

Evolution of an Interprofessional Training: A Five-Year Review of an Interprofessional Training Involving Family Medicine Residents, Nurse Practitioner Students, Pharmacy Trainees, Counseling Psychology, and Social Work Students in Southern New Mexico

Daubney Boland, Erika M. Gergerich

Boland, D, Gergerich, EM. (2018). Evolution of an Interprofessional Training: A Five-Year Review of an Interprofessional Training Involving Family Medicine Residents, Nurse Practitioner Students, Pharmacy Trainees, Counseling Psychology, and Social Work Students in Southern New Mexico. *Health and Interprofessional Practice* 3(3).
Available at: <https://doi.org/10.7710/2159-1253.1161>

© 2018 Boland et al. This open access article is distributed under a Creative Commons Attribution License, which allows unrestricted use, distribution, and reproduction in any medium, providing the original author and source are credited.

HIP is a quarterly journal published by Pacific University | ISSN 2159-1253 | commons.pacificu.edu/hip

Evolution of an Interprofessional Training: A Five-Year Review of an Interprofessional Training Involving Family Medicine Residents, Nurse Practitioner Students, Pharmacy Trainees, Counseling Psychology, and Social Work Students in Southern New Mexico

Daubney Harper Boland PhD *Southern New Mexico Family Medicine Residency Program, Las Cruces, NM*
Erika Martin Gergerich PhD *New Mexico State University, Las Cruces, NM*

Abstract

The Affordable Care Act (ACA, 2010) embraced the “triple aim” in healthcare to enhance health, promote better care, and reduce cost. The use of healthcare teams can improve patient care, health outcomes, and reduce medical errors (Earnest & Brandt, 2014). However, building healthcare teams goes beyond placing people of different healthcare professions together, it requires the integration of the healthcare disciplines, a valuing of each other’s roles, and the ability to communicate and work together (IPEC, 2011). The term “interprofessional” reflects interdependence, shared responsibility, and reliance on each other to best accomplish a task. These values often run counter to traditional values of independence, individual responsibility, and siloed expertise that are still taught in many professional education programs. This article will review the development of an interprofessional training program and insights learned by faculty as this training evolved. This training experience, called the Interprofessional Immersion, brought together trainees in multiple healthcare professions including family medicine residents, nurse practitioner students, pharmacy students, social work students, and counseling psychology students. This program was designed to develop the skills needed to effectively work within an interprofessional healthcare team. This article will review lessons learned from the first five years the Interprofessional Immersion was implemented.

Received: 04/20/2018 *Accepted:* 08/06/2018

© 2018 Boland & Gergerich. This open access article is distributed under a Creative Commons Attribution License, which allows unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Introduction

Over the past decade, healthcare in the United States has struggled to provide positive health outcomes. When compared to other countries, the U.S. has a very expensive healthcare system with relatively poor health outcomes (Murray, Phil & Frenk, 2010). The Affordable Care Act (ACA) was implemented to help reduce cost, promote better health outcomes, and increase job satisfaction among healthcare providers (Davis, Abrams, & Stremikis, 2011). An interprofessional approach to care aims to address these goals. The World Health Organization has amplified the need for such a shift/approach to be adopted by global health institutions and workers (WHO, 2010). As the World Health Organization has suggested, *"It's no longer enough for health workers to be professional. In the current global climate, health workers also need to be interprofessional"* (WHO, 2010, p. 36). The World Health Organization has stated that interprofessional practice can reduce the cost of care, improve health outcomes and decrease staff turnover. Such outcomes align with the above mentioned goals of the Affordable Care Act (WHO, 2010).

This article will discuss how building healthcare teams goes beyond placing people of different healthcare professions together. Building an effective interprofessional team has important implications for both patients, professionals, and the healthcare system as a whole. Robben et al. (2012) point out, "...problems in collaboration and coordination between professionals can negatively affect patient outcomes, lead to decreased work satisfaction of professionals, and result in waste of resources" (197).

