January 2017

Distributed Team Communication Preferences: A Case Study Of Community-Based Medical Schools

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DISTRIBUTED TEAM COMMUNICATION PREFERENCES: A CASE STUDY OF COMMUNITY-BASED MEDICAL SCHOOLS

by

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Bachelor of Arts, University of North Dakota, 2002

A Thesis

Submitted to the Graduate Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

for the degree of

Master of Arts

Grand Forks, North Dakota

May
2017

This thesis, submitted by Jessica Sobolik in partial fulfillment of the requirements for the Degree of Master of Arts from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

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This thesis is being submitted by the appointed advisory committee as having met all of the requirements of the School of Graduate Studies at the University of North Dakota and is hereby approved.

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Jessica Sobolik
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ABSTRACT

It's surprising that in the 50 years since computer networks were created, geographically distributed teams still face communication challenges. Businesses manage geographically distributed teams across the globe seemingly well, but in higher education, communication between geographically distributed teams on different campuses is a challenge. Faculty-administrators, staff and students are focused on their day-to-day tasks, and send e-mails and voicemails without giving much thought to how those messages are received on the other end. Often, the recipient of that communication reacts negatively, causing conflict.

This mixed-methods exploratory-sequential study qualitatively explored communication challenges, solutions, preferences, and feelings of connectedness and conflict among a small number of geographically distributed teams at one community-based medical school and measured quantitatively what communication preferences in certain scenarios might improve feelings of connectedness and avoid conflict among community-based medical schools across the United States.

In summary, social presence theory as well as conflict was found to be prevalent among the North Dakota community-based medical school but not necessarily in community-based medical schools across the United States.

CHAPTER 1

INTRODUCTION

Literature Review

Harold Lasswell is credited as the first researcher to create a communication model. Today there are many variations of that model, but Lasswell's was simple: 1) communicator, 2) message, 3) channel, 4) receiver, and 5) response (Lasswell 1948). Psychologist Carl Hovland's variation of Lasswell's model was: 1) communicator, 2) stimuli, 3) individuals responding to communication, and 4) the responses (Hovland 1948). Craig and Muller (2007) called Hovland's framework "a response to the problem of numbers and distance. As labor and management get further apart, public officials no longer hold town meetings, and … the principles and laws of communication need to be understood" (Craig and Muller, 2007, p. 315). Hovland himself put it another way. "In industry the increasing concentration of control has widened the gap between workers and management and the feeling has arisen on both sides of the need for more effective intercommunications" (Hovland, 1948, p. 319).

Sixty-eight years after Lasswell's and Hovland's respective communication models were published, businesses and institutions alike still can't communicate across geographic distances without conflict. Even technological advances such as computer networks in the 1960s—which led to the creation of e-mail (Levine and Hogg 2010, 949)—the Internet in the 1970s (Levine and Hogg 2010, p. 96), and the World Wide Web in the 1990s (Levine and Hogg 2010, p. 950) have not solved communication problem across distances.

"Where group collocation was once a requirement for both group membership and communication, computer networks now create the opportunity to form and maintain groups

independent of time and space," according to Levine and Hogg (2010, p. 96). These groups, or geographically distributed teams, are made up of "members who reside in different physical locations and who carry out their work with few or no face-to-face meetings" (Levine and Hogg 2010, 626). They also have a wide range of media at their fingertips to help improve communication among their teams, but conflict still occurs.

In general, geographically distributed teams face a challenge known as social presence theory, which states that people who interact primarily via media experience a reduced feeling of "being there" with their teammates (Short et al. 1976). More specifically, geographic distance can have a "detrimental impact on team members' shared context, familiarity and friendship" (Hinds and Bailey 2003, p. 617). For the purposes of this study, I will refer to these three factors as feelings of connectedness.

Shared context is difficult for geographically distributed teams because the distance "makes it more difficult to interpret references to objects of interest" (Hinds and Bailey 2003, p. 617). People at one office who are familiar with an issue may incorrectly assume that their geographically distributed teammates are also familiar with that issue. Team members without shared context also adhere to different norms. What is common at one office may not be common practice at another office and therefore be interpreted as "not normal" by colleagues at other sites. A lack of shared context is also often correlated with a lack of cohesion or "rhythm." Teams with shared context work better together.

Familiarity builds over time between collocated team members through background stories and interests outside of work. Team members may bond over collages of family portraits on their desks. They will get to know each other personally, how they work, and what their like

and dislikes are. Geographically distributed teams will not have this helpful background information.

Familiarity can eventually develop into friendship among collocated team members. Studies show that friends will still experience conflict, but will also resolve that conflict better than group members who are not friends (Murnighan and Conlon 1991).

