Enhancing Scientific Careers: Research Mentor Training

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Gustavo Arrizabalaga, PhD

Professor of Pharmacology and Toxicology

Tara Hobson, MA

Director of Graduate Programs & Student Success

IU School of Medicine

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Abstract

IUSM has a large number of junior and mid-career faculty who are responsible for mentoring others (faculty, postdoctoral fellows, and students). Programming efforts focusing solely on the enhancement of foundational skills necessary for one to be a "mentor" the research environment are essential to faculty research success. The overarching purpose of this proposal is to implement a formal mentor training mechanism to enhance the mentoring competency of faculty that manage research groups at all campuses of IUSM with the aim of improving their mentor-mentee relationships. Utilizing established tools from the National Research Mentoring Network (NRMN), we will host a facilitator training to assist senior faculty in becoming NRMN Mentor Training Facilitators, carryout the NRMN Mentor Training Curricula with cohorts of junior and mid-career faculty, and develop *MyNRMN* online learning communities for continued skill development and peer to peer support. While this effort directly targets faculty, its effects will be broad by influencing both the experience of those trained and mentored by the participating faculty and of mentees and the vitality of the IUSM research enterprise.

Introduction

For faculty researchers, effective mentorship of those working in their research groups is essential to their personal and professional development and success. Mentors directly influence the outcomes of their mentees (Pfund & Handelsman, 2014). Strong mentorship is positively associated with mentee productivity, self-efficacy, and professional satisfaction for both mentor and mentee (Pfund, Byars-Winston, Branchaw, Hurtado, & Eagan, 2016). Mentors are considered successful when they facilitate an exchange of knowledge, transferable skills, and scientific competencies with their mentee to foster the ability of the mentee to meet their own goals (Pfund et al., 2016). Consequently, effective mentorship is also an important predictor of the success of researchers who are in training (postdoctoral fellows and students), thus the mentor and mentee relationship is vital to achieving goals and fostering career development (Bland, Taylor, Shollen, Weber-Main, & Mulcahy, 2009). Those engaged in strong mentoring

relationships within research groups are more likely to be retained throughout the professional path whether they be students working towards degrees (Hathaway, Nagda, & Gregerman, 2002) or postdoctoral fellows and junior faculty seeking careers (M, E, & Bd, 2014).

Mentors of scientific trainees within the academic sciences are incredibly dependent on their mentees. Faculty mentors count on their mentees to drive their success in the high-stakes scientific environment where faculty are experiencing a decline in success rates to secure independent funding ("NIH Research Portfolio Online Reporting Tools (RePORT)," n.d.). Universities are reliant on faculty and trainees to oversee a comprehensive research enterprise and to gain national and global recognition for success in science and innovation. Faculty lead independent groups of scientists made up of students and postdoctoral fellows. On average, faculty typically lead groups of anywhere from 1 to 10 young trainees in their labs at any given time. Scientific success in the form of discoveries, publications, and extramural research funds depends on the productivity of those trainees. This creates a unique situation in which faculty must balance a fine line between being a boss, and being a mentor. In leading the training of these individuals, faculty must exercise effective communication, align expectations and face challenges when they arise, regularly assess understanding of scientific and transferable skills, adapt to different learning styles, foster an equitable and inclusive environment where everyone can do their best, define and develop independence in trainees, and recognize and promote professional development opportunities for their mentees, all while creating and encouraging the highest quality of research. Though the aforementioned skills come naturally to some, for the vast majority of faculty, effective mentoring is something that must be learned.

The IU School of Medicine (IUSM) is the largest school within Indiana University, and is the primary research arm of the University. IUSM is a vibrant research environment with over 574 research faculty, 586 graduate and postdoctoral fellow research trainees and garners over 300 million dollars of research funding. A primary strategic goal of the school is to be ranked 25th among accredited schools of medicine for NIH dollars

received. The research program at IU School of Medicine is concentrated on growing research funding through focused investment. Crucial to this goal is the recruitment and retention of research leaders at all levels of training who can enhance Indiana's role in the global research enterprise. With an understanding of the importance of faculty mentoring to this success, the school has established a number of programs aimed at enhancing the professional development of early career professors, with a focus on research development, teaching and funding. Missing from these efforts are programs solely focused on developing the trainee-mentoring skills of both junior and mid-career research focused faculty.