Thus, it is vital that healthcare professionals learn how to work together. The Interprofessional Education Collaborative (IPEC) was established in 2009 to support the development of effective healthcare teams and identify core competencies to assist with integration. The Collaborative has expanded to include associations of higher education from 20 various fields of medical practice. The core competencies established by IPEC include learning the values and ethics of different professions, understanding each other's roles, learning to communicate effectively, and building/honing skills to work as a team (IPEC, 2011). These competencies were kept broad, so that various program curricula could align with profession-specific standards as well as IPEC competencies simultaneously (IPEC, 2016).

An important approach to help develop interprofessional competencies among healthcare staff is to start training while they are still in student roles. One study of an interprofessional training included family medicine residents, pharmacy students, third year doctoral level counseling psych and doctoral level nursing students. Findings indicated that students who participated in the interprofessional training reported an improved ability to work in teams following participation in the educational program (Boland, Scott, Kim, White & Adams, 2016). Traditional physician training may not overtly include other health professionals, and there is a clear chain of command that includes tiers of leadership from medical student up to senior attending physician (Leipzig et al., 2002). Researchers have therefore suggested that interprofessional education that emphasizes teamwork and shared decision-making should take place even prior to residency (Leipzig et al., 2002).

Learning while in student roles may also create an opportunity to level potential power dynamics and hierarchies that often exist across healthcare professions. Members of interprofessional healthcare teams often acknowledge that physicians hold the most authority in the group (Delva, Jamieson & Lemieux, 2008). One study utilized the Attitudes Towards Health Care Teams Scale and indicated that a change in views of leadership among social work students took place following interprofessional training. After participating in an interprofessional education program, social work students had a lowered perception that physicians hold the final authority for making healthcare decisions (Bonifas & Gray, 2013).

With this knowledge, the healthcare education community in Las Cruces, New Mexico has worked to develop interprofessional training. One of these trainings, the Interprofessional Immersion, aims to teach interprofessional collaboration and change the culture of healthcare delivery among our trainees. This article will discuss our training components and ways that the program has evolved over time, as we moved away from siloed care to an integrated and interprofessional approach.

The Interprofessional Immersion

The Interprofessional Collaborative is a group of trainers in different healthcare fields and settings that work together each year to teach and promote integrated healthcare. This group consists of faculty from New

Mexico State University from the Counseling Psychology, Nursing, Social Work, and Anthropology programs, the University of New Mexico's School of Pharmacy, and Southern New Mexico's Family Medicine Residency Program. This collaborative has trained 139 students from 2013-2017 from different healthcare professions including counseling psychology, social work, nurse practitioners (family medicine and psychiatric), pharmacy, family medicine physicians, and medical anthropology.

Trainees were in different stages of their programs based on availability and coursework/curriculum of the corresponding program. Psychology trainees were in their third year of their doctoral program and about to enter into a primary care practicum. Family medicine physician residents were in their first year (during their second week) of residency to help with culture change and onboarding into an interprofessional residency program. The doctoral nurse practitioner program trainees were beginning their first clinical rotations. Due to the limited number of pharmacy trainees, these students were in various years of their program and included several pharmacy residents in a one-year clinical residency program. The social work students were beginning their first clinical practicum in a primary care setting. The medical anthropology students were bachelor's level students on a qualitative research team. This five-year study was approved by NMSU's institutional review board.

Year One - 2013

The *Interprofessional Immersion* began in 2013 as the result of a HRSA funded grant focused on interprofessional training within geriatric care. The faculty involved hoped to enhance collaboration with other healthcare professionals; however, at the close of the training it became clear to faculty through observation and an outside evaluator, that the immersion further represented silos and separation between healthcare professions. The faculty taught separately and did not show collaboration in their presentations. Although trainees were encouraged to work together, the format of the training made this difficult. The educational program took place in a large auditorium and the majority of the week-long training utilized PowerPoints and a lecture format. There were, however, some opportunities for trainees to work alongside others from different health professions while on rounds and using telemedi-

cine kits. These trainees were divided into groups with representation from different professions.

