both due to the deep social inequalities, as well as the

predominantly rural and remote geographical location of their communities. The Barriguda Project has been developed in the largest Quilombola community of Rio Grande do Norte State, Northeastern region, Brazil.

The project was implemented with the main goal of creating strategies to improve maternal health care by addressing the maternal and child indicators of the Quilombola community. Rather than require the women to travel to the Institute, Dr. Freitas determined that he would take an interdisciplinary team to a remote village to provide care. In addition, the project aimed to contribute to the development of cultural competency, interprofessional education and collaborative work as a component of the health professions education curriculum.



Women of Capoeiras



Activity in the community health center



Staff and community members at Capoeiras health center



2017 Prize for Barriguda Project from WHO PAHO at 2nd Brazilian Women's Health Conference

Results

Overview of Project Impact

The three FAIMER Fellows selected for this evaluation project, Drs. Sahai, Conradie, and Freitas, Jr., all implemented community-based projects that addressed public health concerns for underserved, vulnerable populations in their countries, India, South Africa and Brazil respectively. For all three Fellows, the FAIMER experience (both the institute learning as well as the project component) had a positive impact on their personal and professional development. The individual Fellows and their circle of stakeholders all spoke to this during the interview process. The Fellowship experience enabled each Fellow to develop or enhance their leadership competencies, improve their project management skills and expand their professional networks. Both Drs. Sahai and Freitas completed projects that included student learners and provided them with opportunities to engage in clinical activities which helped to improve the medical education experience for the students who participated. Students interviewed for this report shared numerous stories of how the service-learning component enabled them to acquire clinical experience earlier in their medical education which paved the way for a smoother transition post-graduation.

Peers and colleagues of all three Fellows who were engaged in the projects' implementation also described in interviews how their involvement positively impacted a variety of clinical and leadership competencies.

"[Dr. Sahai's project] has become a pioneering project because we are now undertaking other projects. Diabetes is coming up in India. I am happy to share with you that I am one of the lead persons who is doing a similar project in the community for diabetes. This project has opened my eyes as to how a project like this, where the students are our harbinger of change is able to elicit so much data, which has so much of an impact. This is something that is impacting the community straight on, something we really need in India. So it has really motivated me." (Peer/Colleague of Dr. Sahai)

"It is evident from the feedback that we've received from the students after the training and from the results of the longitudinal research project, it is clear that the training had a significant impact. This type of training guarantees certain continuities of patient care. They don't only see the patient for the first time in an outpatient setting at a large academic hospital and never see the patient again after the consultation. These students see the patients, they follow them up regularly, they even visit them at their homes, so they understand the context that the patient comes from much better. They're able to follow a patient up for a period of a year and see what happens to that patient from the first time that they've seen him or her over this span of a year. And,

there's a continuity of exposure to mentors to tutors. That continuity is not comparable to training of students in a large urban center." (Peer/Colleague of Dr. Conradie)

"I think the FAIMER program impacted all of us. We look at ourselves and we identify ourselves as a faculty inside the Federal University of Rio Grande do Norte (UFRN) in a very special way! We see ourselves as co-responsible for changes such as being aware of the students' needs, being aware of faculty development programs' needs so we can increase the group involved in the process of changing the medical school curriculum. And Reginaldo, I think, he has always been opened, tranquil... What I think FAIMER brought to him, as it brought to me, was giving us tools so we could grow into this medical education process, do you see? FAIMER transforms us in faculty! I have this vision: FAIMER changes us into faculty, into teachers and educators! We were doctors, specialists, qualified, each one of us were experts in our fields, but who turned us into educators was FAIMER. This is my perception." (Institutional Leader of Dr. Freitas)

Dr. Sahai's and Dr. Freitas' projects involved new service-learning opportunities for health professions students, and in some cases, these have become part of the ongoing education curricula in the home institutions and are expanding to both country and beyond, to the region. Dr. Conradie's project and the creation of the rural school curriculum inspired other institutions in South Africa and later, in the region, to train health professions students in rural settings using a curriculum that was different from the urban, academic hospitals.

FAIMER's Impact: Factors Associated with Project Success

The Fellows' stakeholders shared several observations that indicated there were multiple factors that influenced a project's success. Some of these were unique to the particular project, but many were similar across Fellows, institutions and countries. A core success factor was selecting a project based on an accurate identification of a public health need – insufficient healthcare providers given population size and issues affecting rural patient populations (Dr. Sahai, Dr. Conradie and Dr. Freitas); racially-influenced disparities in access to healthcare (Dr. Freitas).

"The success of the project was very appropriate. It addressed the needs, and maybe because it was an unmet need. They did not come to us saying 'we want this,' (be) we went to them and addressed the need of anemia. When they could see the difference, it really helped them." (Peer Colleague of Dr. Sahai)

In general, the ability to motivate and sustain the involvement of stakeholders was critical to all three projects. In addition to the credibility and reputation of the Fellow, all three developed increased leadership competencies which heightened their ability to execute their

projects in an effective, organized manner. Supporting quotations from peers, colleagues and students are included in the section entitled *Impact of the FAIMER Experience on the Fellows' Personal and Professional Development*.

The two factors that appeared to have the greatest influence on success included the level of institutional support, which typically, was dependent upon the reputation and credibility of the individual Fellow, and the ability to engage, educate and motivate critical stakeholders to engage with the projects.

Institutional Support

All three Fellows and their projects received strong institutional support. In Dr. Conradie's case, the decision to start a rural clinic in Worcester had been made, and he used his Fellowship and the Project to design, develop and implement the curriculum and student assessment components. Dr. Freitas had already been considering his project prior to enrolling in FAIMER. Both Fellows also had strong relationships and connections with partners in the local government health departments. Dr. Sahai also had considerable institutional support, particularly her collaboration and partnership with the head of the department of Community Medicine who was able to leverage a public health-oriented approach to the project's implementation.

"Community Medicine was involved with the implementation of the project. We were getting daily reports, so we always knew what was happening. We could actively involve all participants, i.e. Dr. Sahai, the students, myself and my faculty. We could actively involve all the [institutional] stakeholders and actively do something for the community." (Peer/Colleague of Dr. Sahai)

The institutional support took various forms with each Fellow. Stellenbosch University was committed to the idea of starting a rural school and tapped Dr. Conradie to lead the effort because of his long-standing commitment to and involvement in rural healthcare delivery.

"He comes from a career in rural health and this program, I think, was his dream come true, having been working in very deep, rural South Africa and having the yearning for us to train students and immerse them in rural areas was, I think almost the pinnacle of his career because he retired a few years later. We provided with supporting terms, his leave of absence from work to go the [FAIMER] sessions. Some of the work that he had written up in his project was the engagement with our partners in the health department, and because this was one of our key projects at the time, we had provided all the resources for years." (Institutional Leader of Dr. Conradie)

"I think the one thing that was really useful in this project was that I was very much familiar with the context and part of the, firstly, the government health system, or the

Provincial Department of Health, but also the Academic Family Medicine department. I was part of the Family Medicine Department, and I basically was responsible for the rural training side which was announced around Worcester hospital, Worcester itself, and some surrounding towns. So I was very involved at that stage, shorter duration of medical students, usually between two and four weeks, two and five weeks, and also was very much involved in setting up the first graduate family medicine training. So, I was very much a part of the health team, part of the academic team in that area. So that helped me tremendously to be able to speak to sell the idea of now extending the training of medical students to a whole year rather than just the short duration.” (Dr. Conradie)

Dr. Freitas' affiliations and involvement with these institutions and governmental entities, he was able to engage the University in adding the course in cultural competence, providing insurance and transportation for the students to travel to Capoeiras, and ultimately the addition of the master's program in medical education. Furthermore, because he had a senior role at the Institute (and with it, more autonomy) he was able to provide funding to improve the MEC facility in the village so that all the materials and tools would be there and not need to be transported from the university. Based on the success of the Barriguda Project, the Ministry of Health began to provide more financial resources to sustain the work begun during the project.

All three projects included an educational component and relied on institutional support to embed curriculum design and changes into training for healthcare providers. In Dr. Conradie's case, the establishment of the rural clinical school required the design of a specialized curriculum rather than simply duplicating the FHS program in Worcester. Dr. Sahai designed training for the medical students who would be traveling to the community so that they would be able to engage the women in understanding the importance of diagnosing and treating the anemia and develop appropriate ways of communicating effectively with a patient population in the community. The success of Dr. Freitas' project relied on the ability of the healthcare team to demonstrate a high degree of cultural competence and an understanding of the Carambola community to gain the level of trust needed to provide treatment and education. The inclusion of courses on multiculturalism and cultural sensitivity into the curriculum required a level of institutional support.