With the goal of accelerating the process of becoming an effective research mentor, the National Research Mentoring Network (NRMN) has established the curriculum for Mentor Training in the Biomedical Sciences. This curriculum provides faculty research mentors with an intellectual and emotional framework, the opportunity to experiment with various mentoring methods, and a forum in which to solve mentoring dilemmas with the help of their peers. Faculty researchers who participate in the mentor training expand their knowledge as they explore the varied experiences of those within their mentoring community. As participants are training with a group of other faculty research mentors, these individuals are exposed to many diverse mentoring experiences. Further, the format builds a cadre of mentors who are working to enhance their readiness to work with diverse mentees and anticipate new situations (Pfund & Handelsman, 2014). Through the Mentor Training, these faculty researchers develop their ability to articulate their own mentoring approach as they create a toolbox of strategies to draw upon when they reach mentoring challenges in their career. The NRMN's evidence based approach has facilitated a number of scholarly works in an effort to expand our understanding of the development, outcomes, and growing needs of biomedical researchers. The PIs, Gustavo Arrizabalaga, PhD and Tara Hobson, MA are trained in this curriculum and have implemented other NRMN curriculum designs targeted at postdoctoral fellows and graduate students.

Purpose and Goals

<u>**Current Status of IU School of Medicine**</u>

Targeted efforts to address elements of mentoring have been in place within the IU School of Medicine since 2009, when the Faculty Vitality Survey conducted by the Office of Faculty Affairs and Professional Development (OFAPD) revealed a high need for faculty mentoring. At that time, while 40% of faculty strongly agreed that mentoring is highly important to their academic vitality, nearly one quarter reported a lack of mentorship ("Office of Faculty Affairs and Professional Development Annual Report," n.d.). Since this time, a mentoring task force was created, an online mentoring portal was developed, and a collaboration with the Clinical Translational Sciences Institute (CTSI) established the Independent Investigator Incubator "I^3" program, which helps to develop successful researchers by providing access one-on-one time and professional coaching from a senior faculty "supermentor". For new faculty and junior faculty, this program provides support services (a professional grant writer, administrative support and a biostatistician) for grant writing, and dedication to research development (during the crucial first three years of their research careers). Nonetheless, programs focused on developing the mentoring and interpersonal communication skills (where they exchange knowledge, transferable skills, and scientific competencies) of junior faculty are still needed. Moreover, there is no organized institutional effort focused on mentoring training and the development of mentoring skills of research faculty once they reach Associate rank and their research efforts are moving to the next critical stage. This is an important gap needing to be addressed, since during this career stage faculty encounter an increase in the number and diversity of the trainees and junior faculty that they directly mentor.

Programming efforts focusing solely on the enhancement of foundational skills necessary for one to be a "mentor" are essential to faculty research success. For many of our research faculty, this arguably is the greatest requirement of their career, in that significant time and effort is spent on the development of others. Moreover, their professional success is connected to that of their mentees, thus the effectiveness of these mentor-mentee relationships is key to the success of the school's research

enterprise. Despite its critical importance, faculty research mentors at IUSM do not receive formal training to become mentors, but spend a lot of time developing skills through trial and error (of their own or of their peers). Through her role as Director of Graduate Programs and Student Success, Tara Hobson, has engaged in numerous focused discussions with IUSM research faculty of all career levels surrounding preparedness for mentoring research trainees. These focused discussions indicate that, outside of the scientific skill training, many faculty feel unprepared or underprepared for many aspects of their involvement with trainees. Thus, at a period when these relationship-based interactions are critical to setting the tone of their career, many faculty are spinning their wheels in unfamiliar territory. Furthermore, surveys conducted of graduate students by the IUSM Graduate Division and the Institutional Research Office indicate mentoring experiences vary greatly and reveal significant problems in mentor-mentee communication and mismatched expectations.