In the 2013 immersion, trainees reported that they did not feel closer to other professions nor did they indicate feeling more apt to work with their counterparts in the future. The following comments are from student evaluations from the training.

One student commented:

Perhaps it would be helpful to have exercises to facilitate listening skills of providers who have not been trained in that. This was an issue for my team not only between team members but also in interactions with the patient.

Another student stated, *"The [medical] resident did not really grasp the purpose of an interprofessional, integrated approach and enforced a hierarchy of professions."*

A third student reflected, *"Communication between the different professions is challenging as well as obtaining mutual respect."*

The faculty soon learned that simply putting different trainees together was not "interprofessional" and that training would need to facilitate a team-based approach to learning and care delivery.

Additionally, power and hierarchy are often present in healthcare settings and can be a source of conflict (Schaik, Plant & O'Brien, 2015; Schaik et al., 2014; Baker et al., 2011; Lingard et al., 2012; Brown, Lewis, Ellis, Stewart Freeman, & Kaperski, 2011). These issues, however, were neither discussed nor addressed by the facilitators of the training.

Year Two - 2014

In evaluating the first year of the *Interprofessional Immersion*, the faculty decided that training was needed for the trainers. Core faculty attended a two-day training with interprofessional education (IPE) trainers from the University of Washington. Additionally, the faculty felt that the immersion needed to facilitate team-based learning, change the learning environment to support group work, and incorporate interprofessional education competencies through the event. For the second year of the immersion, the space utilized for education was a large classroom with round tables, encouraging small group discussion. Trainees were placed into groups at each round table; groups were

made up of one trainee from each profession. Trainees were required to reflect on their experiences each day through an online program; students were required to complete daily readings and journal entries. Additionally, there was some variation in team schedules due to availability of faculty. Measures used included the Team Skills Scale (Hyer, Heinemann, & Fulmer, 2002), the Attitudes Towards Healthcare Teams (Heinemann, Schmitt, Farrell, & Brailler, 1999; Hyer, Fairchild, Abraham, Mezey, & Fulmer, 2000), a measure the team created that assessed for level of confidence in the four core domains of the IPE competencies which was not a validated instrument, and daily journal entries. Given that the focus was also on geriatric care, the faculty included a measure to assess trainees' level of empathy in working with geriatric populations. Due to challenges with participant identifiers and the computer program used to house the data, faculty were unable to analyze quantitative data. However, students did complete online journals.

One of the trainees reflected in his/her journal:

I really like all the members of our team. We all participate and speak up. We are all really respectful of each other and the different professions. The [family medicine resident] in the group actually asked the [psychology trainee] in our group for advice regarding a clinical situation she experienced yesterday. I thought this was a great first step in changing the thought process on how one gathers more information...working in collaborations with other healthcare professionals verses working solely within the same position...getting another profession's perspective.

Results from the evaluation indicated that students experienced fatigue during the training, which they attributed to poor scheduling and the homework required after each day of training. Also it was noted that the faculty did not model interprofessional teamwork during several components of the training. Faculty also noted that many students did not participate in the online journal or complete their homework assignments. Overall, feedback was positive, but it was noted that there was room for improvement.

Year Three - 2015

The third year of the immersion continued to build on the interprofessional education competencies. Faculty from each discipline participated in the development

of each teaching component. The faculty also added a member of public health and a medical anthropologist to the planning committee. Faculty meetings identified that students were not being exposed to the specific needs of our patients or community. Therefore, the faculty felt there should be more of an emphasis on the specific needs of the community we work in in order to help the professions get to know the area and patients they would be serving. Each team toured a different community within the county and gave a brief presentation about that community to the other teams and faculty. They were asked to identify what neighborhoods looked like, grocery stores, healthcare centers and pharmacies, side-walks, parks, etc. They were also encouraged to talk to people they encountered to learn more about that particular community.

