

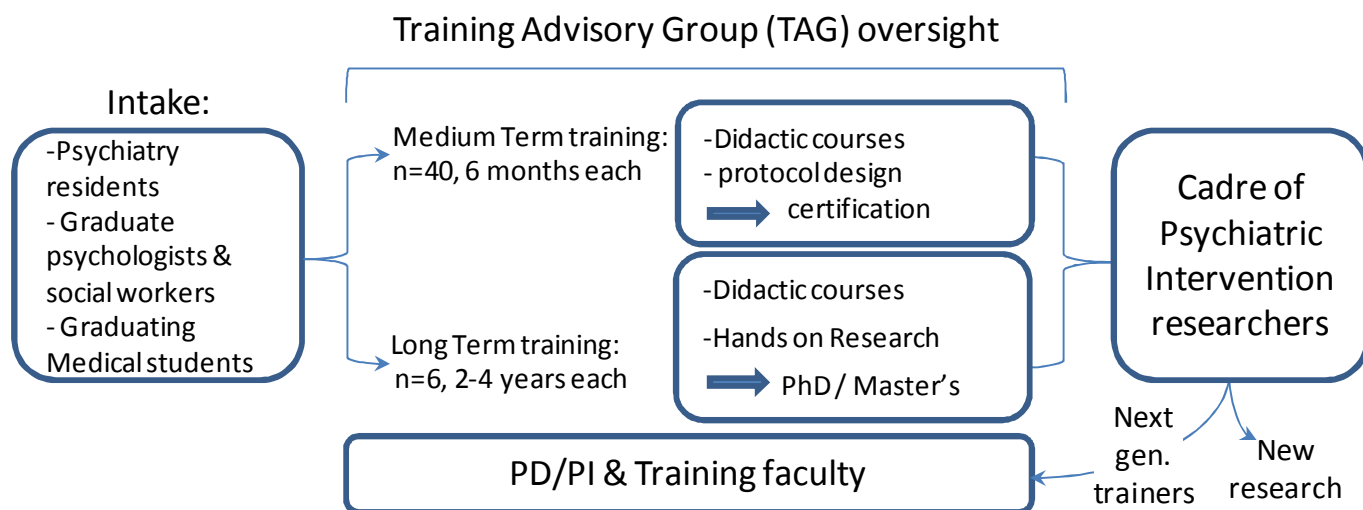
## Cross-fertilized research training for new investigators in Egypt and India

Fogarty International Center, National Institute of Health (NIH)

### PROGRAM PLAN

**Our philosophy for research based training:** We believe that human resource development in low and middle income countries (LMICs) is critical for infrastructure development, so we focus on it in lieu of brick and mortar projects. Our training programs are firmly grounded in empirical research and are complemented by didactic course work. Ethical research is emphasized. We encourage trainees to nurture their research ideas, drawing on resources available through our research. Each trainee's research project is discussed with mentor/s who guides the subsequent design, implementation, analysis and publication. We look for trainees highly motivated for psychiatric research, and nurture them beyond the funding period if necessary to ensure their success as long term, dedicated psychiatric investigators. We will follow these principles.

**Figure. Proposed medium and long term training and anticipated outcomes**



**Summary of the proposed program:** Across India and Egypt, we will train motivated individuals, who will conduct research into novel, effective pharmacological interventions for schizophrenia (SZ). We will seek trainees in psychiatry and allied specialties, while also seeking exceptional medical students. We will focus on universities and particularly medical schools. Inculcating a research ethos in these settings will not only aid individual researchers; it will also have a multiplier effect by exposing students to well-trained and highly motivated faculty. Recognizing the aspirations of new investigators and clinical practitioners in developing countries, we will provide an array of opportunities for potential trainees, including an ethics track and a track for laboratory-based training. The research will build on our ongoing funded programs. We will maximize local resources and practices to ensure sustainability and increase impact.

**Anticipated outcomes of training:** For the medium term trainees, we expect a basic understanding of ethical research applied to psychiatric interventions. For the long term trainees, we aim for productive, independent researchers, with success defined by objective criteria. Our long term goals are: (i) a sustainable cadre of researchers competent to conduct intervention research in psychiatry; (ii) infrastructure for psychiatric intervention research in India and Egypt; (iii) Effective treatment for SZ.

### Type of Training:

#### **A) Medium term training:**

We propose training primarily for eligible individuals for initiation into psychiatric intervention research on a part time basis. Our goal is to provide basic didactic training through evening / weekend courses, complemented by individualized mentoring to enable each trainee to design a research study. Selected trainees will receive additional training through an ethics track or through Advanced In country Research Awards (AIRAs).

Components of training:

(i) Didactic course work: (4 months, mandatory). The goal is basic understanding of research methods and ethics that can be applied to a broad range of psychiatric intervention studies besides SZ. The Training faculty members will provide instruction for core topics including Research Methods, Psychiatric and psychometric assessments, Design of interventional studies, Basic data management, Basic statistical analysis, Interpretation of published clinical trials, Ethics and Responsible conduct of research, Grantsmanship and Manuscript writing. Trainees will be provided additional reading materials as home work that they will be required to summarize in essays.

(ii) Individual Research Protocol: (2 months, individualized mentoring, mandatory). Towards the end of the didactic coursework, each trainee will be required to pose a research question of his/her choice. Through individual and group tutorials and discussions, the question will be honed and a research project designed. With advice from a mentor drawn from the training faculty, the trainee will complete a research proposal in the format of an NIH R21 proposal, along with appropriate informed consent form/s. The trainee will be encouraged to seek approval from his/her Institutional Review Board (ethics committee). If necessary, the mentor will advise the trainee regarding research funding prospects.

(iii) Certification (mandatory): A web based evaluation will be conducted at the end of the six month training period. A satisfactory score on the examination and a completed research protocol will lead to a certificate from the Training Program.

(iii) Advanced training (optional):

Track for ethics training: (estimated N = 5 trainees total). Interested applicants will receive additional training as part of an ethics track. The ethics trainee will also participate in these discussions. As appropriate, the trainee will also travel to PITT for special training and practical opportunities there planned for the long term trainees.

Advanced in-country research awards (AIRA): Six awards will be offered competitively to trainees; two in year 01, three in year 02 and one in year 05. The goal is to evaluate the feasibility of highly innovate protocols through pilot studies and to enable additional training.

**B) Long term training**

The key goal is to nurture future research leaders in India and Egypt. The program will find and train highly motivated and resourceful individuals. Each trainee will work towards a Master's degree or PhD at a training institution of his / her choice, from the list of participating institutions in India or Egypt, listed below. The broad aim of the training is psychiatric intervention research, using research into repurposed drugs for SZ and allied areas. The training will build on, and enhance currently established post-graduate training programs as well as PhD programs at the selected sites in Egypt and India, with complimentary training at Pittsburgh. Each trainee will have a mentor at the LMIC site and a US mentor. Our training faculty members have expertise in intervention research as well as several aspects of SZ research. The training will comprise:

- Didactic training in key courses, as well as research survival skills and ethics (these courses may overlap with the practical courses for the medium term trainees).
- High quality research theses supervised by faculty at overseas sites and US faculty.
- Selected training at Pittsburgh (including didactic coursework and relevant focused training).
- Opportunities for cross-fertilized training in Egypt, India and the USA.
- Regular and rigorous review, including feedback from trainees.
- Expectation that trainee will receive a Master's degree or a PhD from one of the overseas sites.