Purpose

The overarching purpose of this proposal is to implement a formal mentor training mechanism to enhance the mentoring skills of faculty that manage research groups at all campuses of IUSM with the aim of improving their mentor-mentee relationships. This effort directly targets junior and mid-career faculty, but, as it focuses on the enhancement of the mentor-mentee relationship, it will indirectly benefit research trainees (graduate students and post-doctoral fellows) and the research enterprise of the school. This will be accomplished through the completion of the following three specific goals:

Goals

Goal 1: Build a team of NRMN certified trained mentoring facilitators at IUSM who will lead the mentor training series. Senior faculty will be recruited to serve as facilitators and trained by NRMN leadership from University of Wisconsin, Madison. Besides preparing them to facilitate training of other faculty, this training will strengthen their own mentoring abilities and provide them with access to a curriculum they can use to enrich areas of their own mentoring abilities and professional development. The expected

outcome of this goal is to have a total of 14 trained and certified facilitators (from all IUSM campuses) by the end of the funding period.

Goal 2: *Implement the mentoring training series curriculum "Enhancing Your Scientific Career: Unlocking Your Inner Mentor Series,".* We will carry out training series with four specific cohorts: two cohorts of junior faculty and two cohorts of mid-career faculty. Each series will consist of four 2-hour sessions lead by the facilitators trained as part of goal 1. We have easily identifiable cohorts of individuals based on faculty rank, the promotion and tenure process, and their inclusion in the list of faculty actively recruiting graduate students and post-doctoral fellows maintained by the Graduate Division. We will have two cohorts of associate (mid-career) level faculty and two of assistant (junior) level faculty. We expect each cohort to include approximately 15 faculty members, for a total of 60 participants. The expectation is that through the completion of this training, junior and mid-career faculty will be better prepared to mentor others, which would enhance their research profile. As to measure the impact of the training on the participants, we will conduct an assessment immediately following the training and 6 months post-training to collect self-reports on skill development, strategy implementation, and engagement with mentees. In addition, data will be collected from mentees as to assess the quality and effectiveness of their mentoring relationships and their training experience.

Goal 3: *Develop MyNRMN online learning communities for facilitators and for the faculty cohorts completing the mentoring training series.* Post training, all facilitators and mentors will be added by the PIs to the [MyNRMN online learning community](#). This component will allow mentors to develop their mentor-mentee relationships further as they share resources, have discussions, and connect with others who have gone through the mentor training or NRMN facilitation training. Participating in mentoring training and the facilitator training as a cohort will provide faculty with collaborative peer relationships to foster continued development of their mentor/mentee relationships. We will assess this goal by monitoring the use in the online community and hosting interviews with participants 6 months post-training.

Populations to benefit

There are four populations that will benefit from the implementation of our plan.

- **Trained facilitators**: These individuals will not only be able to lead trainings but will become more aware mentors naturally as a result of their engagement in this process. Moreover, as we will purposely recruit people in positions of leadership within the institutions they will be able to implement the knowledge acquired not only during the mentoring training, but in other situations as well.

- **Junior faculty:** These individuals will begin to consider the experience of mentorship and professional development by deepening their connection to other faculty colleagues and the greater scientific community as it relates to developing their mentoring relationships in their new role.

- **Mid-career faculty:** These individuals will enhance their intellectual framework of mentoring and will experiment with various proven methods for enhancing their mentoring skills and solving commonly experienced dilemmas in the critical mentor/mentee relationship. Completion of this curriculum should enhance their leadership skills, lab success, and drive their scientific efforts.

- **Mentees:** These individuals include graduate students and post-doctoral fellows who will benefit by getting the most from their mentored research experience. When trained by a strong mentor who has completed the NRMN Mentoring Training, trainees are more likely to development research skills, interpersonal skills, psychosocial skills, professional development skills, and culturally focused skills that will aid then in their independent career path.