One of the key additions of the third year was the utilization of data to assess the effectiveness of the immersion. Quantitative and qualitative data were collected to assess how well students learned the IPEC competencies, how confident they felt they would be able to work in healthcare teams, and whether their attitudes towards healthcare teams changed over the course of the week. Measures used included the Team Skills Scale (Hyer, Heinemann, & Fulmer, 2002), the Attitudes Towards Healthcare Teams (Heinemann, Schmitt, Farrell, & Brailler, 1999; Hyer, Fairchild, Abraham, Mezey, & Fulmer, 2000), daily journal entries, and field notes from an observing anthropology student.

Students kept a daily journal to reflect their thoughts, feelings, and reactions to each day of the training. The findings suggested that the immersion was able to specifically address and reinforce three of the IPEC competencies including: recognizing values and ethics of different professions, understanding different roles, and working as a team. The IPEC competency communication was not clearly described in the qualitative data, however, communication was a key component in being able to work together as a team. The following are a few reflections from trainees' journals:

One student reflected:

We only have one more day of immersion and I can honestly say I'm sad. I have thoroughly enjoyed learning from each of my group members. I think of us as the prelude to the 80s movie "Breakfast Club" we are the FNP, the pharmacist, the psychologist, and the doctor. We all bring

something new exciting and bold to healthcare. We have joked about after graduation all working in the same practice.

Another student reflected:

I never saw myself working in an integrated team until this week. I always placed the MD on the pedestal, and this week placed our role at similar levels. I felt respected by our team's MD, including the rest of the team. I was able to recognize the contributions that each role provides.

Given the results of the data and the overall feel of the immersion, faculty felt that the 2015 training was successful in building IPE competencies and both encouraged and helped students feel more confident in working in healthcare teams in the future.

Year Four - 2016

Although the overall results from the 2015 interprofessional immersion were positive, the faculty did identify some areas that could be modified. One of the most significant changes was to shift several educational components to make sure that teams had more time to practice working together through patient simulations. Feedback from the previous retreat indicated that during hospital and hospice rounds, the teams mostly “watched” while healthcare providers delivered care. It also created some separation across roles that were not as familiar with inpatient settings. Thus, hospital rounds were replaced with patient simulations so that teams could practice working together.

The 2015 focus on social determinants of health and community tours, although very meaningful and important to faculty and students, was not as “team” oriented, had taken up a significant amount of time, and was not as connected to the IPE mission as other activities. Therefore, instead of having trainees participate in community tours, the immersion included two panels—one led by promotoras, community health workers who represented the neighborhoods where they lived, and the second panel was a group of community leaders who spoke to unique and traditional aspects that providers need to know in order to provide culturally responsive care.

An additional change that was made to the 2016 year was the implementation of SBIRT training, Screen-

ing, Brief Intervention and Referral to Treatment. This came about as a result of funding that was made available through a Substance Abuse and Mental Health Services Administration (SAMHSA) grant supporting the training and utilization of SBIRT (Babor, et al., 2007). The faculty implemented SBIRT with hopes to support teams’ interactions with patients during the patient simulations.

The faculty continued to expand upon the ways they taught and displayed interprofessional teamwork. Students completed quantitative and qualitative data. Measures used included the Team Skills Scale (Hyer, Heinemann, & Fulmer, 2002), the Interprofessional Attitudes Scale (IPAS) (Norris, Carpenter, Eaton, et al., 2015), daily journal entries, and field notes from medical anthropology students, and discipline-specific focus groups involving all trainees at the close of the immersion. The IPAS replaced the Attitudes Towards Healthcare Teams and the IPEC competencies measure we had created and used previously; the faculty felt the IPAS was a better measure of individual attitudes towards IPE with specific subscales including Teamwork, Roles and Responsibilities, Patient-Centeredness, Interprofessional Biases, Diversity and Ethics, and Community-Centeredness (Norris, Carpenter, Eaton, et al., 2015).