Conflict is defined as "perceived incompatibilities or perceptions by the parties involved that they hold discrepant views or have interpersonal incompatibilities" (Boulding, 1963, p. 257). There are three different types of conflict (Hinds and Bailey 2003): affective, task and process. Affective conflict refers to disagreements among teams that involve "anger or hostility" toward team members. Collocated teams may avoid affective conflict by avoiding the colleagues who they feel anger toward (Jehn 1995). However, geographically distant teams may even better avoid affective conflict because they can more easily avoid (via distance) the colleagues they feel anger toward (Hinds and Bailey 2003). Also, their more limiting communication methods will not allow them to deeply discuss their emotions. Unfortunately, they may more negatively make accusations or "attributions" (Cramton 2001) for why something went wrong between geographically distant teams.

Task conflict focuses on work content. Some studies show that task conflict can be positive for collocated teams (e.g., by avoiding "groupthink"; Janis 1972), but Hinds and Bailey (2003) propose that task conflict can only hurt geographically distant teams unless the task conflict is resolved by shared context.

Process conflict, the least studied of the three, refers to a team's approach to tasks. Jehn (1997) found that process conflict "appears to detract from performance because effort is absorbed by disagreements, and inefficiencies results from confusion about resources and

responsibilities." For geographically distributed teams, Hinds and Bailey (2003) stated that "confusion about resources and responsibilities may be even more detrimental and take more time to resolve because of divergent perspectives and communication challenges."

Conflict can be reduced if communication among geographically distributed offices improves. In fact, the rational actor perspective states that it's not the technology but the user choosing which technology to communicate with that affects work relationships (Markus 1994). For example, members of distributed teams can choose whether synchronous (e.g., phone calls or videoconferencing) or asynchronous communication (e.g., e-mail, voicemail or instant messenger) is best in certain work situations. Typically, distributed team members will utilize e-mail as a communication tool when they sense the message may not be well-received (Hinds and Bailey 2003). On the other hand, research has shown that e-mail users add meaning to the messages they receive (Lee 1994), so it may be better to call someone on the phone in a potentially conflicting scenario so the receiver of that message can correctly interpret voice inflection that they might otherwise misread in an e-mail.

Information richness, the "ability of information to change understanding within a time interval" (Daft and Lengel, 1986, 560), can also improve communication among geographically distributed teams. Distributed team members can choose to use information-rich media such as in-person conversation or videoconferencing or less-information-rich media such as phone conversation or e-mail.

Purpose

The purpose of this mixed-methods exploratory-sequential study is to qualitatively explore communication challenges, solutions, preferences, and feelings of connectedness and

conflict among a small number of geographically distributed teams at one community-based medical school and to measure quantitatively what communication preferences in certain scenarios might improve feelings of connectedness and avoid conflict among community-based medical schools across the United States.

Out of 137 accredited U.S. medical schools, only 24 are community-based medical schools (AAMC 2016a). The Association of American Medical Colleges defines a community-based medical school as one that "(1) does not have an integrated teaching hospital, (2) received full accreditation in 1972 or later, and (3) is non-federal" (2016b). Because community-based medical schools don't have integrated teaching hospitals, as seen in the popular TV show Scrubs (IMDb 2016), they must instead partner with hospitals across their respective states in order for the hospitals to provide clinical education to medical students, particularly in their third and fourth years of the four-year medical program. These hospitals can be located hundreds of miles away from the schools, and thus the schools have created geographically distributed teams to more closely facilitate the education of students at the hospitals.

For example, the University of North Dakota School of Medicine and Health Sciences (SMHS), a community-based medical school, partners with the six tertiary hospitals in the state located in the four major cities: Bismarck, Fargo, Grand Forks and Minot (UND School of Medicine and Health Sciences Advisory Council 2014, 76). Tertiary hospitals offer specialized medical care involving complex procedures and treatments by medical specialists. Therefore the UND SMHS has campus offices in all four major cities to coordinate and support medical student education there.

Each community-based medical school oversees its campus offices from an administrative "headquarters" (see North Dakota example in Figure 1). Organizational decisions,