Stakeholder Engagement

The success of all three projects was dependent upon the engagement of a broad group of stakeholders – students, faculty, supervisors, project advisors, peers, colleagues, institutional and community leaders. Dr. Sahai's project required her to motivate students to participate, provide training to equip them with the skills needed to manage the intervention in the community, and contribute to sustainability of projects like hers in healthcare training going forward. Further, she also needed to include peers and colleagues in the project who would

also provide supervision to the students in the field. Finally, it was critical to communicate the right messages to the mothers in the community so that they would be willing to participate not just in testing and treatment, but in more broad-based preventive measures such as improved diet and hygiene. The students appreciated the opportunity to engage with patients in the community and gained greater contextual understanding about how the patients' surroundings impact their health. They also gained much greater confidence to manage patient interactions. For the first time, they were physicians rather than students. Several students interviewed indicated that the experience was transformative in helping them after they completed their studies. Others were drawn to pursue a pediatric specialty because of their involvement.

“The students felt empowered by the end of the project to recognize their skills, especially communication. They were more aware of the community needs and also they believed they would make a difference. We started doing these projects every year from then on. We realized that this is what helps in motivation and community participation and more involvement of stakeholders.” (*Peer Colleague of Dr. Sahai*)

In Dr. Conradie's project, the establishment of the Rural Clinical School in Worcester was very stakeholder-dependent. Initially, participation was voluntary on the part of the students, so finding ways to motivate them to come to the rural community was important. Getting the Worcester Hospital on board, all the specialists and then also the district hospitals that needed to be involved was another step in the process. Dr. Conradie had to navigate through a fair amount of skepticism on the part of the clinicians, related to the supervisory work it would require them to undertake as well as concerns regarding how students would perform on their exams compared to the students who remained on the main campus.

Peers, colleagues, other FAIMER Fellows and institutional leaders all spoke about the role of his excellent leadership, administrative and negotiating skills played in achieving success, and believe that his participation in the FAIMER Fellowship directly contributed to expanding his skills and competencies in these areas. It is significant to note that not only did the students perform comparably on the exams, many felt that their clinical skills were more highly developed because of the participation in the rural versus tertiary care setting.

“I can still clearly remember the different workshops we had with all the role players from the University Department of Health when we met in Worcester. It clearly demonstrated leadership and vision in terms of how he [Hoffie] facilitated those workshops which included the management level from the Department of Health as well as from the University, and the heads of the various clinical departments at the Medical School. It was a very inclusive process, and there was a series of workshops on how to make it work and how to make it practical. He also had to convince the local leadership in terms of the Department of Health, but also the regional hospital in Worcester, itself.

He is definitely someone who is inspired by the bigger picture. That helped him to drive and apply leadership skills in terms of managing this whole change management process of people at various stages of accepting the change and how he engaged with the different role placers collectively and individually. I think he was amazing to observe” (*Another FAIMER Fellow who participated as a stakeholder in Dr. Conradie’s project*)

“His (Dr. Conradie’s) negotiating skills grew a lot because there were a lot of people that he had to bring to the table to agree to do this and start this program. He very successfully managed all of them, silenced the critics and got everybody on board.” (*Peer/Colleague of Dr. Conradie*)

Dr. Freitas also garnered institutional support, largely based on his role and affiliations with the university, institute and regional health ministry. One contributor to the success of the project was his connection to both UNFN and the Institute, especially his role as Director. This enabled him to engage the University in adding the course in cultural competence, providing insurance and transportation for the students to travel to Capoeiras, and ultimately the addition of the master’s program in medical education. Furthermore, because he had a senior role at the institute (and with it, more autonomy) he was able to provide funding to improve the MEC facility in the village so that all of the materials and tools would be there and not need to be transported from the university.

Once Dr. Freitas began providing healthcare delivery in the community, the municipal health overseers withdrew and took less responsibility for the delivery of care. Based on the success of the Barriguda Project, the Ministry of Health then began to provide more financial resources to sustain the work.

“Another thing that I observed as a change in Reginaldo, which is part of his ability: the ability to build relationships, to work together, to work well! I saw his ability and I think that FAIMER training program improved this. A third factor was team motivation. Instead of doing things on his own, do it with other people. I think that his leadership skills were strengthened with the FAIMER training program.” (*Supervisor of Dr. Freitas*)

FAIMER’s Impact on Fellows' Personal and Professional Development

The impact of the FAIMER Fellowship on all three individuals was transformative, both from the perspective of the individual Fellow as well as the stakeholders interviewed. All three leveraged the FAIMER experience to improve their approach to medical education. The interviews with stakeholders indicated that Drs. Conradie and Freitas strengthened their leadership, organizational and collaborative/negotiation skills to execute their vision to improve student learning processes. While Dr. Sahai focused more on improving her skills

and knowledge in direct medical education, she also expanded her leadership and collaboration skills as she engaged peers and colleagues in the implementation of her project in the community. While her colleagues viewed her as a leader prior to her FAIMER experience, they observed expanded communication and team skills post fellowship.

Teaching skills

Although the student/learners did not necessarily have the longer perspective of pre- and post-Fellowship experience, in general, they shared numerous comments related to teaching excellence, innovation, better classroom and experiential learning, and characterized all three Fellows as excellent role models who inspired them.

Dr. Sahai reflected that she

“came into medical education a little later [*in her career*]. I didn’t have too much experience in hardcore education as such. I was posted at Delhi and most of the people I knew were taking up a problem-based learning and inter-professional education, but I didn’t have too much experience in these topics, so I wanted to do something which would have a little clinical application...to move away from something which was really just classroom based and which would give the students a little more clinical exposure.” (*Dr. Sahai*).

Former students praised Dr. Sahai’s teaching skills and felt that she effectively communicated both the subject matter and prepared them to go out into the community to assist with the implementation and healthcare delivery related to the Anemia project.

“She was great in that because she was a college teacher. Other than this topic, whenever she used to [give] lectures I never used to bunk class. I also used to go to her class and always get thick knowledge, she had immense knowledge. She has a quite a good bonding with the student, she doesn't create a problem with that, so whenever she communicated with us, she just makes a friendly nature. ‘This is what you are expected to do and this is how you do this. Any problem with that you can come to me.’ She has a very good knowledge and she has a very good communication skill in that, so she can give her knowledge to the student very easily, there is no problem with that.” (*Student/Learner of Dr. Sahai*)

“We used to really enjoy her classes, because she used to connect our teaching with the clinical scenarios, always. It was very helping interacting with her; it was really easy to ask questions to Ma’am. She used to make all our doubts very clear. She used to go over every point. We were able to easily connect with her.” (*Student/Learner of Dr. Sahai*)

Dr. Freitas' students appreciated the well-designed and planned approach using multi-methods to raise awareness and increase knowledge of the cultural and contextual realities and their own ethnocentrism when working in the Quilambola Barraguda.

“From the first class, most of the students commented ‘how good is it to be taking a discipline [course] with such a teaching style, so different from the other ones we had already taken.’ From the very beginning they told us that we could not just arrive in the community as if dropping from a parachute without learning about them, without studying the culture, without understanding how ethnocentric we are. We realized the classes were well planned, the way the subjects were discussed was never the same, there was always a new teaching methodology being used either a puzzle for us to explore the history of the Brazilian black women heroes or a different dynamic such as a video conference with a professor not from the health sciences area. The professors would explain to us why they had chosen to use such themes or methodologies. They would always bring one activity, show it to us and would later explain why they were doing that activity in that specific way. For me and for my colleagues the use of these methodologies was very nice because it helped us to better retain the ideas being discussed. Things were always wrapped up nicely.” (*Student/Learner of Dr. Freitas*)

Even as Dr. Conradie used his leadership competencies to collaborate and motivate colleagues to accept this radically new approach to setting up a Rural Clinical School, he also focused on creating a curriculum that was adapted to the needs of the rural setting and yet far different than what was offered in the urban setting. Simultaneously, he was very conscious that he needed to ensure that the students in the rural school could achieved competencies on par with their urban counterparts.