It should be noted that during this iteration there were a few trainees who were very vocal and exhibited behavior that endorsed hierarchy within healthcare teams. A qualitative analysis of the data indicated that hierarchy was evident within healthcare that physicians are often seen as the lead or head of the team, and that non-physician trainees sometimes experienced marginalization within the healthcare team.

One nurse practitioner student stated during a focus group:

I felt like I participated in a team but I was kind of, like there would be the physician and then I was a part of the team that was the support team, is what I have always felt like. So as a nurse practitioner role that is still a struggle and something that I am still moving on, or working on I mean.

One family medicine resident remarked:

...physicians are quarterbacks, right? It takes a whole team to get the patients the care, but the physician is the

quarterback. We're the person that sits there and says we have a little bit of training in pharmacology and pharmacy, behavioral health, a lot of training in medicine, you know, some training we know some of these like the social determinants of health and things like that, and we know like who to reference. And so we are the ones that manage all this stuff and we're the ones that can sit there and say okay we know all this stuff and put it all together, whereas each of these other disciplines they know their one discipline and that is it, and they really don't cross into any other realms.

This 2016 immersion left faculty with the feeling that there was a lot more work to do and although we could not "control" for strong personalities, we could be much more intentional about team-building and unifying by having opportunities to learn about how values and motivations for being in healthcare professions are shared.

Year Five - 2017

Qualitative data from the *Immersion* in 2016 revealed the presence of hierarchy among various disciplines involved in the training, as well as resulting tension. Following review of the previous year, in planning for the fifth *Interprofessional Immersion*, faculty decided to tackle the topic of hierarchy within interprofessional teams in healthcare. There was some concern expressed among faculty members regarding this decision, as the subject of hierarchy can be quite sensitive. The topic is often left undiscussed or unaddressed during interprofessional education (Kvarnstrom, 2008; Paradis & Whitehead, 2015). Faculty therefore decided to incorporate team-building activities into the *Immersion*, accompanied by workshops that focused on leadership and communication styles. Measures used included the Team Skills Scale (Hyer, Heinemann, & Fulmer, 2002), the Interprofessional Attitudes Scale (IPAS) (Norris et al., 2015), daily journal entries, and discipline-specific focus groups.

In order to assess how hierarchy transpired during this iteration of the immersion, journal and focus group prompts asked directly about the presence of hierarchy within teams. Here is an example of one journal question. "Reflecting on your experience this week, did you see hierarchy being enacted in your team? If so, were there any challenges or benefits that came from hierarchy?"

A medical resident stated, "We became kind of a good

functional team. I think it was more just time than anything. Just the activities. I think that is what was helpful. Because just sitting at a table, looking at lectures in proximity to each other does not form a team."

One psychology student shared:

There was no existence of hierarchy of the professions with our group due to our discussion of the professions' experience, working as a team, the team-building activities, and [other] activities. The group activities helped develop interprofessional relationships. No hierarchy was encountered and the benefits were good.

A pharmacy student stated:

During this week hierarchy was not an issue. My inter-professional team was very mindful of the importance of each team member's contributions. Having this mindset enabled for trust and positive relations to form from the beginning. From my experience outside of this week, healthcare is very hierarchical which complicates patient care.

These statements signaled a significant change from the experiences reported by students in the previous year.

A second adaptation of the *Immersion* for the fifth year, involved the inclusion of social work students. For the training, eight interprofessional groups were formed with five students of differing professions in each group. Throughout the training, these groups remained seated together and participated as a team for various activities. The groups included one medical anthropology student, one medical resident, one pharmacy student, a nurse practitioner and one behavioral health student representative (either a psychology or social work student). There were six psychology students and two social work students total and each interprofessional team had either a psychology or a social work student.

One psychology student stated that, "I think it would be very beneficial if there were a social worker within each team."