Desired End State

Under this proposal, the IU School of Medicine will spend the next year focusing on the mentorship needs of biomedical research faculty. Utilizing the Research Mentor Training from the NIH supported National Research Mentoring Network (NRMN), this project aims to meet the three aforementioned goals to enhance mentor training, faculty development, and the effectiveness of the mentee-mentor relationship (i.e., in terms of research productivity). The specific desired outcomes include: 1) a group of NRMN trained facilitators that can conduct Mentoring Training throughout the IUSM and beyond the timeframe of this proposal, 2) a self-aware and culturally competent faculty body that is proficient and confident in their ability to mentor and train the next generation of scientists, and 3) research trainees that are receiving effective mentoring and training to achieve their own career goals.

Methodology/Intervention

Implementation Plan

TIMELINE:	Activities/Interventions:
Months 1-5:	*-Two current IUSM/NRMN facilitators (Gustavo Arrizabalaga and Tara Hobson) will carry out the Mentor Training curriculum with the first cohort of junior faculty.* *-Pre- and post- training assessment survey will be administered.*
Month 6:	*-Training of additional faculty to become NRMN facilitators from the IUSM.* *-Pre- and post- training assessment survey will be administered.*
Months 7-12:	*-Faculty trained facilitators (month 6, goal 1) will carry out the Mentor Training curriculum with 3 remaining faculty cohorts (one junior cohort and two mid-career cohorts)* *-Pre- and post- training assessment survey will be administered.*
Months 12+:	*-Cohorts are in MyNRMN learning community phase, focused on application of curriculum for professional development and to improve the effectiveness of their mentor-mentee relationships.* *-6 months post training assessment survey will be administered and*

	participant interviews conducted.
	-The mentoring training cycle would continue with each new cohort of junior and mid-career faculty.

Activities/Interventions:

Goal 1 - NRMN Facilitator Training for Mentor Training (2 days)

This train-the-trainer workshop is carried out by NRMN leadership from University of Wisconsin, Madison. It is designed to support our efforts in implementing mentor training at our institution that will strengthen productive research mentoring relationships with diverse mentees. The goal is to have a total of 14 trained and certified facilitators (from all IUSM campuses) during this activity/intervention. Both PIs of this proposal completed this training on April 10 and April 11 of 2017.

For the workshop two NRMN Mentor Training Core Faculty and Master Facilitators, Drs. Christine Pfund and Emily Utzerath will be brought to the IU School of Medicine to conduct the two-day facilitation training. Dr. Pfund has been studying, designing, and implementing mentoring training prior to 2003. She has received significant NIH grants to support this work, and leads the NRMN's Mentor Training Core. Dr. Utzerath is heavily engaged in the certification process for those who go through the facilitation training and maintains opportunities for continued education and support guidance for institutions implementing the curriculum, thus having these two key individuals from the Mentor Training Core supports the success of the IU School of Medicine implementation.

NRMN Participant Qualifications:
- Participants are faculty, instructors, staff, or administrators from academic health centers, colleges, and universities
- Participants are committed to implementing mentor training workshops at their institutions within one year
- Participants will complete a post-workshop evaluation survey

NRMN Workshop Overview:

Participants will learn evidence-based approaches to mentor training and gain the knowledge, confidence, and facilitation skills needed to implement training and customize an implementation plan for their own campus. Participants will have the opportunity to focus on a specific curriculum during breakout sessions, including:

1. Mentor Training for Biomedical Researchers for the mentors of graduate students and postdocs engaged in basic biomedical research in a lab setting
2. Mentor Training for Clinical & Behavioral Researchers for the mentors of graduate students, postdocs, and junior faculty engaged in clinical & behavior research
3. Mentor Training for Clinical & Translational Researchers for the mentors of graduate students, postdocs, and junior faculty across the full spectrum of translational science
4. Mentor Training for Community Engaged Researchers for the mentors of graduate students, postdocs, and junior faculty engaged in community based participatory research
5. Mentor Training for STEMM Researchers for the mentors of undergraduate students