“When it came to the more detail of how we would adapt the present curriculum to the more rural context of the rural clinical school, her [Dr. Burch] input was absolutely invaluable. The tertiary hospital specialists were initially skeptical about medical students being trained by generalists in a rural area, or even specialist outside of the academic sphere in the tertiary hospital. And her, being herself an academic, really facilitated that process. So I think that was one aspect that was very useful. And then she took us through... She facilitated the process where we look at the core curriculum and it was quite, I think, the first time in the University of Stellenbosch at the medical school where tertiary specialists and more original specialists, rural specialists and family physicians working in more smaller rural district hospital came together and talked about talk a new core curriculum. That was the one big aspect. The other one was that she facilitated the process of engaging with a new form of student assessment, which we called the portfolio of patients where they were identify patients that they were actively managing, and that we would assess them on those patient, which was much more formative and interactive way of assessing the students.” (*Dr. Conradie*)

“One of the things we added specifically in the work that HOFFIE had pushed was that he had always been very committed to a very poor area where there was no healthcare services. And so, every Thursday afternoon it was called a Thursday Afternoon Clinic where the students, irrespective of what domain they were covering in the hospital, they all had to go to this informal settlement which is made out of ... in a shanty town where the students would then see patients, do interprofessional collaborative work, and just give the students a sense of actually where do their patients come from. And, we've heard wonderful stories at the time of the evaluation work that we did around the school of students saying, 'I now understand why patients don't take their tablets.' They comply with anti and HIV drugs. When I see where they come from when they don't have water, when they don't have food, and so forth.

I think for adding that dimension of a community-based component to it, I think that was really impactful. What that has driven is that now in our university, other disciplines outside our faculty ... I mean, we train our professional students. We have people from social work, we have people from the law faculty, we have students from biology, who are now also participating in the community component.” (*Institutional leader of Dr. Conradie*)

Leadership Competencies

Dr. Sahai reflected that the FAIMER experience helped to expand her approach to medicine beyond her specialty of Pathology.

“I think definitely the FAIMER experience helped me a lot because from my specialty, we are focused only on the end of that... For example, if we give you the example of anemia itself, if it was just a pathology-based project, I would be looking only at what was the anemia in the community in the beginning, and what was the anemia in the community at the end. But after this experience, it gave me the other skills to look at all these other variables that I've mentioned to you earlier. What were the changes in the personalities of the students, etc. It opened my eyes to look at these other things also, which was not something that I would have looked at if I was just doing a project that was based on my own specialty. And it gave me this depth to recognize these various other... I can say emotional aspects of medicine, which maybe I was not attuned to earlier.

And of course, it did give a lot of skill building devices also because everything that we learned while we were there at the institute, how to approach people and how to get what you want by the give-and-take mechanism, how to build upon your own strengths, how to realize what you are able to do well, and how to leverage what you are not able to do so well, how to counter for that. All that did help a lot. I definitely think that coming to FAIMER was a life-changing event for me because it changed the way I

think about in many... About many things. And definitely I would not have done this project in the way I did it subsequently if I hadn't been to FAIMER... Definitely not." (*Dr. Sahai*)

Peers and colleagues shared insights into Dr. Sahai's expanded team and collaboration skills.

"She has held so many other projects and has successfully taken them to completion. She is not only a leader, but she is a team leader in the sense; she takes, and inputs from everybody. It is not that- you know, it is a one-way traffic that she is telling us. She does tell us, but she does listen to us, and not only me, she would listen to even the student, or the technician, and to kind of, address our concerns, and she has the confidence of the entire team.

New skills, as a result of FAIMER was that I thought that it was the communication that we could have with her. The kind of, openness we developed, and we could kind of, candidly tell her that today you know, our sample was- One sample was clotted so we had to redo it, and things like , and I felt that it was- She became more closer to us." (*Peer/Colleague of Dr. Sahai*)

Dr. Conradie's stakeholders shared their observations relative to his development of higher-level leadership and organizational skills because of both the FAIMER experience as well as the implementation of his project.

"I think his confidence grew enormously and also his ability to manage a large project grew as time went on. He was always an excellent clinician and a really good teacher, but I think he became a really good manager and organizer and also his administration skills. All of those grew because he was running this very big project. And I think also his reputation. His national reputation in the field of rural training was something that was showcased as well." (*Dr. Conradie's Project Advisor*)

"Hoffie is very good with interpersonal skills and listening and reflecting. He is someone who is inspired by the bigger picture. So I think that definitely helped him to drive and apply leadership skills in terms of managing this whole change management process of people at various stages of accepting this change and how he engaged with different role players collectively and also individually. I think he was amazing to observe." (*FAIMER Fellow/Colleague of Dr. Conradie*)

"There are so many factors that could have influenced the development of a person, of which the exposure to FAIMER was but one. But in combination, and including his participation in FAIMER, I think all of these factors led to the development of strong leadership and management skills in Hoffie. As well as local and national recognition in the field of rural healthcare training. I think that it also played a major role in him

being appointed as a director the Ukwanda Center for Rural Health, which is the overarching body, can I say, for rural health at our university, of which the rural clinical school is a component.

He actually became the director of the larger body, the Center for Rural Health and in the process, he also became the program leader for the Rural Clinical School. I think that attests to his leadership capabilities, management capabilities, and I think certainly his FAIMER exposure played a large part in him developing those qualities.

Furthermore, I think the FAIMER exposure certainly led to him becoming more and more interested in our professions education and also helped to develop an expertise in health profession's education research." (*FAIMER Fellow/Colleague of Dr. Conradie*)

Dr. Freitas' supervisor observed improved leadership abilities after his sojourn at FAIMER, he stated:

"Another thing that I observed as a change in Reginaldo, which is part of his ability: the ability to build relationships, to work together, to work well! I saw his ability and I think that FAIMER training program improved this. A third factor was team motivation. Instead of doing things on his own, do it with other people. I think that his leadership skills were strengthened with the FAIMER training program.

These three aspects of Reginaldo's abilities improved with FAIMER program. Today Reginaldo is a huge leader. He has structure! He is very structured. He combines unique conditions: he is a competent doctor, he is a specialist in his field which is maternal and child health. These conditions would make him only a good doctor, but he also is an exceptional human being! Bring together these two things plus his acquired skills I think Dr. Reginaldo has a brilliant future ahead of him." (*Dr. Freitas' Supervisor*)

Personal growth & professional transformation

Dr. Freitas described his involvement in FAIMER as transformative, and stakeholders became committed to the importance of bringing cultural competence into the curriculum. He acknowledged the impact of his exposure to methodologies that improve medical education curricula, action research, as well as the inclusion of credit for courses that strengthen the cultural competence of medical educators.

"The second challenge was my professional transformation! So, this, I think, is the testimony I can give about this project, through my personal point of view! I am a specialist... I have a private practice, I work in fetal medicine. A very specialized area... I was in this path of being a gynecologist and obstetrician, following cases of high risk

pregnancies or fetal medicine. A professional area driven by technology, focused on expertise and high complexity. And this transformation in my professional vision, as a doctor, from that model to a another one, which is a medicine based on the needs of a community. We used action-research (methodology) to try to identify which were the community needs. This project's phase, from the first to the second year, it **TRANSFORMED ME!** (*Dr. Freitas*)

"Bringing the action-research's theoretical framework for me during the S1 was very powerful! I learned all of that with the adviser's orientation guides. How was I going to deepen my knowledge on action-research, or how was I going to do it? (I learned) that I would be totally involved in this methodology, the results would also bring changes to me and that it would be impossible to exempt myself as a researcher from the whole thing. There was no way to change that. Something else **very important** that I was forgetting: academic merit [credit]. I didn't have that (this idea about incorporating academic merit) before. FAIMER brought to me: academic merit! It was able to submit the project to the OPAS award, to the "Projects That Work" award, to transform this (experience) in something... to take it to meetings... to produce videos, to write articles. We are about to publish one paper at the "Revista Brasileira de Educação Médica" (Rev. bras. educ. med). This was taught to me by FAIMER." (*Dr. Freitas*)

"I think FAIMER is a transforming experience because it works with competences. It works in developing personal and professional attributes. It has a contribution in this sense which is more difficult to evaluate than if it would be working with knowledge only. FAIMER also works with projects, which is very innovative! So, when we see projects like Reginaldo's that are successful we need to look at what made it successful, which context helped, and which is the real FAIMER's participation. Otherwise, we may think that it is all because of the institution, or all because of FAIMER or vice versa: all because of FAIMER and nothing from the institution. So, I think that this initiative (the interviews I am doing) is a very good initiative because we know that there are certain things that just happened because of the experience and the "Hands on" that FAIMER provided! With that specific project FAIMER brought ways to reflect and to make it happen. If Reginaldo's project had not been brought to the FAIMER course and had not experienced the planning, the reflective process, maybe it would not be a successful project. We have to think a lot about it!" (*Project Advisor*)

Role of the Project Advisors and Influence on the Fellows

The role of the Project Advisors, and in turn, their impact, varied with each Fellow. Dr. Sahai's Project Advisor connected her with other Fellows who could share their insights. Dr. Conradie's project advisor likely played the most significant role, helping to advise on the approach to creating and implementing the curriculum in the rural school, and as a result, was an excellent match for him and his project. Dr. Freitas' project advisor served in the role

of coach and advisor, providing listening and reflection and helped to keep him on track as he implemented his project.