Another student concurred, saying:

Yeah we didn't have a social worker and I thought it would have been very beneficial. Particularly in the client simulations. When it came to my part...the social work role was added on to me by my group members.

Having groups with either a psychology or social work

student may have led to some role confusion for participants. In the future, faculty may consider the inclusion of a psychology and social work student representative for each team. There are considerations, however, for increasing the size of interprofessional training groups from five to six members. A larger group size could detract from the sense of cohesiveness and involvement experienced in a smaller group setting.

Summary

Our education program continues to be a work in progress. Faculty continue to learn from each other as well as from each iteration of the training. One of the first lessons learned for the Immersion organizers was related to the importance of modeling interprofessional collaboration for students. The old adage “actions speak louder than words” is applicable here. It is important for faculty to model interprofessional collaboration on and off stage. Healthcare systems are based on a firmly established chain of command with certain professions at the top. Acknowledging the conflict that often results from this reality and openly addressing it is important not only for students, but for faculty as well. Leaving these issues undiscussed or unresolved can affect a group’s ability to collaborate effectively. Additionally, in the first years of the Immersion, there was an overreliance on lecture and less emphasis on simulation and discussion. Later versions of the Immersion incorporated more targeted team building exercises and time for students to get to know one another.

The composition of interprofessional teams vary among different healthcare contexts. The original Immersion was comprised of advanced practice nursing, counseling psychology students and medical residents. With the addition of anthropology faculty and students came the collection of qualitative data. This advanced the study of the training process itself for future program improvement. Social work students were added in the fifth year of the Immersion. Teams each had a behavioral health member that was either counseling psychology or social work. While focus group members stated a wish for both counseling psychology and social work students on each team, students also often reported discomfort when there was overlap between professional roles on teams. This often occurs, for example, on teams with both an advanced practice nursing student and medical resident. Faculty have recognized the opportunity to provide training to help team-members deal with overlapping expertise. This will be addressed

more explicitly in our next iteration.

With the inclusion of various professions and additional faculty, the Immersion planning team has found that mission drift, or movement away from the primary goal of teaching IPE, has been a concern at times. While the overarching goal of these workshops has been interprofessional teamwork, the emphasis has been drawn away from this at times. For example, concentration shifted towards outside topics including a focus on geriatrics, social determinants of health, and Screening Brief Intervention and Referral to Treatment (SBIRT) (Babor et al., 2007). Some of these distractions were necessitated by funding requirements, while others were a result of faculty interests that were not central to the primary goals of the immersion.

One of the tasks for next year’s Immersion is to establish a clear overarching goal for the program, related specifically to interprofessional teamwork, and identifying related goals and measurable objectives for each of the program’s activities. The hope is that this will keep efforts concentrated on the purpose of interprofessional teamwork. Another positive outcome of clarifying the Immersion’s goals and objectives would be the potential for reproduction of the program by outside institutions.

Disclosures

This project was supported by funds from the Bureau of Health Workforce (BHW), Health Resources and Services Administration (HRSA), Department of Health and Human Services (DHHS). This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by the BHW, HRSA, DHHS or the U.S. Government.

References

- Babor, T., McRee, B., Kassebaum, P., Grimaldi, P., Ahmed, K., Bray, J. (2007). Screening, brief intervention, and referral to treatment (SBIRT). *Substance Abuse*, 28 (3), 7-30. https://doi.org/10.1300/J465v28n03_03
- Baker, L., Egan-Lee, E., Martimianakis, M. A., & Reeves, S. (2011). Relationships of power: Implications for interprofessional education. *Journal of Interprofessional Care*, 25, 98-104. <https://doi.org/10.3109/13561820.2010.505350>

