Introduction: Little is known about how to develop collaborative multidisciplinary research teams.

Methods: Following a comprehensive needs assessment, we developed a curriculum-based, multi-disciplinary, didactic and experiential Translational Leadership training program grounded in adult learning theory. In addition, we constructed collaborative clinical/translational research experiences for trainees to enhance clinical/translational research skills.

Key Programmatic Elements and Preliminary

Findings: This 15-week Translational Leadership program was generated based on the following premises. Academic translational leadership teams should partner and collaborate, customize, make the program relevant to the culture, create a common language, use the best resources, and establish measurable goals for success. Development of effective collaborative research teams is essential to the management of successful translational research teams. Development of these skills in addition to cultural humility will provide the best infrastructure and human capital committed to the resolution of health disparities. Effective translational research teams are more comfortable with the component team members and the communities where they implement their protocols. Our participants highly valued the diverse experiences from this program; several have succeeded in leading community-based research teams.

Conclusions: Our Translational Leadership program offers essential skills using adult learning theory for translational researchers who become capable of leading and participating in translational research teams. We believe including community members in the training of translational research programs is an important asset. The multidisciplinary approach develops skills that are also of significant use to the community and its acceptance of responsibility for its own health. (*Ethn Dis.* 2010;20[[Suppl 1]:S1-141–S1-145)

Key Words: Leadership, Translational Research, Collaboration, Interpersonal Skills, Interpersonal Effectiveness, Coaching, Mentoring, Self Development Rosanne C. Harrigan, EdD, MS; Lori M. Emery, MEd

INTRODUCTION

Translational research teams require diversity by nature and disciplines must learn each others language and norms in order to successfully collaborate. Little is known about how to teach teambuilding skills in multidisciplinary teams.

The purpose of this article is to describe a novel Translational Leadership program we developed to train translational research teams. Translational research requires collaboration which is a skill of mature groups and essential to the achievement of effective translational research outcomes.¹ Development of these skills within an environment of cultural humility provides the best environment to conduct protocols focused on the resolution of health disparities. We believe this will ensure continued alignment of the program with the sponsoring organization and promote the development of researchers who can lead clinical and translational research studies addressing health disparities among ethnically diverse peoples.

We first describe a curriculumbased, multi-disciplinary, didactic training program and conclude with suggesting collaborative clinical/translational research experiences. Academic Translational Leadership programs should develop skills for promoting highly functional partnerships and collaborations, and strategies to customize culturally relevant projects; they should create a common language and effective communication skills, access high quality resources, and establish measurable goals for success.

METHODS

The multidisciplinary curriculum of the Translational Leadership program was developed following a comprehensive needs assessment. We conducted key stakeholder interviews and identified current and future leadership challenges. A gap analysis between current level of skills and future requirements was then conducted resulting in identification of organizational factors inhibiting or assisting development.² We generated a definition for desired end state and listed key deliverables and metrics for success. Finally, a support program was prepared to assure credibility. A communication and promotional strategy evolved for the program. We currently offer this program as a 15-week seminar for junior investigators and students. Follow-up sessions are provided in a flexible format to reinforce and build upon the initial seminar. The teaching methods used reflect the concepts inherent in an action learning project.³

GOALS AND OBJECTIVES OF THE TRANSLATIONAL LEADERSHIP PROGRAM

The goal of this program is to equip all current and future translational researchers with the tools and skills needed to address their daily challenges. The program focuses on core interactive skills, conflict management, communication, and team development. The program is designed for novices or experts. Because faculty who are active

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in translational science interact with patients, staff, and other colleagues on a daily basis, this program was specifically designed to give them the tools and skills to work effectively.⁴

The program objectives were to: 1) enhance interactive tools and skills relevant to the daily challenges of working with the diverse and complex populations within an academic medical center; 2) help physicians and researchers understand and fulfill the current and future leadership roles they play within their environment more effectively; 3) provide basic skills and leadership practices that will enhance career development; 4) create a common language; and 5) define the practice of multidisciplinary team leadership.⁵

Curriculum Modules

Seven curriculum modules were developed: 1) Interpersonal Effectiveness Module (IEM), 2) Interpersonal Skills Module, 3) Collaboration and Leading Teams Module, 4) Performance Management Module, 5) Coaching Module, 6) Dealing with Cultural Differences Module, and 7) Self Awareness and Personal Development Module. Each of these modules is described below.

TEACHING METHODOLOGY

The program is based on adult learning theory and involves action learning and analysis of participants' experiences.⁵ Adults have a great need to be self-directed and learning is based on participants' needs and interests.⁶ This program provides an opportunity to analyze one's experiences and their application to the work situation. The role of the coach is to assist in the process of inquiry, analysis, and decision-making rather than to transmit knowledge. Participants gain experience and knowledge that is directly applicable to their work situations.

INTERPERSONAL EFFECTIVENESS MODULE (IEM)

The objectives of the IEM include: 1) self-assess current interpersonal effectiveness; 2) identify opportunities to strengthen skills and understand the application of skills in an environment of diverse individuals and multi-dimensions of organizational change; and 3) practice skills on real issues that impact participants' daily lives.