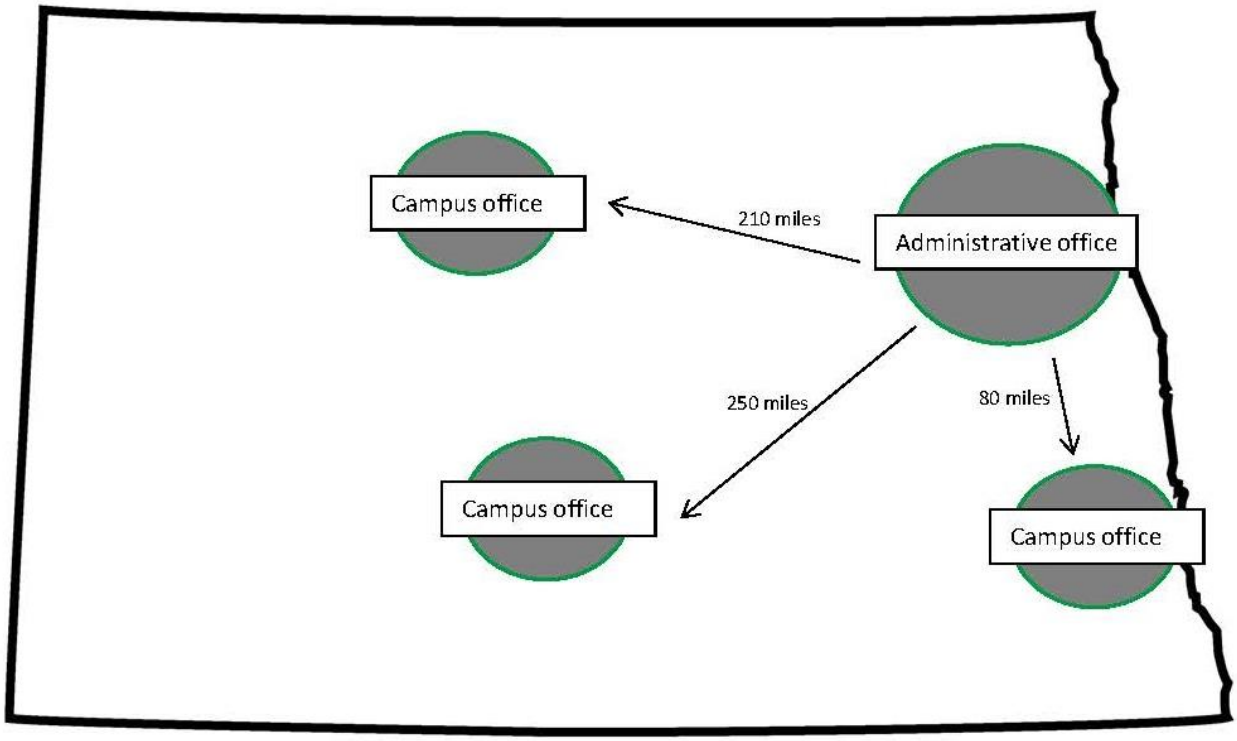


Figure 1. North Dakota Community-Based Medical School Communication Model.

as opposed to task or process decisions, are often made at headquarters and communicated to the campus offices. This communication model sometimes exacerbates conflict.

Historically, the UND SMHS campus offices were created in 1976 when the School moved from a two-year Bachelor of Science in Medicine degree to a four-year Doctor of Medicine degree. This began the delicate balance for administration on the Grand Forks campus overseeing and working with the other campus offices. On one hand, too much oversight would diminish any feelings of autonomy at the other campuses. On the other hand, too little oversight would likely garner a citation from the Liaison Committee on Medical Education (LCME), which ensures consistent medical curricula at all U.S. medical school campuses and ultimately grants reaccreditation.

The qualitative portion of this study will seek to identify what communication challenges exist at campus offices separate from headquarters, specifically from the viewpoints of faculty-administrators, staff and students. How do they feel their communication challenges could be resolved? What are their preferred methods of communication between campus offices and headquarters? Do faculty-administrators, staff and students feel they are well-connected with headquarters?

The quantitative portion of this study will measure what communication preferences in certain scenarios might improve feelings of connectedness and avoid conflict among the larger group of community-based medical schools across the United States.

My hypothesis is that information-rich communication between campus offices and headquarters will improve feelings of connectedness through increased familiarity, shared context and friendship, while information-poor communication would exacerbate conflict (affective, task or process).

This study falls under the sociopsychological theory of communication. Social psychology is the "study of behavior in social contexts" (Craig & Muller 2007), which in this case takes place in office settings.

CHAPTER 2

QUALITATIVE METHOD

In December 2016, I visited three community-based medical school campus offices that were part of the University of North Dakota School of Medicine and Health Sciences in Bismarck, Fargo, and Minot, N.D. They are respectively 250, 80 and 210 miles from the administrative campus located in Grand Forks, N.D. In my role as the School's director of

Alumni and Community Relations, I regularly work with these offices so already had established rapport. Most were eager to discuss this problem. Many agreed that communication between campus offices and the administrative office was a challenge.

I split each campus office into three groups—faculty-administrators, staff, and students—because of each group's unique communication needs. I let them know I was visiting their campus offices and invited all of them to participate in either a focus group (where two or more people would be present) or an interview (where only one person would be present). Across all three campuses, these three groups of people would have resulted in nine total interviews or focus groups. However, I completed eight as one group chose not to participate. Two of the eight interviews or focus groups were completed over the phone because of the participants' unavailability on the day I visited the campuses offices. The other six were completed in person. The size of each focus group ranged from two to seven. All were audio recorded, and all participants provided their own aliases to protect their identities.

I asked everyone the following questions (Appendix A): 1) What do you feel are some communication challenges between your campus office and the administrative office? 2) What do you think would solve the communication problems? 3) How do you primarily communicate with people on the other campuses? How would you prefer to communicate? 4) Can you recall a time when you would have preferred meetings, conference calls or videoconferencing (i.e., synchronous communication) over e-mail? 5) Can you recall a time when you would have preferred e-mail, voicemail or online chat (i.e., asynchronous communication) over a face-to-face meeting? 6) Do you wish you were more or less connected to the administrative campus, and why? Additional questions that came up as we talked focused on the effectiveness of specific methods of communication or media such as videoconferencing and texting.