Day 1: Experiencing Research Mentor Training

Participants will:

- Experience the process-based approach to mentor training based on one or more versions of the [mentor training curricula](#) in the *Entering Mentoring* series
- Become familiar with the research mentor training curricula

Day 2: Facilitating Research Mentor Training

Participants will:

- Develop the knowledge and skills to implement mentor training at home institution
- Gain confidence in facilitation skills

- Be able to describe evidence supporting the effectiveness of mentor training
- Be able to articulate practical plans for implementing mentor training at home institution

Goal 2 - Mentor Training: Enhancing Your Scientific Career: Unlocking Your Inner Mentor Series (4 sessions per faculty cohort)

Effective mentoring is a critical component of mentor and trainee development. The goal of this curriculum is to provide mentors with an intellectual framework and the opportunity to experiment with various proven methods for enhancing their mentoring skills and solving commonly experienced dilemmas in the critical mentor/mentee relationship. This four-part series will focus on communication, aligning expectations, equity and inclusion, and promoting professional development. This series is beneficial to early and mid-career faculty. Each series will consist of four 2-hour sessions lead by the facilitators trained as part of goal 1. The curriculum to achieve this goal is already created, piloted, and evaluated by the NMRN. The PIs are familiar with the curriculum.

<u>Recruitment of Participants</u>

Facilitators

The PIs of this proposal, both members of the IU School of Medicine community, have been trained as NRMN facilitators. These individuals in consultation with the OFPD will be responsible for recruiting additional faculty/staff who will also become certified NRMN facilitators to increase the population of those familiar with the curriculum and capable of guiding the development of biomedical research faculty. As of now we have secure commitment from the following faculty members:

- Dr. Matt Allen
- Dr. Julie Welch
- Dr. Tricia Wright
- Dr. Margaret Bauer
- Dr. Chris Robinson
- Dr. Sylk Sotto

Faculty Participants

The PIs (Gustavo Arrizabalaga, PhD and Tara Hobson, MA) of this grant proposal have the support of Matt Allen, in Office of Faculty Affairs and Professional Development; Julie Welch, in Clinical Translational Sciences Institute; and Etta Ward, in Office of the Vice Chancellor of Research who will aid in recruiting faculty to complete the Research Mentor Training curriculum.

Learning Community Leaders:

From each faculty cohort, we will work to develop1-2 individuals who will continue the development of that cohort and develop a community using existing supports in the IU School of Medicine to continue their mentoring development.

Benefits to participants:

One of the key outcomes for those who participate is an increased awareness of their mentoring style and the ability to articulate their mentoring philosophy and plan. This will enhance their ability to attract trainees into their research program, and provide a positive learning experience for their trainees. Strong mentor-mentee interactions avoid miscommunications and misunderstandings that lead to wasted time and resources and ultimately affects productivity and professional satisfaction. Thus, we expect that those who participates will have the tools to effectively mentor their trainees, which will increase productivity and avoid many of the pitfalls common in leading a research program. For faculty, these benefits to their research productivity and scholarly endeavors is critical for future funding and to recruit new trainees into the lab. The learning objectives delineated below are indicative of the specific skills and awareness that the participants will acquire.

Mentoring Training Series Curriculum

Session 1

✓ Introduction to Mentor Training

- Learn about other mentors in the group and begin building a learning community
- Reflect on group dynamics and ways to make the group functional
- Establish ground rules for participation

✓ Maintaining Effective Communication

- Provide constructive feedback
- Communicate effectively across diverse dimensions including carious backgrounds, disciplines, generations, ethnicities, positions of power, etc.
- Identify different communication styles
- Engage in active listening
- Use multiple strategies for improving communication (in person, at a distance, across multiple mentees, and within proper boundaries)