Dr. Conradie credits his project advisor, who is a medical education expert, with playing a significant role in helping him adapt the curriculum to the new rural clinical school.

“The project advisor really played an amazing role in facilitating that process and also introducing to us new ways of assessing the students. And during the two years, roughly, that I was involved as a FAIMER Fellow, I think that the community of educationalists, of health sciences educationalists, was really extremely supportive, and their whole process of writing up the process of developing the curriculum. So, as my project, I presented a poster at our South African Health Educationalists Conference on the whole process of developing the curriculum. And then the ongoing support of this SAFRI community of educationalists was invaluable.” (*Hoffie Conradie*)

“One of the reasons why his project was successful was that we already had in the planning stages the necessary steps to incorporate the competences into the curriculum during the educational process. I think this was the great innovation: not keeping his project as an extension project parallel to the curriculum. We understood that (extension course) as a phase but it should not be the experience of some (people) only! It needed to be an experience involving the whole community – people from the community- but also the course, the students. So, I think this is the biggest question: you need to be conscious that you cannot stop an experience without expanding it to all the students. It can not be just for a few (students) You need to have an experience for all students from that major and not for some from PET, an extension project just for few (students).” (*Dr. Freitas’ Project Advisor*)

Ripple effect of FAIMER’s faculty development program on key stakeholders, the healthcare delivery system & sustainable changes in the community

Each of the Fellows and projects highlighted in this case study accomplished significant and positive impacts on a variety of stakeholders as well as health education and delivery systems. While each of the Fellows was well-recognized by peers and colleagues for their clinical acumen and innate leadership characteristics, the wide gamut of stakeholders also credited the role the FAIMER Fellowship program played in further developing and strengthening a range of skills and competencies that expanded the impact of their influence and the success of their projects. Moreover, the impact on the students was significant.

Key stakeholders: Students

Dr. Sahai's students experienced increased confidence in their clinical abilities and believe this resulted in a more seamless transition to becoming a healthcare provider as they moved beyond the educational setting. Peers and colleagues of Dr. Conradie believed the students trained in the rural setting become better doctors than they might have been if trained in the academic hospital because they have greater clinical engagement with the patients on a longer-term basis like that of a primary care provider. One colleague who trained in the traditional setting at Tygerberg felt as though he was more of a "cheaply acquired clerk more than a doctor working with other people."

The leadership and medical education skills Dr. Sahai developed enabled her to design a project that addressed the dual need of healthcare delivery and public health problem, i.e., shortage of healthcare providers coupled with the high prevalence of anemia in impoverished communities. Her approach to the project also provided students with an important service learning opportunity that resulted in their ability to better understand, communicate with and provide education to a patient population. For the students, it represented their first hands-on clinical experience and increase heightened their understanding of the contextual issues that impact patient care and compliance with treatment. Through her training and the project's design, they were able to communicate with patients in ways that increased their awareness and knowledge of the causes and impact of anemia, the importance of adherence to medication, and changes they could make in diet and hygiene to anemia in their families.

"You're knocking on an unknown person's door in the capacity of your being a doctor is itself a big confidence boosting measure and being able to answer their questions regarding the subject – the way we were received was a great thing.

The initial satisfaction that you feel, you can never forget that. And that is what you crave again and again even later on in clinical practice because you have tasted it so early that you know what it feels like to be an agent of change. When a community receives you the way this small population did, you automatically feel that you've done something to earn the kind of respect you will in society." (*Learner/Student of Dr. Sahai*)

Key stakeholders: Colleagues, institutional leaders & other stakeholders

Beyond the students, other stakeholders (peers, colleagues, institutional leaders and other FAIMER Fellows) reported the positive impact from their work with Drs. Conradie, Sahai and Freitas. They describe these Fellows as role models who introduced them to new ways of teaching and assessing students. Those who observed the process and approach Dr. Conradie took to implement the rural school curriculum learned how he chose to involve stakeholders.

“The curriculum that was implemented in the rural school and that was developed as part of Hoffie’s project differs from the final year curriculum at the main campus in that it is presentation based on the symptoms that a patient presents with rather than being based on the diseases that a patient presents with. That was quite revolutionary in our setting, the fact that this curriculum was based on the way that patients present.” (*Peer/Colleague*).

Colleagues also benefitted from observing Dr. Conradie’s approach with the final year students in the rural school who were challenged by the setting, distance from and familiarity of the main campus. Several noted his strong coaching and mentoring skills.

“That’s probably the thing that I think Hoffie learned the most in the last five years or so that I worked with him. He was an incredible life coach. That’s what he gave to all his students but also to the doctors running the sites like myself.” (*Peer/colleague*)

For Dr. Freitas, the Fellowship introduced him to new approaches to medical education, which he was, in turn, able to bring to the UFRN Faculty.

“I think FAIMER’s program opens faculty minds! It amplifies their vision about teaching and education: new methodologies, management skills – which is very strong in the program... and Reginaldo has this (management skills) gift and he was able to seize the opportunity... FAIMER brought together everything related to these two issues: educational methodologies and management. Obviously, there was also the possibility to improve his project to include the UFRN students broadening their education! They are broadening the students’ visions by offering a practical opportunity to provide health services for a minority population, which is the case of the *quilombola* population at Reginaldo’s project. I think it is already a lot of things to be said about his project! He brought to it everything he learned at FAIMER!” (*FAIMER Fellow who worked with Dr. Freitas*)

“I think that Reginaldo’s project was very daring and important to bring us awareness to social accountability, to awake our school for the theme, you know? The medical school here at UFRN is a very traditional one and its curriculum is being adjusted in the past 18 years according to changes in the public policies, but social accountability had always been seen through the assistance lenses. Since we provide free clinical services at the University hospital, social accountability was around medical assistance. The university itself had a vision and a mission with a group of social propositions but the medical school has more or less its mindset only in this notion of medical assistance. I think that Reginaldo’s project provoke us to think about social accountability beyond medical assistance!” (*Institutional Leader*)

The FAIMER Fellowship Program enabled both Drs. Conradie and Freitas to incorporate and customize medical education techniques and strategies to meet the needs of their particulate institutions. In Dr. Conradie's case, FAIMER was instrumental in helping him to facilitate the development of the curriculum in the rural school, including the utilization of the portfolio assessment process. Significant to the adaptation of an effective and appropriate curriculum for the rural school (as opposed to simply implementing the same curriculum from the main campus) was an understanding of the context of healthcare delivery in the rural setting as primary versus tertiary care focused. The FAIMER Faculty Development Program facilitated an understanding of how to design such a curriculum and provided the leadership and collaborative skills which enabled Dr. Conradie to engage a broad stakeholder population to adopt the approach. The success of the approach was borne out by the final exam scores of participating students that were comparable to the students who completed their final year in the traditional program at the Tygerberg campus of FHS.

"I have no doubt that they [the final year students] are better doctors that get trained for the South African setting, especially because by the time they hit their internship, they are already very comfortable doing procedures and working in the clinical setting, way more so than if you come straight from the academic hospital." (*Dr Conradie's Peer/Colleague*)

Effects of medical education strategies & techniques on healthcare delivery system

Each Fellow's project had a positive impact on health professions education, and in turn on healthcare delivery system. The positive impact participation in the project had on the students represents a further benefit, albeit indirectly, to the healthcare delivery system. Students who helped with the project all believed they were better prepared to enter the practice of medicine because they acquired better communication skills to work with patients and translate medical terminology for the lay population. Students truly felt they were making a difference and having an impact which was compelling for them. They also developed a much greater understanding of the impact of the community setting on the management of disease and compliance with treatment, realizing that it is important to go beyond simple diagnosis and treatment to provide education and understanding of the benefits of medication compliance (i.e. the impact of anemia on academic outcomes as in the case of Dr. Sahai and the case of Dr. Freitas, the greater awareness among students of the cultural context of pre-peri- and post-natal care among vulnerable and marginalized communities.) and the impact of diet and hygiene on the disease and its management.