CHAPTER 3

QUALITATIVE RESULTS

In analyzing my qualitative interviews, I coded my transcripts by highlighting passages that talked about 1) communication challenges, 2) communication solutions, 3) communication methods and preferences, 4) synchronous vs. asynchronous, and 5) feelings of connectedness. I also coded an "other noteworthy" category, things that didn't fit into the five categories above but might be worth exploring in the future. I further organized the data by position (faculty-administrator, staff and students) to see what communication themes came out of each group. After reviewing the codes, I identified common themes across all three campus offices and within each position group.

Challenges

The top challenge themes for all groups at all campus offices were: 1) scheduling, 2) receiving a timely response to e-mail, 3) having time to communicate during busy clinic schedules, and 4) knowing who to contact. However, each group had communication challenges unique to their groups. For example, students cited technical glitches as a major challenge to communicating with the administrative office, mainly when it came to videoconferencing, which was implemented as a replacement for face-to-face meetings as a more information-rich option. However, none of the groups were fond of using it (more details below in Communication methods/preferences section). "Most of the difficulty I have is with the technology, with the new iTV and solving the technology issues," one person said. Meanwhile, faculty-administrators cited the SMHS website and passwords as a major challenge. They use websites to conduct committee work, including scheduling meetings, and accessing meeting minutes and policies. Because they

don't do it regularly, however, they have a hard time remembering how to navigate the websites and what their various passwords are. "When things are posted on Blackboard and my password expires about every 30 days, and I only have one reason to be on that site every couple of months, it's a little clunky to navigate," one person said. Lastly, staff cited being left out of the communication between the administrative office and faculty-administrators or the administrative office and students as a major challenge. For example, when the administrative office schedules meetings with students, the students may need to use videoconferencing, which staff are in charge of reserving but they were often unaware of those needs until the last minute. "The students come in asking questions and we're like, 'What are you talking about?'" one person said. "They've scheduled [a meeting] during one of our already scheduled tests or something they've got going on and then we're caught in the middle. We're the bad guys because we call and say, 'You can't schedule this during an already-scheduled exam.' But we're keeping it organized."

Solutions

Solution themes from all faculty-administrators, staff and students included 1) establishing a clear chain of command, 2) facilitating retreats for current faculty and staff, 3) improving orientation for new employees, 4) more face-to-face visits or videoconferencing, and 5) improving meetings. "If you need to set up a meeting, you call this person on this campus and that person on that campus," one person said. "You know your key people as to who you call for what." For new employee orientation, someone suggested, "It should include, 'OK, we have four campuses.' They should get oriented to the campuses by either coming here or meeting with us via videoconference." To improve meetings, all groups suggested 1) determining in advance

whether a meeting is necessary versus an e-mail, 2) sending meetings materials in advance of meetings to properly prepare faculty and staff, and 3) schedule meetings through staff. “Don’t allow emergency stuff to be added unless available 24 to 48 hours in advance,” one person said.

Students suggested having a backup plan when communication technology such as videoconferencing doesn’t work. “I would say that 75% of the time, it goes super smooth and then there’s a good portion of the time where it takes 10 to 15 minutes just to set it up, and it’s just valuable time lost,” one person said.

Faculty-administrators suggested improving website navigation and conducting training to teach faculty how to integrate their hospital e-mail account with their UND e-mail account. “Sometimes a little hand-holding is nice,” one person said. Staff suggested copying staff on all e-mails to faculty-administrators and students on their respective campus offices.

Communication Methods/Preferences

When asked about communication methods and preferences, staff and students primarily used phone and e-mail. “I don’t think I know any other method of contacting [administrators] than e-mail,” one person said. Another person said, “With e-mail, it’s better to gather your thoughts and put them in an organized fashion. I know if I call, I’ll forget something. Then I’ll have to call back and it’s kind of a hassle.”

Faculty-administrators utilized more communication options, including pagers, emergency health record (EHR) message boards, and face-to-face meetings but primarily with peers in the hospitals, not staff or students. “You don’t want to overload them with one method and create frustration, but you can be a little bit more wordy in an e-mail,” one person said.

All the groups indicated that they don't like using videoconferencing or texting, primarily because videoconferencing was likely to malfunction and texting was considered an invasion of privacy. Some noted how videoconferencing was inconveniently located in only one room that was difficult to get to sometimes. "It's just cumbersome because you can phone anywhere but you have to come to a specific place to videoconference, which is sometimes more irritating than helpful," one person said. Another person said, "We had to plan our whole day yesterday around a five-minute videoconference, where we could have just called." Some staff were favorable toward instant messaging but acknowledged that not everyone had it or knew how to use it so it was limiting.

Synchronous Versus Asynchronous

Generally, all three groups preferred asynchronous communication such as e-mail and voicemail when they didn't feel they had time for synchronous communication (phone call or videoconferencing). "I use e-mail out of respect for people's time, so I don't barge into their day with a phone call," one person said. Another person said, "Meetings [via videoconference] have their formal place, but the structures of the meetings themselves need to be reformed. People who run the meetings need to be taught how to run the meetings."