Session 2

✓ Aligning Expectations

- Effectively establish mutual expectations for the mentoring relationship
- Clearly communication expectations for the mentoring relationship
- Align mentor and mentee expectations
- Consider how personal and professional differences may impact expectations, including differences across disciplines when working in multidisciplinary teams

✓ Assessing Understanding

- Assess their mentees' understanding of core concepts and processes
- Identify various reasons for a lack of understanding, including expert-novice differences
- Use multiple strategies to enhance mentee understanding across diverse disciplinary perspectives

Session 3

✓ Addressing Equity and Inclusion

- Improve and expand understanding of equity and inclusion, and how diversity influences mentor-mentee interactions
- Recognize the impact of conscious and unconscious assumptions, preconceptions, biases, and prejudice on the mentor-mentee relationship and reflect on how to manage them
- Identify concrete strategies for learning about, recognizing, and addressing issues of equity and inclusion, in order to engage in conversations about diversity with mentees and foster a sense of belonging.

✓ Fostering Independence
- Define independence, its core elements, and how those elements change over the course of mentoring relationships
- Employ various strategies to build mentee confidence, establish trust, and foster independence
- Identify the benefits and challenges of fostering independence, including the at times, conflicting goals of fostering independence and achieving grant funded research objectives

Session 4
✓ Promoting Professional Development
- Identify the roles mentors play in the overall professional development of their mentees
- Develop a strategy for guiding professional develop using a written document
- Initiate and sustain periodic conversations with mentees on professional goals and career development objectives and strategies
- Engage in open dialogue on balancing the competing demands, needs, and interests of mentors and mentees, e.g., research productivity, grant funding, creativity and independence, career preference decisions, non-research activities, personal development, work-family balance, etc.

✓ Articulating Your Mentoring Philosophy and Plan

- Reflect on the mentor-training experience
- Reflect on any behavioral or philosophical changes they intend to make across the mentoring competencies
- Articulate an approach for working with new mentees in the future

Goal 3 - Develop MyNRMN Online Learning Communities

Post training, all facilitators and mentors will be added by the PIs to the MyNRMN online learning community. This is an online space to connect with other trained facilitators and trained mentors. While our IUSM facilitators and mentors will be in a group with others from IUSM, they will also have the ability to connect with facilitators and mentors from across the county. We will use this space to share resources, seek advice, and share best practices.

Budget

Item	Description	$ Amount
Administrative Oversight	Salary support at 3% for Gustavo Arrizabalaga PhD ($4,157) and 5 % for Tara Hobson, MA ($3,000) and 3% for administrative support from OFAPD ($1,343).	$8,500
Mentoring Workshops	Cost of supplies and materials (printing and binding participant and facilitation guides, markers, flip charts, etc.), room rental, and technology fees.	$1,500
Facilitation Training	$5,000 facilitator fee and $1,000 travel and lodging.	$6,000
Participant Support	Provide $500 for travel support for 8 faculty from other IU School of Medicine Campuses (outside of Indianapolis).	$4,000

Total Budget		$20,000.00

Assessment Plan

Outcomes

Overview of NRMN's Assessment Methods

To oversee and promote evaluation of mentor, mentee, and facilitator training workshops, the NRMN created the Research Evaluation Tracking & Assessment (RETA) team to systematize data collection and evaluation metrics for workshops across the Mentor Training Core of the NRMN and nationwide.

One of the main goals of RETA is to simplify the evaluation process while maintaining data collection that meets the needs of the facilitators and requirements of NRMN. To incentivize use of RETA's assessment tools, they offer customized surveys to evaluate training. While the evaluation surveys include standard questions (so that aggregate data can be reported and compared to better inform future training), new site or training specific questions can be added to the surveys. This process allows both NRMN and facilitators to collect the information they need. Standard evaluation surveys are available for all types of implementations, no matter the length or venue. Institutions, like the IU School of Medicine can work to collaborate with RETA to tag onto the IRB process and utilize their school specific data in addition to other data available from the NRMN.

Overview of Evaluation Process for IUSM Program

Step 1: Contact the RETA evaluation team to let them know we are interested in evaluating your *Entering Mentoring* based training using their assessment tools.