Dr. Sahai's project utilized final year students to intervene in an impoverished community to diagnose and treat anemia and educate the patient population about the dangerous effects of the disease as well as preventative practices related to diet and hygiene. Working in collaboration with her colleague who was the head of community medicine to implement the

project, created greater sustainability for this approach to addressing the public health issues related to the disease of anemia as well as the shortage of healthcare providers.

“Interview techniques, communication skills, teaching that to students has become a regular part in our department, in our college of medical sciences. Even the feedback which I get from students tells us that those communication skills and interview techniques which you taught us and which we further practice in the community have really enabled us to become better doctors.” (Peer/Colleague of Dr. Sahai)

Some of Dr. Sahai’s students were motivated to pursue careers in pediatrics because they saw how importance of diagnosing and treating anemia in children. In other cases, they developed a heightened appreciation for exploring and understanding the contextual, community-influenced aspects of diagnosing and treating diseases, and have carried this approach with them into their current clinical practices.

“The students felt that for the first time they were making a difference. That was a big thing that really boosted their confidence because they were allowed to speak to the mothers on their own, and they designed the lectures on their own. They made charts which had depictions of good food practices and bad food practices and what not to give the children.” (Dr. Sahai)

“Everyone was very motivated. That goes a great deal, to speak about her quality because, to not get any money for this- they don’t get any extra incentive, but to do this work so delicately, and so sincerely, speaks a lot about her motivation, and her leadership skills. Her work, I would say, made a lot of impact for us indirectly in the sense that this project not only was- project which was show cased in the college, in the base hospital, and the army. It really- It brought about, I would say it facilitated the students in becoming better doctors; in bringing about a change. Because, these students are the ones who are going to be going to different parts of the country. They are not going to be staying in a hospital in our city like Delhi, which is the capital city.

Our students are going to be going all across the country, and every student carried with him, and, or her; the potential to bring about a huge change. That is what has been inculcated and that is what I feel is going to be that major impact of this project. That too it was carried out in the capital city of New Delhi, it will have a Pan-India reach. This single project done in a capital city, in a medical college, in the Armed Forces hospital; will bring about a ripple effect all across, and these students will be the harbingers of the change.” (Peer/Colleague of Dr. Sahai)

Dr. Conradie’s project has had tremendous success in addressing healthcare delivery to rural populations as evidenced by several longitudinal studies that in turn has led to a greater acknowledgement of the need for exposing medical students to rural training.

More than half of South Africa's population live in rural areas where there has often been a scarcity of health professionals. As indicated by Dr. Conradie and the stakeholders of his project, evidence from Australia indicating that recruiting students and training them in rural settings increased the likelihood that they would eventually practice in a rural context influenced the concept of starting the rural clinical school in Worcester. The research project followed up students enrolled in the Rural Clinical School, Worcester post-graduation and career trajectory. Quite a substantial number of graduates ended up practicing in rural areas.

Sustainable changes in the community.

Dr. Sahai's project set a precedent that has led to some sustainability in the use of a service-learning approach in India. Faculty in other departments are approaching the head of community medicine expressing an interest in doing other projects or activities within the community. Another positive development that occurred was to address issues related to the water storage systems and to educate around water storage systems to ensure communities have access to safe potable water. In addition, Dr. Sahai and other stakeholders interviewed reported that community practice is now mandatory for medical graduates following completion of their studies prior to entering clinical practice.

“Because we are communicating with the patients, individuals in the department have gained the acceptance of the community because of these kinds of activities. It's become easier for us to have a foothold in the community which is more receptive to our ideas, our interventions and our interactions with them. That's the kind of thing which is an improvement for the department, and also for all the students who are undergraduates in the college.

And more, the other department faculty members also started approaching us. ‘We want to do something in the community, and we want to some project or we want to do some activity if not a project. So that's become a regular thing.’ (Peer/ Colleague of Dr. Sahai)

Both Drs. Freitas and Conradie's projects have also created sustainable changes in their institutions and the improved delivery of healthcare to rural populations. In the case of Dr. Freitas, changes that impact entrenched healthcare disparities based on race and ethnicity are also being addressed by equipping healthcare providers with greater cultural sensitivity and improving the way the government supports healthcare delivery in remote rural areas.

Dr. Conradie's project has had tremendous success in addressing healthcare delivery to rural populations as evidenced by several longitudinal studies that in turn has led to a greater acknowledgement of the need for exposing medical students to rural training. Another benefit derived from the project is that some of the most successful approaches to medical

education that were incorporated into the curriculum in the rural school were transferred back to the traditional program. Integration into the traditional curriculum with sustain the innovative changes. Currently, the entire curriculum is being revised based on the learnings from some of the longitudinal research on the Rural Clinical School. Furthermore, other universities are now creating rural clinical schools though not necessarily as aggressively as Stellenbosch. Peers, colleagues and other fellows believe strongly that the rural clinical school model is one that most universities can use to train doctors and in doing so, can train more doctors per year than they are able to train just in academic institutions. In addition, there is the potential for developing similar training initiatives in other Sub Saharan African countries.

“You cannot isolate a single event and say that that was the catalyst. But I think within the context of development of the Rural Clinical School, there has certainly been the development of a greater awareness in the country about the necessity for having part of your medical training in a rural setting. And I think most, if not all of the universities training medical students in the country are now having some component of training happening in the rural areas. So that to me is very exciting and I think it's great for the country that that is happening.

We've got the Health Professions Council of South Africa which is the guardian of medical training inter alia in South Africa. And I've been fortunate to be the chair of the undergraduate education and training subcommittee of this body for the past eight years. So, at that level we set standards and one of the standards that has being I'm getting much more attention in recent years, has being the need for training our students in a rural context.

I think what happened at our institution in terms of the Rural Clinical School, I was able to influence that because of my own exposure to do this type of training. And there's certainly a greater awareness amongst the universities in the country that this is becoming a sort of a prerequisite for accreditation purposes for example.”
(Peer/Colleague of Dr. Conradie)

Challenges/facilitators Fellows Experienced

In general, all three projects were positioned for success as a result of institutional commitment and the broad-based stakeholder relationships that each Fellow brought to the projects.

However, each Fellow had to negotiate and navigate differing levels of support. Dr. Conradie had to develop a process and approach for collaborating with clinicians to serve as supervisors and mentors to the students and educate his colleagues on the efficacy of different methods of student assessment. Dr. Freitas had to obtain support and resources to

bring the students and other healthcare providers to the *quilombola* community. He also faced a trust deficit among community members which he had to overcome. Dr. Sahai's greatest challenge in completing her project involved her being transferred to another facility within the Army system. As a result, she had to scale back the research component of her project and was not able to determine some of the longer-term impacts of the intervention. However, students and colleagues saw benefits to their own skills and competencies. Dr. Sahai's colleagues and students believe that due to their participation in the project, they have made a significant impact on the patient population, both in terms of diagnosis and treatment as well as education to help patients make diet and hygiene changes to prevention of the disease.

Conclusions

The success of the three projects highlighted in this case study went beyond the core aspects of the projects' design and implementation to the impact they had on the individual Fellows, stakeholders, the healthcare delivery, and ultimately on the communities they served. This ripple effect is significant and leads to sustainability in addressing the healthcare issues around which the projects were focused. All three projects set a precedent for differing reasons. Dr. Conradie, for his innovative approach to the curriculum of a rural school; Dr. Freitas for community setting for his elective course to address entrenched health disparities based on race and ethnicity in the Quilambola community; and Dr. Sahai for the focus on student-lead patient interview, communication skills as well as designing messages for mothers on nutrition and anemia. This positive effect will likely flourish as FAIMER continues to expand its educational outreach, taking into consideration feedback from relevant stakeholders, in order to evolve, grow and strengthen.

Dr. Conradie's project was the largest in scope, the most ambitious and provided the greatest opportunity to effect significant change in the delivery of healthcare in rural settings as well as upon the training of future doctors. The impact, as a result by implication and evidence was far-reaching. It is important to understand that by their scope, all projects may not be able to achieve such a significant impact.