Students particularly preferred synchronous communication when resolving personal issues with administration (e.g., requesting time off for family emergency; see More or less connected section below) and asynchronous communication as opposed to holding unnecessary face-to-face meetings. "If we're just discussing one really specific aspect of our lives or careers, it's nice to have that face-to-face or videoconferencing communication," one person said. "If it's

something really broad or big picture early in the planning stages, then e-mail is fine because it's not as pertinent or important that it requires that type of attention."

Students also acknowledged how difficult synchronous communication was when they were in clinic, which is typically anywhere from 7 a.m. to 7 p.m. daily. "When we have to come back to the campus building and talk with faculty and we only sit down for about five minutes, it feels like that could have been done through e-mail," one person said.

Many staff preferred synchronous communication, but they also acknowledged the benefit of having an e-mail "paper trail." "I primarily prefer e-mail but if it's hard to explain in an e-mail, then I'll call," one person said. "I really like e-mail because you have documentation of what you requested and what they replied, so to me that is fabulous. You can e-mail back and forth for days to try to get something resolved."

More Or Less Connected

When asked if they preferred being more or less connected to the administrative campus, a majority of people answered "more connected," particularly staff. "We need to be as much an integral part of the mothership as possible because we have good information and we have good things we could pass along," one staff member said. "We have good ideas. They don't all have to be ideas that spring forth from Grand Forks."

Students acknowledged that they wished their respective campus offices had more autonomy from the administrative campus. "There are a lot of times where you ask [campus staff] a question, and they say it's not really something they can comment on or that they have control over, and they have to ask someone else," one person said. For example, if a student had to ask for a day off, their campus office may have to ask the administrative office and then wait

for a response to relay back to the student. The students wished that the campus officessimply had the authority to say yes or no. “I had a death in the family and was deciding whether to take time off or not,” another person said. “I had initially e-mailed the main campus and … had to schedule a time to make a phone call to discuss it with the main campus. Instead of doing that, I just went to the campus dean and talked it over with them face-to-face, and it was obviously much easier and got results much quicker.”

Faculty-administrators said they probably *should* be more connected to the administrative campus but admitted that they were not and that it was their own faults. “Any sense of distance is probably self-induced,” one said. Another said, “I don’t feel disconnected, but sometimes I do feel a disconnect. It’d be nice to get to Grand Forks more often. With my practice, I can’t do it.”

Qualitative Conclusion

In summary, social presence theory, the reduced feeling of “being there” with coworkers when communicating via media over a geographical distance, is present among all campus offices of the UND School of Medicine and Health Sciences. All three types of conflict—affective, task and process—exist among these offices. For example, not only do they disagree on how to complete their day-to-day tasks (e.g., meeting scheduling), they don’t even know who to contact with specific needs (process conflict). In addition, employee turnover has reduced familiarity among colleagues. “We have a lot of new people at the School,” one person said. “I found out that there was somebody new in a particular office that I have to be communicating with, but I found that out through a student fourth- or fifth-hand. You spend a lot of time trying to find out how to get a hold of the right person.”

Surprisingly, information richness was at a minimum when people failed to use information-rich media such as videoconferencing and instant messenger. Further training should be conducted on those technologies, and providing more flexibility in where to access those same technologies might be helpful (e.g., having a videoconferencing option within hospitals or clinics, or utilizing videoconferencing features on cell phones from designated private rooms). Phones are ideal, but unless UND is paying for the phones, some people aren't yet ready to use their personal phones for work or school tasks.

CHAPTER 4

QUANTITATIVE METHOD

After analyzing the qualitative themes of my study, I incorporated the most common challenges, solutions and communication methods in a quantitative survey built in Qualtrics. The 15-question survey (see Appendix B) was purposefully kept brief to encourage this particular "time-challenged" group to participate. Questions focused on the top challenges and communication preferences identified in the qualitative portion of the study. The communication methods included synchronous and asynchronous communication methods and asked if people wished they felt more or less connected to their administrative office.

I identified 24 community-based medical schools across the United States through the Association of American Medical Colleges (AAMC 2016a; Table 1). I then e-mailed the survey link to a communication-related administrator at each of those schools (minus UND) and asked them to forward the survey to all of their faculty-administrators, staff and students.

I scored my data by assigning numerical values to the survey choices. Questions 1-3 in Appendix B were categorically scored, meaning there was no inherent value assigned to them.