- Board of Health Sciences Deans Interprofessional Education Initiative at the University of Washington (2012). *Vision for a Collaborative Future*. Seattle, WA: Health Sciences Interprofessional Education and Facilities Committee.
- Boland, D., Scott, M., Kim, H., White, T., & Adams, E. (2016). Interprofessional immersion: Use of education collaborative competencies in side-by-side training of family medicine, pharmacy, nursing, and counseling psychology trainees. *Journal of Interprofessional Care*, 30, 739-746. <https://doi.org/10.1080/13561820.2016.1227963>
- Bonifas, R. P. & Gray, A. K. (2013). Preparing social work students for Interprofessional practice in geriatric healthcare: Insights from two approaches. *Educational Gerontology*, 39, 476-490. <https://doi.org/10.1080/03601277.2012.701137>
- Brock, D., Abu-Rish, E., Chiu, C. R., Hammer, D., Wilson, S., Vorvick, L., ... & Zierler, B. (2013). Interprofessional education in team communication: working together to improve patient safety. *BMJ Quality & Safety*, 22(5), 414-423. <https://doi.org/10.1136/bmjqs-2012-000952>
- Brown, J. Lewis, L., Ellis, K., Stewart, M., Freeman, T. R. & Kaperski, M. J. (2011). Conflict on interprofessional primary care healthcare teams—can it be resolved? *Journal of Interprofessional Care*, 25, 4-10. <https://doi.org/10.3109/13561820.2010.497750>
- Davis, K., Abrams, M., & Stremikis, K. (2011). How the affordable care act will strengthen the nation's primary care foundation. *Journal of General Internal Medicine*, 26(10), 1201-1203. <https://doi.org/10.1007/s11606-011-1720-y>
- De Los Santos, M., McFarlin, C. D., & Martin, L. (2014). Interprofessional education and service learning: a model for the future of health professions education. *Journal of Interprofessional Care*, 28, 374-375. <https://doi.org/10.3109/13561820.2014.889102>
- Delva, D. Jamieson, M. & Lemieux, M. (2008). Team effectiveness in academic primary healthcare teams. *Journal of Interprofessional Care*, 22(6), 598-611. <https://doi.org/10.1080/13561820802201819>
- Earnest, M., Brandt, B. (2014). Aligning practice redesign and interprofessional education to advance triple aim outcomes. *Journal of Interprofessional Care*, 28, 497-500. <https://doi.org/10.3109/13561820.2014.933650>
- Harper, D., Summers, L., Robinson, K., & Adams, E. (2015). *Interprofessional Training in Geriatric Care—Lessons Learned* (PowerPoint slides). American Psychological Association Conference, Toronto Canada.
- Heinemann, G. D., Schmitt, M. H., Farrell, M. P., & Brallier, S. A. (1999). Development of an attitudes toward health care teams scale. *Evaluation & the Health Professions*, 22(1), 123-142. <https://doi.org/10.1177/01632789922034202>
- Hyer, K., Fairchild, S., Abraham, I., Mezey, M., & Fulmer, T. (2000). Measuring attitudes related to interdisciplinary training: Revisiting the Heinemann, Schmitt and Farrell attitudes toward health care teams scale. *Journal of Interprofessional Care*, 14, 249-258. <https://doi.org/10.1080/jic.14.3.249.258>
- Hyer, K., Heinemann, G. D., & Fulmer, T. (2002). Team Skills Scale. In G. D. Heinemann, & A. M. Zeiss (Eds.), *Team performance in healthcare: Assessment and development* (pp. 159-163). New York, NY: Kluwer Academic/Plenum Publishers.
- Interprofessional Education Collaborative (IPEC) Expert Panel. (2011). *Core competencies for interprofessional collaborative practice: Report of an expert panel*. Washington, D.C.: Author.
- Interprofessional Education Collaborative (IPEC). (2016). *Core competencies for Interprofessional collaborative practice: 2016 update*. Retrieved from <https://nebula.wsimg.com/2f68a39520b03336b41038c370497473?AccessKeyId=DC06780E69ED19E2B3A5&disposition=0&alloworigin=1>
- Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2011). *Monitoring the Future national survey results on adolescent drug use: Overview of key findings, 2010*. Ann Arbor: Institute for Social Research, The University of Michigan. Retrieved from: <https://pubs.niaaa.nih.gov/publications/Practitioner/YouthGuide/YouthGuide.pdf>
- Kvarnstrom, S. (2008). Difficulties in collaboration: A critical incident study of Interprofessional healthcare teamwork. *Journal of Interprofessional Care*, 22(2), 191-203. <https://doi.org/10.1080/13561820701760600>
- Leathard, A. (2004). *Interprofessional collaboration: From policy to practice in health and social care*. Hove, UK: Routledge.
- Lingard, L., Vanstone, M., Durrant, M., Fleming-Carroll, B., Lowe, M., Rashotte, J., Sinclair, L. & Tallett, S. (2012). Conflict-ing messages: Examining the dynamics of leadership on inter-professional teams. *Academic Medicine*, 87(12), 1-6. <https://doi.org/10.1097/ACM.0b013e318271fc82>
- Leipzig, R. M., Hyer, K., Ek, K., Wallenstein, S., Vezina, M. L., Fairchild, S., Cassel, C. K. & Howe, J. L. (2002). Attitudes toward working on interdisciplinary healthcare teams: A comparison by discipline. *Journal of the American Geriatrics Society*, 50, 1141-1148. <https://doi.org/10.1046/j.1532-5415.2002.50274.x>
- Murray, C. J. L., Phil D., & Frenk, J. (2010). Ranking 37th – Measuring the performance of the U.S. healthcare system. *The New England Journal of Medicine*, 362, 98-99. <https://doi.org/10.1056/NEJMp0910064>
- Norris, J.; Carpenter, J.G.; Eaton, J.; Guo, J.W.; Lassche, M.; Pelt, M.A.; Blumenthal, D.K. The development and validation of the interprofessional attitudes scale: Assessing the interprofessional attitudes of students in the health professions. *Acad. Med. J. Assoc. Am. Med. Coll.* 2015, 90, 1394-400.