The unique design of the FAIMER Faculty Program, which combines both leadership development with training in best practices in medical education, provides the foundation that potentially may enable Fellows to execute projects that foster positive changes in local healthcare delivery systems. Fellows serve as change agents in varying degrees, and they are, in turn, able to help their students, peers, colleagues and community members become change agents as well. Because the program strengthens all aspects of their leadership capabilities, Fellows are equipped with the skills and leadership competencies to negotiate the processes to effect changes to improve medical education, including enhance collaboration skills to bring along those who may be skeptical of changes in the approach to education or healthcare delivery. Fellows are equipped with a robust set of leadership tools, an extensive network of FAIMER faculty, other Fellows and Project Advisors which they can leverage to design, implement and execute their projects.

Finally, methodologically, using the case study design also allowed the investigators to shift from solely depending on self-reports of Fellows to triangulation and validation of information about the project from multiple key informants and stakeholders, who spoke to the success of the Fellow and the project. Qualitative methods such as personal interviews and key informant interviews were used to gather information. Rich data were collected and analyzed.

Lessons Learned and Recommendations

1. Managing unanticipated transitions in Fellow lives. Fellows in the program who face a job change or move to a different medical school during the tenure of their Fellowship may experience greater challenges in completing their projects. Finding ways to anticipate these challenges and manage for them could be useful. This could mean adjusting the project, as Dr. Sahai did, or simply engaging a peer or colleague who might be willing to shepherd the project after the move.

Recommendation. When a Fellow changes jobs or geographic locations during the Fellowship, it can have a negative impact on their ability to continue and complete their projects. Connecting them with previous Fellows who have experienced this might help to mitigate any challenges this presents. Also, if the Fellow suspects this could happen, building contingency plans into the project plan would also be advised.

2. Rethinking the role and responsibilities of Project Advisors. Interviews with the project advisors indicated that they play different roles depending upon their own background and experience as well as that of the Fellow. Clearly, the match between Dr. Conradie and his Project Advisor was ideal in that she brought just the type of expertise needed for the core component of his project, creating the curriculum for the Rural Clinical School at Worcester. She also indicated that she believed part of her role was to encourage and assist in helping the Fellows publish their research. She shared that increasingly it has become, and certainly in SAFRI, it is the norm that all the project advisors help with getting the work to conferences, as conference presentations or posters and/or publish the work as appropriate.

All the project advisors interviewed believe that a key component of their role is to help guide and support the Fellow in designing and executing their projects. However, it's clear that there are some inconsistencies in the way Project Advisors work with their individual Fellows. Some project advisors work in a structured manner with the Fellow and have regularly scheduled assignments and meetings. Others structure the relationship more informally. In some cases, the Project Advisor may be unfamiliar with the Fellow's specific project or medical specialty and simply helps the Fellow stay on track and serves as a coach or mentor.

Recommendation. Developing mechanisms to ensure some consistency in the way project advisors work with Fellows. This could include some video overviews of the role; peer networks to share best practices and developing standardized mechanisms for how advisors and Fellows are matched.

3. FAIMER convening to foster collaborations. All three case studies indicate that collaborations are effective. The strength of the program implementation, sustainability and impact rested on collaborations. Much of the collaborations were with local actors and stakeholders such interdepartmental as in the case of Dr. Sahai, a nexus of collaboration between the Quilombola community leaders, the municipality, University and local institution for Dr. Freitas and for Dr. Conradie, it was interdisciplinary stakeholders, the University and the rural hospital in Worcester. It may be helpful for FAIMER to deliberately build collaborations, programmatically.

Recommendation. FAIMER may consider fostering more connections among the regional institutes and the Philadelphia FAIMER Institute to highlight best practices for project design and implementation and share that broadly among Fellows and project advisors. Further, gaining a greater understanding of local contextual factors and needs that occur across the various countries where Fellows reside and what works in different demographic and political environments could provide useful insights for the Philadelphia FAIMER Institute in keeping the faculty program relevant.

4. Rigor in program evaluation. Strengthening the way project evaluation is built into the design and delivery of the Fellows' projects could increase opportunities to publish and assess the ongoing impacts of the FAIMER Faculty Development Program and its global footprint.

Recommendation. Dissemination of successful projects such as these can serve to inform approaches to medical education beyond the local and country arena. Helping Fellows to think about how to publish their results at the outset of project creation could result not only in expanded scholarship for the Fellow but serve to enlighten a wider circle of colleagues about the benefits of such initiatives.

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Appendix

Appendix A

CASE STUDIES OF SUCCESSFUL FAIMER PROJECTS FAIMER PROJECT CASE INTERVIEW PROTOCOL

FAIMER Fellow

Hello. My name is _____ from _____. I am an independent consultant hired by FAIMER and am not part of the FAIMER staff. Even though FAIMER has organized this study and made the arrangements to conduct this interview, no representative of FAIMER will be present during the interview and will not influence any part of the data collection or analysis process.

First, I want to thank you very much for taking time out of your busy schedule to talk with me. I would like to take a few minutes to review the purpose of this interview. As you may be aware, a goal of the FAIMER faculty development program is to contribute to institutional, national, and regional change that supports health professions education and, ultimately, improve the health of individuals and communities with its fellowship program. As part of the goal to assess FAIMER faculty development program's impact and for continuous quality improvement we conduct evaluation projects. The purpose of this evaluation study is to explore a Fellow's successful project in leveraging personal development, professional status, institutional change, and community health or national health policy effect.

As you may be aware, I am conducting interviews with FAIMER Fellows from Africa, Brazil and India, who have successfully executed their FAIMER projects that has made a major difference to their personal, professional status as well as had a positive impact on their institution, community, region and even their nation. In order to understand the Fellow's personal, professional and system's impact, I will also be interviewing your direct supervisor, institutional leader/s, peer, other stakeholders (such as partners, beneficiaries or funders) as well as your project advisor all of whom may be aware of and involved in refining the project and are particularly cognizant of the project impact.

The information that I will gather from this study will help FAIMER to better understand the extent and nature of FAIMER's impact. The information will also inform strategic decision-making about FAIMER's future.

These interviews are one part of a larger study of FAIMER's impact and future direction. Analysis of this data will be integrated with the findings from all interviews to create a comprehensive report to inform FAIMER's future work.

It is important to re-emphasize that FAIMER is serious about obtaining your unbiased input. Even though FAIMER has organized all the arrangements to have this interview take place, no representative of FAIMER will be present during the interview.

To ensure that we obtain accurate data, I will be audio recording the interview as well as taking detailed notes. The audio recording will later be transcribed and integrated with my

written notes. Your name will not appear in the transcript that will be made from this interview. The country location of your institution as well as your general role category (dean/leader of institution with multiple FAIMER fellows; fellowship alumni + institution leader; leader of FAIMER fellowship program; National HPE leader) will be noted on the transcript.

The interview will take between 60-90 minutes. Before we start, please review the **information sheet** that you were provided. Do you have any questions before we start?

Guide

In reviewing your thought process and actions in developing and executing your chosen FAIMER project:

- What factors influenced your decision to select your originally proposed project?
- Please describe any relevant personal history or institutional responsibilities that may have shaped your project focus or design.
- In the end, what major changes, if any, did you have to/decide to make in the original project design/focus/goals? What prompted this change of direction?
- What specific challenges did you encounter in the course of pursuing the project you ultimately chose? Please describe how each challenge was managed/overcome. What do you think is your most effective strategy (negotiation, persuasive skills, project management skills, perseverance, involving your stakeholders in every part of the implementation etc.?)
- Please identify all of the key stakeholders you engaged/encountered in the course of developing and executing your project. How did each of these stakeholders influence the progress of your project? How were they impacted by the outcomes of this project? Are there any key stakeholders with whom you have stopped working? If so, why?
- In what ways has your project has been a success and what key factors were most important in contributing to this success?
- In what ways did your FAIMER experience (e.g. Project management/change management learning/skill building, relationships you developed, enhanced personal self-confidence) contribute toward the successful completion of your project?
- Have you maintained contact with your FAIMER peer Fellows and other FAIMER alumni? How has this professional network been of continuing value for you?
- What outcomes have you measured? Where has this project added value?
- Where do you anticipate the FAIMER experience generally, and your project experience in particular are likely to lead you in the future? Has the project continued – and continued to add value?