Table 1. AAMC Organizational Characteristics Database (OCD)

Medical School Name	City	State
Central Michigan University College of Medicine	Mount Pleasant	Michigan
Charles E. Schmidt College of Medicine at Florida Atlantic University	Boca Raton	Florida
East Tennessee State University James H. Quillen College of Medicine	Johnson City	Tennessee
Eastern Virginia Medical School	Norfolk	Virginia
Florida International University Herbert Wertheim College of Medicine	Miami	Florida
Florida State University College of Medicine	Tallahassee	Florida
Hofstra North Shore - LIJ School of Medicine	Hempstead	New York
Marshall University Joan C. Edwards School of Medicine	Huntington	West Virginia
Mercer University School of Medicine	Macon	Georgia
Michigan State University College of Human Medicine	East Lansing	Michigan
Morehouse School of Medicine	Atlanta	Georgia
Northeast Ohio Medical University	Rootstown	Ohio
Southern Illinois University School of Medicine	Springfield	Illinois
Texas Tech University Health Sciences Center School of Medicine	Lubbock	Texas
The Commonwealth Medical College	Scranton	Pennsylvania
University of California, Riverside School of Medicine	Riverside	California
University of Central Florida College of Medicine	Orlando	Florida
University of Hawaii, John A. Burns School of Medicine	Honolulu	Hawaii
University of Nevada School of Medicine	Reno	Nevada
University of North Dakota School of Medicine and Health Sciences	Grand Forks	North Dakota
University of South Carolina School of Medicine	Columbia	South Carolina
University of South Dakota, Sanford School of Medicine	Sioux Falls	South Dakota
Virginia Tech Carilion School of Medicine	Roanoke	Virginia
Wright State University Boonshoft School of Medicine	Dayton	Ohio

Questions 4-9 were continuously scored as e-mail (4), electronic medical record (EMR) module (2), in-person meetings (8), instant messenger (6), pager (1), phone call (5), texting (3), and videoconferencing (7). These were ranked from most information-rich to least information-rich, and the order was mixed up to avoid people sensing an order of value that might affect their choices. Question 10 was continuously scored as very connected (5), somewhat connected (4), neither connected or disconnected (3), somewhat not connected (2), and not connected (1). Question 11 was continuously scored as more connected (4), less connected (3), I wish my

campus had more autonomy (2), and none of the above (1). Questions 12-14 were categorically scored.

The responses I received from my quantitative survey were minimal. Out of 22 community-based medical schools with approximately 70 faculty-administrators, staff and students at each school, six people participated in the survey, not enough to draw any conclusions that could apply to all community-based medical schools. I heard from a representative of one school on the list who didn't feel her school fit the description of a community-based medical school even though the AAMC had categorized the school that way. "We are not the target audience you are looking for," she said. I heard from another communication director who thought the survey was "written to really apply specifically to UND and not our campus structure." I asked him how his school was structured, and he described a system like UND with five campus offices that house third- and fourth-year medical students.

Another contact responded, "I think you've tapped into a sensitive topic for us. Communication between the main campus and the regional campuses is challenging to say the least." He continued by saying that he'd forward the survey to his colleagues but didn't think students in particular would respond at a high rate because of other demands on their time.

In retrospect, I should have offered a prize drawing for participants. I even extended the deadline another week with little response. I simply ran out of time on this portion of my study. Timing may have been a factor. At UND, testing and Spring Break occurred during this time frame.

Of the six participants who responded, five were female and one was male. Only two of the six identified their roles (both faculty-administrators). Five of the six participants were from

institutions that managed five or more campus offices. The other was from an institution that managed 3-4 campuses.

CHAPTER 5

QUANTITATIVE RESULTS

Challenges

Question 1 asked participants to rank five challenges: scheduling issues with other campuses, knowing who to contact on other campuses, technology glitches, web navigation/remembering passwords, and feeling "out of the loop" in communication with other campuses. Three of the six participants indicated that "scheduling issues with other campuses" was their No. 1 challenge. Two participants marked "knowing who to contact on other campuses" as their top challenge, while one participant selected "feeling 'out of the loop' in communication with other campuses." Neither technology glitches nor web navigation/remembering passwords were highly ranked challenges (see Appendix C).

Solutions

Question 2 asked participants to rank four possible solutions to the challenge of scheduling issues: including appropriate staff on meetings requests, setting clear meeting objectives, sending meeting materials in advance, and other. Four of the six participants (including the two faculty-administrators) selected "include appropriate staff on meeting requests" as their top solution. One participant chose "set clear meeting objectives," while another participant chose "send meeting materials in advance" (see Appendix D). One of the participants who ranked "include appropriate staff on meeting requests" as her top solution

submitted a suggestion through the Other field: “arrange pre-set teams of who to include on what.”

Question 3 asked participants to rank five possible solutions to the challenge of knowing who to contact on other campuses: an improved/enhanced organizational chart, better new employee orientation, retreats, in-person campus visits, and videoconferencing. Five of the six participants selected “an improved/enhanced organizational chart” as their top solution. The other participant chose “better new employee orientation” as her top solution. Retreats and videoconferencing were not highly ranked solutions (see Appendix E). One female faculty-administrator submitted a comment through the Other field: “Stop worrying about this so much.”