Paradis, E. & Whitehead, C. R. (2015). Louder than words: Power and conflict in Interprofessional education articles, 1954-2013. *Medical Education*, 49, 399-407. <https://doi.org/10.1111/medu.12668>

Reeves, S., Perrier, L., Goldman, J., Freeth, D., & Zwarenstein, M. (2013). Interprofessional education: Effects on professional practice and healthcare outcomes (update). *Cochrane Database of Systematic Reviews*. <https://doi.org/10.1002/14651858.CD002213.pub3>

Robben, S. et al. (2012). Impact of interprofessional education on collaboration attitudes, skills, and behavior among primary care professionals. *Journal of Continuing Education in the Health Professions*. 32, 196—204. <https://doi.org/10.1002/chp.21145>

Schaik, S. M., O'Brien, B. C., Almeida S.A. & Adler, S. R. (2014). Perceptions of interprofessional teamwork in low-acuity settings: A qualitative analysis. *Medical Education*, 48, 583-592. <https://doi.org/10.1111/medu.12424>

Schaik, S., Plant, J. & O'Brien, B. (2015). Challenges of inter-professional team training: A qualitative analysis of residents' perceptions. *Education for Health*, 28(1), 52-57. <https://doi.org/10.4103/1357-6283.161883>

Suter, E., Arndt, J., Arthur, N., Parboosingh, J. Tayloe, R. & Deutschlander, S. (2009), Role understanding and effective communication as core competencies for collaborative practice. *Journal of Interprofessional Care*, 23, 41-51. <https://doi.org/10.1080/13561820802338579>

World Health Organization (2010). Framework for action on interprofessional education and collaborative practice. Geneva: World Health Organization. Retrieved May 14, 2015 http://whqlibdoc.who.int/hq/2010/WHO_HRH_HPN_10.3_eng.pdf

Corresponding Author

Daubney Boland, PhD

4577 Northwind Rd.
Las Cruces, NM 88007

daubney.harper@gmail.com