The skills needed to achieve interpersonal effectiveness include: interactive communication, active listening, assertion, and influencing strategies.⁷ At the conclusion of this module, participants' expected learning outcomes include ability to facilitate collaborative dialogue in one-on-one and group settings, ability to gain a level of self-awareness that will allow them to optimize interpersonal behaviors and ability to leverage their influence both strategically and collaboratively in keeping with personal and organizational integrity.

Program Content for Interpersonal Effectiveness Model

We assess participants' self awareness and personal development using style inventories: Myers-Briggs Type Indicator and the Thomas-Kilmann Conflict Instrument.^{8,9}

Cognitive style is used to describe the way individuals think, perceive and remember information, or their preferred approach to using such information to solve problems. Cognitive ability is usually measured using intelligence tests. Team members with similar cognitive styles often feel comfortable with each other early in their participation.

A popular, multi-dimensional instrument for the measurement of cognitive style is the Myers-Briggs Type Indicator (MBTI). This tool is a psychometric questionnaire designed to measure psychological preferences about how people perceive the world and make decisions.

The other main style inventory that we use in the program is the Thomas-Kilmann Conflict Instrument (TKI).9 The TKI is a conflict style inventory used to measure an individual's response to conflict situations. Individuals have different expectations and desires, which cause conflict to occur as a normal part of our interactions. The Thomas-Kilmann Conflict MODE Instrument is a self-scoring tool that takes about 15 minutes to complete. Interpretation and feedback materials provide information about how to use each conflict-handling mode. The TKI also provides information about how to increase ones' "comfort level" with less used styles. Both types of style inventories assist participants to understand their own thinking and learning style and results in better outcomes for the entire group.

INTERPERSONAL SKILLS MODULE

Interpersonal skills are all the behaviors, attitudes, beliefs, and feelings that influence our interactions with others.⁸ When problems arise, we are usually given a glimpse into our interpersonal skills and the potential for change that exists.

Healthy interpersonal skills reduce stress, reduce conflict, improve communication, enhance intimacy, increase understanding, and promote joy. During this segment, we provide opportunity to assess interpersonal skills. Participants determine the personal relevance of how they seek approval and affirmation from others, as well as how they deal with their fear of criticism. Participants learn how they perceive themselves and refine their ability to develop and maintain intimate relationships.⁹

COLLABORATION AND LEADING TEAMS MODULE

Our objectives for this Collaboration and Leadership module include assisting participants to: 1) understand and be able to apply the stages of team development in terms of leadership actions (through diagnosis of leadership needs and use of appropriate action during different stages of team development), 2) enhance effectiveness in managing conflict in teams or one-onone (by managing conflict to maximize energy and minimize divisiveness by exploring the underlying causes and tools to resolve conflict), 3) master tools and techniques of fostering collaboration (ability to build effective teams), and 4) develop a specific action plan unique to their situations (ability to sustain high performing teams). We use role-playing as an effective strategy for teaching these skills. Participants practice on case studies and/or live participant situations.

Performance Management Module

The ability to apply effective Performance Management techniques in the following areas is essential. The content for this section includes: 1) SMART Model to set expectations, 2) effective coaching and feedback, 3) confronting performance challenges, 4) using the appraisal process to enhance performance, 5) coaching skill development, and 6) coaching. Participants learn how to set clear performance expectations and SMART goals (Specific, Measurable, Attainable, Realistic, Timely). They demonstrate the ability to use the 5 coaching skill sets appropriately. They must be able to effectively use feedback and optimize appraisal conversations. In order to learn these skills, participants practice coaching conversations on live issues or case studies from current challenges. In addition, they practice linking performance management tools with the appraisal systems and procedures.

Use of supervision as a form of leadership requires the ability to define one's role clearly, coach and give feedback, conduct performance appraisals, and set SMART Goals. We teach these abilities using tutoring, mentoring, counseling, confronting and challenging. Participants have gained experience with specific techniques for each of the coaching dimensions and mastered the ability to establish clear and mutually-agreed upon expectations for those they lead.^{10,11} Participants have also developed the ability to align individual roles and goals with team and organizational direction and learned techniques to augment their ability to develop those they lead.

COACHING MODULE

Coaching is a method of directing, instructing, and training a person or group of people, with the aim to achieve some goal. Coaching in the academic workplace includes setting the context, providing ongoing guidance, and concluding effectively.¹² Setting the context involves diagnosing the capabilities and attitude of the scholar, agreeing on the approach to coaching, building trust, and motivating the scholar. Providing ongoing guidance involves coaching the scholar through the use of coaching sessions, providing feedback, giving praise, and illustrating by demonstration or collaboration. Coaching effectively involves asking the scholar to reflect, eliciting feedback, and agreeing on next steps.