- Are you planning to scale up your FAIMER project regionally, nationally, internationally? Are you planning any new/follow-on projects that will build on your FAIMER experience? If so, please describe these plans/or projects that are underway

Please give us suggestions for other potential interviews preferably individuals, groups or institutional representatives who are well knowledgeable your project and can speak to the success of your initiative. Below, are some possible representatives of stakeholders that we can interview:

Institution Focused Projects

- Target population of your project e.g. students, other professionals, patients, community members etc.
- Other Faculty in your institution
- Academic institutions
- Government bodies
- Professional HC Community
- Local/National HC System (Representatives)
- FAIMER Project Adviser

Community Focused Projects

- Community Leaders (Politicians/Advocates)
- Partner NGO Representatives (If any)
- Affected Community Members
- Participating Students
- FAIMER Project Adviser

Appendix B

CASE STUDIES OF SUCCESSFUL FAIMER PROJECTS FAIMER PROJECT CASE INTERVIEW PROTOCOL

Direct Supervisor

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The information that I will gather from this study will help FAIMER to better understand the extent and nature of FAIMER's impact. The information will also inform strategic decision-making about FAIMER's future.

These interviews are one part of a larger study of FAIMER's impact and future direction. Analysis of this data will be integrated with the findings from all interviews to create a comprehensive report to inform FAIMER's future work.

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To ensure that we obtain accurate data, I will be audio recording the interview as well as taking detailed notes. The audio recording will later be transcribed and integrated with my written notes. Your name will not appear in the transcript that will be made from this interview. The country location of your institution as well as your general role category (dean/leader of institution with multiple FAIMER fellows; fellowship alumni + institution

leader; leader of FAIMER fellowship program; National HPE leader) will be noted on the transcript.

The interview will take between 45-60 minutes. Before we start, please review the **information sheet** that you were provided. Do you have any questions before we start?

Guide

As the Fellow's direct superior:

- What original goals did you have for your junior colleague's participation in the FAIMER Fellows program? To what extent were these objectives met (Examples)?
- What changes/development have you observed in the Fellow's skill set/performance/institutional contributions that you attribute to the FAIMER experience?
- In what ways, if any, has your Fellow's participation/learning in the FAIMER program changed your expectations/goals for him/her in the future?
- What role, if any, did you have in your Fellow's choice of project for the FAIMER program?
- Was the aim of the project aligned with their current job responsibilities, or did this project take them in a new direction? If a new direction, what value do you see this project having for your area of responsibility?
- What was the extent/nature of your involvement in designing/executing that project?
- In your opinion, in what ways do you think his/her project has been a success, what key factors were most important in contributing to this success?
- What impact, if any, do you see the Fellow's FAIMER project having beyond the Institution?
- Can you provide concrete examples of such impacts in any of the areas such as the local community, the health care system, at the national level in your country and at the international level?
- Are there any other FAIMER Fellowship experiences that have contributed to the success of your institution?

CASE STUDIES OF SUCCESSFUL FAIMER PROJECTS FAIMER PROJECT CASE INTERVIEW PROTOCOL

Fellow's Institutional Leader/Representative

Hello. My name is _____ from _____. I am an independent consultant hired by FAIMER and am not part of the FAIMER staff. Even though FAIMER has organized this study and made the arrangements to conduct this interview, no representative of FAIMER will be present during the interview and will not influence any part of the data collection or analysis process.

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leader; leader of FAIMER fellowship program; National HPE leader) will be noted on the transcript.

The interview will take between 45-60 minutes. Before we start, please review the **information sheet** that you were provided. Do you have any questions before we start?

Guide

- What role did your institution play in the Fellow's application to participate in the FAIMER Fellows program/In the choice of project?
- What support/resources did your institution provide the Fellow in attending the program? In carrying out the proposed project?
- In what ways, if any, did the Fellow's project align with/contribute to the institution's mission/vision?
- What applicable knowledge/experience/expertise has the Fellow brought back to your institution as a result of their participation in the FAIMER Fellows program?
- In what ways has the Fellow's participation in the program impacted the Fellow.
- In what ways has the Fellows' participation in the program impacted your institution?
- What, if any, follow-on activities/projects/payoffs do you anticipate from the Fellow's participation in the FAIMER Fellows program? From the project the Fellow developed as part of the program?
- Overall (even beyond the specific Fellowship experience) in what other ways, if any, has the association with FAIMER added value for your institution?
- Are there any suggestions you may have as to ways FAIMER could further enhance institutional value, building on the FAIMER Fellows Program?
- In what ways, if any, has your Fellow's project impacted (direct and indirect) your community/nation?
- Do you have any other pertinent observations that you would like to share concerning your Fellow or the fellowship program that you feel would be relevant to our understanding/interpretation of this case?

CASE STUDIES OF SUCCESSFUL FAIMER PROJECTS FAIMER PROJECT CASE INTERVIEW PROTOCOL

PROJECT ADVISOR

Hello. My name is _____ from _____. I am an independent consultant hired by FAIMER and am not part of the FAIMER staff. Even though FAIMER has organized this study and made the arrangements to conduct this interview, no representative of FAIMER will be present during the interview and will not influence any part of the data collection or analysis process.

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The interview will take between 45-60 minutes. Before we start, please review the **information sheet** that you were provided. Do you have any questions before we start?

Guide

1. From your perspective, please explain what you see as the role of the Project Advisor.

Probe/s:

- a. What is the purpose of the project?
- b. What is your responsibility as PA?
- c. Is there a clearly articulated process in the development of the project?

2. What factors were involved in the decision-making about ____ final project?

Probe/s:

- a. How did the factors you identified affect the project development process?

3. Please describe your understanding of any challenges or barriers you experienced during the development of ____ project.

Probe/s:

- a. What was the effect of the challenges on the project?

4. Looking back to your role as Project Advisor (PA) how would you describe your role?

- a. **Highly structured, short term** – regular meetings, project-focused, emphasis on updates, reviewing multiple versions of the written drafts of project reports, abstracts, posters.
- b. **Highly structured, long term** - grooming the fellow holistically beyond the focus on the project, more a mentor, professional growth the focus, co-authorship on papers.
- c. **Informal relationship, short term** – project focused, emails exchanged, ideas swapped on an as needed basis.
- d. **Informal relationship, long term** – friendly mentoring, beyond the life of the project and fellowship, provide advise on personal and professional growth

5. What was the extent/nature of your involvement in designing/executing that project?

6. How do you think your advising and mentoring helped the fellow?

7. How would you describe the final project and its outcomes?

8. What impressed you the most about this project?

9. How do you think it could have been improved?

10. What changes/development have you observed in the Fellow's skill set/performance/institutional contributions that you attribute to the FAIMER experience?

11. Where do you think the Fellow showed the most growth?

12. What was your favorite part about being his/her Project Advisor?

13. Based on the FAIMER program, discuss the Fellow's professional growth.
14. What is the one thing that you would like changed in the role and responsibility of the PA?

CASE STUDIES OF SUCCESSFUL FAIMER PROJECTS

FAIMER PROJECT CASE INTERVIEW PROTOCOL

Other FAIMER Fellow

Hello. My name is _____ from _____. I am an independent consultant hired by FAIMER and I am not part of the FAIMER staff. Even though FAIMER has organized this study and made the arrangements to conduct this interview, no representative of FAIMER will be present during the interview and will not influence any part of the data collection or analysis process.

First, I want to thank you very much for taking time out of your busy schedule to talk with me. I would like to take a few minutes to review the purpose of this interview. As you may be aware, a goal of the FAIMER faculty development program is to contribute to institutional, national, and regional change that supports health professions education and, ultimately, improve the health of individuals and communities with its fellowship program. As part of the goal to assess FAIMER faculty development program's impact and for continuous quality improvement we conduct evaluation projects. The purpose of this evaluation study is to explore a Fellow's successful project in leveraging personal development, professional status, institutional change, and community health or national health policy effect. I am conducting interviews with FAIMER Fellows from Africa, Brazil and India, who have successfully executed their FAIMER projects that has made a major difference to their personal, professional status as well as had a positive impact on their institution, community, region and even their nation.

To understand the _____ project's personal, professional and system's impact, I am interviewing direct supervisor, institutional leader/s, other stakeholders in the institution and community. You have been identified as another FAIMER Fellow who was selected for the program after _____ completed his Fellowship. I would like to speak with you about what impact _____ project success has on your motivation to apply for the FAIMER Fellowship, it's effect on institutional education policy changes etc.

The information that I will gather from this study will help FAIMER to better understand the extent and nature of FAIMER's impact. The information will also inform strategic decision-making about FAIMER's future.

These interviews are one part of a larger study of FAIMER's impact and future direction. Analysis of this data will be integrated with the findings from all interviews to create a comprehensive report to inform FAIMER's future work.