Communication Methods/Preferences

Question 4 asked participants to rank their preferred communication methods: e-mail, EMR module, in-person meetings, instant messenger, pager, phone, texting and videoconferencing. Only five participants responded to this question; the female faculty-administrator who answered Question 3 with “Stop worrying about this so much” did not answer this question. Three of the five respondents selected “e-mail.” The male participant selected “in-person meetings,” while the second faculty-administrator selected “texting.” Pagers were ranked lowest (see Appendix F).

Synchronous Versus Asynchronous

Question 5 asked participants about their communication preferences when they are *not* in a rush. Four participants selected e-mail, while the male participant selected in-person

meetings as he had in Question 4. Nobody marked instant messenger, pagers, phone, texting, or videoconferencing.

Conversely, Question 6 asked participants about their communication preferences when they *are* in a rush. Three participants selected phone, while the male participant selected e-mail and another participant selected texting. Nobody marked EMR module, in-person meetings, instant messenger, pager or videoconferencing.

Question 7 asked participants about their communication preferences when they needed to contact someone at another campus about a personal issue. All six participants selected phone.

Question 8 asked participants about their communication preferences when someone wants to meet *quickly* with them face-to-face but there are no clear meeting objectives/goals. Instead of a meeting, five participants indicated that they would prefer the use of e-mail in that situation. Another participant chose the phone.

Question 9 asked participants about their communication preferences when someone wants to have a *lengthy* face-to-face meeting with them but there are no clear meeting objectives/goals. As they did in Question 8, the same five participants indicated that they would prefer the use of e-mail in that situation. The other participant again chose the phone.

More or Less Connected

Question 10 asked participants how connected they felt to their administrative campus on a scale of 1-5. Three participants selected 5, or Very Connected, including the two faculty-administrators. Two selected 4, including the male participant. One selected 1, or Not Connected. This was the same woman who selected "feeling 'out of the loop' in communication with other campuses" as her top communication challenge.

Question 11 asked whether they wished they were more or less connected to their respective administrative campuses. Four of the six participants, including the faculty-administrators, indicated that they wished they were neither more or less connected, nor did they wish their campus had more autonomy. Instead they selected "none of the above." The male participant wished he was more connected, while another participant wished their campus office had more autonomy from the administrative campus. That same individual selected 1, or Not Connected, in Question 10.

Quantitative Conclusion

Again, given the small number of participants for this portion of the study, it's difficult to draw any wide conclusions from this data. However, among the responses I did receive, social presence theory existed for only one of the six participants. Her No. 1 challenge was feeling "out of the loop" in communication with other campuses, and she indicated that she felt "not connected" to her administrative campus.

Most participants (three of five) indicated that their communication method/preference was e-mail, a less information-rich media than other available communication options such as videoconferencing and instant messenger. However, when they were in a rush or needed to speak about a personal matter, they all chose phone as their preference, which contradicted the woman who wished she was more connected because she ranked phone as her last communication method/preference. Similarly, the faculty-administrator who ranked texting highly in Question 4 didn't select texting in any of the scenarios presented in Questions 5-9. This may indicate that a communication *preference* is not actually what they *use* in any given scenario.

Overall, it seemed that most quantitative survey participants felt connected or very connected to their administrative campus. Only one participant did not feel connected, and it showed in some of her other responses, as well. Most respondents didn't feel that they needed to be more or less connected. However, this shouldn't be assumed for all community-based medical school campuses and in fact wasn't the case at the UND School of Medicine and Health Sciences. Based on these results, it's possible that this communication problem is unique to UND. The lack of information-rich communication may contribute to the problem.

CHAPTER 6

DISCUSSION

To review, the purpose of this mixed-methods exploratory-sequential study was to qualitatively explore communication challenges, solutions, preferences, and feelings of connectedness and conflict among a small number of geographically distributed teams at one community-based medical school and to measure quantitatively what communication preferences in certain scenarios might improve feelings of connectedness and avoid conflict among community-based medical schools across the United States.

My hypothesis was that information-rich communication between campus offices and headquarters would improve feelings of connectedness through increased familiarity, shared context and friendship, while information-poor communication would exacerbate conflict (affective, task or process).

I was surprised to learn that most campuses offices continue to use the rather traditional communication methods of e-mail and phone. They have not yet embraced more information-

rich communication methods such as videoconferencing and instant messenger. The limitations to embracing this technology includes technological glitches that prevent the technology from working and the limitations to the location of where that technology can be used. Being able to Facetime or Skype on their phones from anywhere (except a patient room for privacy reasons) might improve that type of communication. I plan to include this suggestion in a list of recommendations to the administration of the UND School of Medicine and Health Sciences (Appendix G).

I was also surprised to learn how much conflict was caused simply by scheduling meetings. Not keeping staff in the loop when scheduling meetings with students caused task conflict, and having meetings that could have been handled simply through e-mail caused process conflict. To help faculty-administrators quickly decide whether a meeting is warranted and what tasks they should complete when scheduling and hosting meetings, I created a simple flow chart (Appendix H).