There are three keys to effective coaching: questioning, listening, observing. The art of coaching involves knowing how to ask participants effective questions. The science of coaching includes learning people skills, achievement management, effective motivation, and performance measurement. Finally, the practice of coaching includes active listening, providing helpful feedback, and organizing coaching sessions.

The coach acts as an external expert observer making sure that the scholar's aim is true and their actions are congruent. The coach helps scholars identify and define their specific goals, and then organizes them to help them achieve these goals. The coach also provides help in motivating and keeping the scholars motivated to reach their goals.

A basic component of coaching includes the development of skills through practice. In order to assist learners, coaches should analyze the factors of their existing skills, techniques, and environment. Coaches should then set increasingly challenging exercises and seek to identify problems or weaknesses to be remedied. Coaches should recognize learners' potential, and build upon their strengths, while taking advantage of talent and opportunity.

In summary, the basic tools of coaching include asking effective questions, listening actively, providing clear - constructive or positive – feedback, and organizing coaching sessions.

Coaching vs Mentoring

Although some aspects of coaching and mentoring are similar, they have different uses and outcomes. Coaching involves building an individual's personal cross-disciplinary skills, helping clients to apply themselves personally in new ways, requires a give and take approach to learning, and requires a lot of listening. Mentoring on the other hand, involves more job-specific personto-person teaching, helping clients to learn functions they have never done before, and involves the passing along of one person's knowledge to another.¹¹ Therefore, coaching is viewed as a more useful tool in multidisciplinary skills training.

DEALING WITH CULTURAL DIFFERENCES MODULE

Researchers are needed to lead clinical and translational research studies that address health disparities among ethnically diverse populations. To lead effective teams, participants must understand that there are different dimensions for dealing with cultural differences such as: directness (get to the point versus imply the messages), hierarchy (follow orders versus engage in debate), consensus (dissent is accepted versus unanimity is needed), and individualism (individual winners versus team effectiveness).^{12,13}

Coaches deal with cultural differences by addressing each learner individually. Ways in which the coach can address each learner include: tailoring coaching sessions and style of feedback appropriately; positioning coaching relationships carefully vis-à-vis organizational reporting relationship, selecting appropriate style from the ask/tell repertoire (tell what and how; give advice; demonstrate; make suggestions; ask questions; paraphrase), and focusing on personal achievement and/or on teamwork accordingly.¹⁴

Self-awareness and Personal Development Module

One of the major goals of the program is to create self-awareness and personal development in each participant so that they become better leaders. This is accomplished through evaluating the participants' self-awareness and personal development through the use of activities such as 360 degree feedback, style inventories, and professional/ career development planning.

Companies often use 360 degree feedback as a means of giving employees anonymous feedback from the people who work all around them.¹⁵ Those who work closely with the employee are

asked to complete a questionnaire about competencies. Participants also complete the same survey for their own assessment. When done properly, 360 degree feedback is highly effective as a development tool. We use 360 feedback to help participants gain insight into how others perceive them and have an opportunity to adjust behaviors and develop skills that will enable them to excel in their roles. Feedback is delivered in a confidential, non-threatening manner and addresses both strengths and weaknesses. We then assist the participant in creating a developmental plan.

PRELIMINARY RESULTS

This program can produce leaders with effective skills to manage multidisciplinary translational research teams. So far, more than 5 investigators from disadvantaged backgrounds have completed this program. All of these successful participants of the program were women and all except one were physicians. Two of the physicians' specialty was in pediatrics, while the rest were in psychiatry, obstetrics and gynecology, and family practice. One of the investigators is working in a rural community and has local support of her research endeavors in her role as a manager within the area's local health department. Another investigator is part of a multidisciplinary research team providing services to Micronesia. Other investigators have been successfully promoted or hired into tenure leading positions at other universities. Our participants reported a high value for the diverse experiences from this program.

DISCUSSION

Creating an effective training program for translational science team members benefits from a multidimen-

sional approach grounded in adult learning theory. In our experience, providing a diverse set of leadership tools and the inclusion of community members in the training of translational research programs are important assets. A diverse group of leadership tools can allow the team leader to change leadership styles dependent on the needs of the group and their level of development. We call this transformational leadership. While the Transformational Leadership approach is often a highly effective style to use, there is no one "right" way to lead or manage that suits all situations. To select the most effective approach for you, the following must be considered: 1) the skill levels and experience of the members of your team; 2) the work involved (routine or new and creative); 3) the organizational environment (stable or radically changing; conservative or adventurous); and 4) your own preferred or natural style. A good leader will find him or herself switching instinctively between styles according to the people and their work. This is often referred to as "situational leadership."

In summary, our Translational Leadership program, based on adult learning theory, offers essential skills for translational researchers who can become capable of leading and participating in translational research teams. We believe our program can provide essential skill-building to all team members, from faculty to community members and staff. Effective collaborative research teams are needed to investigate health disparities, which are highly influenced by multiple factors from biology to culture, social structures and environment. Development of these skills within an environment of cultural humility provides the infrastructure and human capital needed to resolve health disparities.

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