Step 2: Correspond with the evaluation team to obtain information about our implementation including the type of implementation (mentor, mentee, facilitator, other) and other details such as dates, times, length, number of participants, location, and curriculum focus. Based on this information, they will provide the appropriate evaluation tool to assess the implementation.

Step 3: The evaluation team creates a survey based upon information collected in Steps 1 and 2. Below is a sample of the timeline we would follow for this implementation. Sample surveys, which ours would reflect closely.

Timeline of Evaluation Process for IUSM Program

Assessment	Assessment Instrument	When Assessment Given
Goal 1: Post Facilitator Training	**Facilitator Training Workshop Evaluation** Designed to assess a facilitator's skills BEFORE and AFTER training.	**Immediately following Facilitator Training**
Goal 2: Post Mentor Training	**End-of-Training Survey** Designed to capture a mentor's immediate reactions to the Mentor Training and the facilitators.	**Immediately following Mentor Training**
Goal 2: Mentee Survey	**Mentee Pre/post Mentoring Competency Assessment**	**6 months after last training session**

	A survey for mentees to evaluate their mentors who completed the Mentor Training.	
Goal 3: Post Mentor Training and Facilitator Training Surveys	**Post Mentoring Competency Assessment Survey** Designed to gauge whether a mentor perceives changes in their skills or behaviors longer term following training. Designed to determine whether a facilitator perceives changes in their skills following training. We'll also conduct interviews to learn about use of the online community.	**6 months after last training session**

Step 4: Once the survey is finalized, the RETA evaluation team sends a survey link for us to email to the participants. Once the link has been sent to the participants, RETA monitors the survey. About a week after the survey is sent, they will send an update with how many survey responses have been recorded and whether a reminder should be sent to participants. Once a 70% response rate is obtained or after several reminders are sent, the evaluation team will close the survey and begin preparing the report.

Step 5: Once the survey is closed, RETA will create a summary report of the implementation. This report will have descriptive data from the survey (all aggregated), including information from any customized questions or scales that were added. RETA will only send the summary report to the facilitator(s) and any relevant individuals at the site requesting evaluation; however, facilitators may share the report with others. Our IRB in collaboration with the NRMN group will also

provide us with access to data that we can use as we work towards publications and presentations related to our specific Mentor Training implementation, outcomes, etc.

Plan for Sustainability

The programs and goals of this proposal are sustainable in a variety of concrete ways. Foremost, through the completion of goal 1, the IUSM will have a group of NRMN trained facilitators that can not only lead the training sessions proposed here, but also sessions in subsequent years and in other campuses and Schools of Indiana University. This makes the impact of this proposal not only sustainable but also far reaching. In addition, the participants of the training sessions described in goal 2 and 3 will be able to impart the knowledge obtained through the curriculum to other colleagues and trainees broadening the impact of the program. Finally, trainees that are the beneficiaries of better mentoring will be better mentors themselves as they move on through their career paths. Thus, the direct impact of the program proposed and its ripple effects are sustainable and will positively influence the culture and success of the School of Medicine and its research enterprise.

One of the aspects of our program that would facilitate sustainability is the fact that only the initial training of facilitators requires funding. Thus, no new funds would be required to continue cohort training in the future. New participants will be identified through the Office of Faculty Affairs and Professional Development as faculty reach the designated time point in the promotion and tenure process. Additionally, because of the connection to research support funding and the overall positive impact this implementation brings to the research enterprise, recruitment will be enhanced with the involvement of Principal Investigators of training grants, department chairs, and the Graduate Division at the School of Medicine to ensure those working closely with trainees are regularly engaged to change institutional culture and bring explicit value to mentoring.

While the only evaluation and assessment that was described in the initial proposal pertained to the funding period, quantitative and qualitative data collections from participants and their trainees will be collected at 3 years and 5 years post the initial data collection associated with implementation to follow the outcomes of the trainings and to assess long-term impact of the program.

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