It is important to re-emphasize that FAIMER is serious about obtaining your unbiased input. Even though FAIMER has organized all the arrangements to have this interview take place, no representative of FAIMER will be present during the interview.

To ensure that we obtain accurate data, I will be audio recording the interview as well as taking detailed notes. The audio recording will later be transcribed and integrated with my written notes. Your name will not appear in the transcript that will be made from this interview. The country location of your institution as well as your general role category will be noted on the transcript.

The interview will take between 60-90 minutes. Before we start, please review the **information sheet** that you were provided. Do you have any questions before we start?

Guide

Segue. Let's begin with talking about _____ project.

- In your opinion, in what ways do you think his/her project has been a success, what key factors were most important in contributing to this success?
- What changes/development have you observed in the Fellow's skill set/performance/institutional contributions that you attribute to the FAIMER experience?

Transition. Speaking about your FAIMER Fellowship

- What were the influences that motivated you to apply for a FAIMER Fellowship?
 - *Probe.* Effect of Fellow's skills, self-confidence, ability to negotiate, etc.
- In what ways, if any, has Fellow's participation/learning in the FAIMER program changed your own career expectations/goals?
- Tell me a little about your project. Describe any relevant personal history, institutional guidelines or _____ project success that may have shaped your project focus or design.
- What specific challenges did you encounter in the course of pursuing the project you ultimately chose? Please describe how each challenge was managed/overcome. What do you think is your most effective strategy (negotiation, persuasive skills, project management skills, perseverance, involving your stakeholders in every part of the implementation etc.?)
- Please identify all of the key stakeholders you engaged/encountered in the course of developing and executing your project. How did each of these stakeholders influence the progress of your project? How were they impacted by the outcomes of this project? Are there any key stakeholders with whom you have stopped working? If so, why?
- In what ways did your FAIMER experience (e.g. Project management/change management learning/skill building, relationships you developed, enhanced personal self-confidence) contribute toward the successful completion of your project?

- Have you maintained contact with your FAIMER peer Fellows and other FAIMER alumni? How has this professional network been of continuing value for you?
- What outcomes have you measured? Where has this project added value?
- Where do you anticipate the FAIMER experience generally, and your project experience in particular are likely to lead you in the future? Has the project continued – and continued to add value?
- Are you planning to scale up your FAIMER project regionally, nationally, internationally? Are you planning any new/follow-on projects that will build on your FAIMER experience? If so, please describe these plans/or projects that are underway

Appendix 3

CASE STUDIES OF SUCCESSFUL FAIMER PROJECTS FOCUS GROUP MODERATOR'S GUIDE – Peer/Colleagues

Introduction- 5 minutes

I want to thank you for agreeing to participate in this study and for coming today. My name is _____ and I am a consultant with Rosewood Consulting Group, Medias, Pennsylvania. As I mentioned in my email invitation, I have been a consultant with FAIMER since 2008 and as part of their annual evaluation, I conduct focus group discussions with Fellows in the Philadelphia Institute. Today, we are going to spend our time together talking about _____ project and any impact that it may have had in the division/department/institute and on your career.

Before we get started, let me go over what you can expect.

- This session is strictly **confidential**. What that means is that I will write a report but I will not include any names or anything else that will match you with your specific comments.
- This session is being **recorded**. That's just for my use in writing the report if I need to go back and make sure I remember exactly what was said. So that means you'll have to **speak one at a time**.
- The session will last **about 1 hour**.
- I would like it to be a **discussion**.
 - **All need to talk**, but each person does not have to answer every question.

- **Exchange** points of view with each other – you don't need to address all answers to me as long as your comments are within the scope of the discussion guide.
- There is no **right or wrong** answer. Try not to let the group sway you one way or another. Just say what you think.
- Please feel free to make any *negative or positive* comments about any of the things that we will be discussing today. I am merely leading this discussion and want to remind you that I work for an independent research firm. Therefore, I want you to feel free to be honest with me.
- During the course of this discussion I may have to **interrupt you** or cut you off. Please understand that I'm not being rude. In order to provide a clear picture of all of the issues, there are a number of areas we need to discuss.
- Turn off cell phones.

Participant - 5 minutes Information

Segue: I want to get started by going around the table with some introductions. This is the only time that we will be this formal. The rest of the time, I want you to speak up anytime you have something to say that is relevant to our topic today.

Please introduce yourself to the group by telling us –

- Your first name
- Your role in the institute
- Work collaboration with FAIMER Fellow _____

Fellow's Project

Segue: Now let's talk about _____ FAIMER project _____ and the effect it has had not only on his own personal development, career path but also perhaps on the institution, community, and country. Let's also talk about how it may have affected you and your career due changes in the institution such as some policy changes, new teaching approaches etc.

Note to moderator: write participant responses on a flipchart. Continue to use the flipchart for each question in this section.

1. Speaking about ____ FAIMER project, were any of you involved at any level such as in the conceptualization, design or implementation of _____FAIMER project?
2. In your own words, how would you describe the success of the project?

3. How do you think the FAIMER faculty development program affected _____'s personal and professional development? (e.g. skills, leadership and management abilities, professional reputation among peer and students, promotion, awards, etc.)

4. Has there been an impact in your department/division due to _____ participation in IN FAIMER and the project success? Please describe your perception of any changes in the department/institution as a direct or indirect result of _____ chosen project.

Probe: any curriculum development, teaching method, organizational structure, etc.?

5. Has there been any policy changes in your institution with regarding to health professionals education curriculum, course work? How about health policy changes?

6. From your perspective, has this project or _____ work made an impact on **your** professional development such as, your knowledge, skills, performance and institutional contribution?

6. How about the impact on students and learners? Do you have any observations?

7. Would you like to comment on any other aspect of the project's or _____ work's impact?

Probe: Changes in the healthcare system, community health, greater involvement with community and civic leaders and others in the community.

8. Do you have any final words, conclusions that you would like to share with all of us?

Do you have any questions, queries, concerns?

Conclusion. Thank you and goodbye.

FOCUS GROUP MODERATOR'S GUIDE – Learner/Student

Introduction- 5 minutes

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My name is _____ and I am a consultant with Rosewood Consulting Group, Medias, Pennsylvania. As I mentioned in my email invitation, I have been a consultant with FAIMER since 2008 and as part of their annual evaluation, I conduct focus group discussions with Fellows in the Philadelphia Institute. Today, we are going to spend our time together talking about _____ project and any impact that it may have had in the division/department/institute and on your career.

Before we get started, let me go over what you can expect.

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- The session will last **about 1 hour**.
- I would like it to be a **discussion**.
 - **All need to talk**, but each person does not have to answer every question.
 - **Exchange** points of view with each other – you don't need to address all answers to me as long as your comments are within the scope of the discussion guide.
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- During the course of this discussion I may have to **interrupt you** or cut you off. Please understand that I'm not being rude. In order to provide a clear picture of all of the issues, there are a number of areas we need to discuss.
- Turn off cell phones.

Participant - 5 minutes Information

Segue: I want to get started by going around the table with some introductions. This is the only time that we will be this formal. The rest of the time, I want you to speak up anytime you have something to say that is relevant to our topic today.

Please introduce yourself to the group by telling us –

- Your first name
- Your current role in the institute

Fellow's Project

Segue: Now let's talk about _____ FAIMER project _____ and the effect it has had on you and your career choices as well as any institutional changes that you may have observed such as some policy changes, new teaching approaches, class structure, use of small group discussion format, emphasis on research etc.

1. Let's begin with any comments you have regarding how _____ teaching, classroom, procedures, assignments positively changed your experience of learning.

Probe. teaching techniques, reinforce listening skills, group discussions, peer review, safe classroom environment, applied assignments that reinforced learning.

2. What are some examples in the program/course that you have found useful in understanding what you've learned and need to do next? What has made them useful? (e.g. content, design, assessment, tech support, etc.)
3. To what extent, if any, do you feel that the program/course has improved your confidence as a student?
4. What knowledge or skills have you gained from the program/course that you are mostly confident in applying to practice?
5. How much do you think the program/course will help you after you get a job or internship? That is, do you think the skills learned from the program/course are valuable to a future employer?
6. Is there anything else we haven't discussed yet that you think is important for the program / course? Do you have any suggestions on how to improve the program / course?
7. Is there anything else that you would like to share with everybody?
Probe. Any final words, conclusions, observations?

Do you have any questions for me?

Conclusion. Thank you and goodbye.