While conflict was less evident at community-based medical schools across the country, conflict definitely existed between campus offices at UND. There was a lack of familiarity that had less to do with a chosen communication method and more to do with simply not knowing who the right contact people are. The UND School of Medicine and Health Sciences can benefit from an enhanced/improved organizational chart, or as one example, improved contact information listed on websites. For example, instead of simply listing several names, phone numbers and e-mail addresses and assuming people will guess the right person they need to speak to (Appendix I), the website should state very clearly, “For information regarding <fill-in-the-blank>, contact < fill-in-the-blank >” (see Appendix J).

Limitations to this study include the small number of quantitative responses. Therefore this study cannot be generalized to all community-based medical schools. Results indicate that some people feel connected, some don't, and it's difficult to connect those feelings to a particular communication method.

One potential barrier to implementing solutions identified in this study is the LCME, the UND medical school's accrediting body, which generally requires all U.S. medical school campus offices to be overseen by an administrative office. The LCME doesn't favor autonomy for campus offices even though it's what some faculty, staff and students would prefer, and what might actually work better.

In summary, many helpful discoveries came from the qualitative portion of this study, specific to the UND School of Medicine and Health Sciences. Less information was available on community-based medical schools across the United States, but the preliminary survey findings contradicted the qualitative findings regarding conflict. Overall, this study confirmed that social presence theory exists at some community-based medical schools, exacerbated by three types of conflict. Information-rich communication methods that could help lessen conflict are not being widely used. Further study could look at the implementation and flexibility of information-rich technology such as videoconferencing or instant messenger to see if that would improve feelings of connectedness.

APPENDICES

APPENDIX A

Qualitative Interview/Focus Group Questions

1) What do you feel are some communication challenges between your campus office and the administrative office?

2) What do you think would solve the communication problems?

3) How do you primarily communicate with people on the other campuses? How would you prefer to communicate?

4) Can you recall a time when you would have preferred meetings, conference calls or videoconferencing (i.e., synchronous communication) over e-mail?

5) Can you recall a time when you would have preferred e-mail, voicemail or online chat (i.e., asynchronous communication) over a face-to-face meeting?

6) Do you wish you were more or less connected to the administrative campus, and why?

APPENDIX B

Quantitative Survey Questions

1. On a scale of 1-5, with 1 being your top challenge and 5 being your least challenge, what do you feel are the top communication challenges between your campus office and your administrative campus?
    a. Scheduling issues with other campuses
    b. Knowing who to contact on other campuses
    c. Technology glitches
    d. Web navigation/remembering passwords
    e. Feeling “out of the loop in communication with other campuses
    f. Other:
2. On a scale of 1-4, with 1 being your top choice and 5 being your least choice, what do you think would best solve scheduling issues at your campus office (check all that apply)?
    a. Include appropriate staff on meeting requests
    b. Set clear meeting objectives
    c. Send meeting materials in advance
    d. Other:
3. On a scale of 1-6, with 1 being your top choice and 6 being your least choice, what do you think would help people know who they should contact at other campuses (check all that apply)?
    a. An improved/enhanced organizational chart
    b. Better new employee orientation

c. Retreats

d. In-person campus visits

e. Videoconferencing

f. Other:

4. On a scale of 1-8, with 1 being your top choice and 8 being your least choice, what are your preferred communication methods?

    a. E-mail

    b. Electronic medical record module

    c. In-person meetings

    d. Instant messenger

    e. Pager

    f. Phone

    g. Texting

    h. Videoconferencing

5. You need to contact someone at another campus and you're **not** in a rush. What is your top communication method?

    a. E-mail

    b. Electronic medical record module

    c. In-person meetings

    d. Instant messenger

    e. Pager

    f. Phone

    g. Texting

h. Videoconferencing

i. Other:

6. You need to contact someone at another campus and you're in a hurry or in clinic. What is your top communication method?

    a. E-mail

    b. Electronic medical record module

    c. In-person meetings

    d. Instant messenger

    e. Pager

    f. Phone

    g. Texting

    h. Videoconferencing

    i. Other:

7. You need to contact someone at another campus about a personal issue. What is your top communication method?

    a. E-mail

    b. Electronic medical record module

    c. In-person meetings

    d. Instant messenger

    e. Pager

    f. Phone

    g. Texting

    h. Videoconferencing

i. Other:

8. Someone wants to meet with you quickly, but there are no clear meeting objectives/goals. Instead of a meeting, what would be your suggested communication method?
    a. E-mail
    b. Electronic medical record module
    c. Instant messenger
    d. Pager
    e. Phone
    f. Texting
    g. Videoconferencing
    h. Other:
9. Someone wants to have a lengthy meeting with you, and there are no clear meeting objectives/goals. Instead of a meeting, what would be your suggested communication method?
    a. E-mail
    b. Electronic medical record module
    c. Instant messenger
    d. Pager
    e. Phone
    f. Texting
    g. Videoconferencing
    h. Other:

10. On a scale of 1-5, with 1 being not connected and five being very connected, how connected to do you feel to your administrative campus?
11. Do you wish you were more or less connected to your administrative campus?
    a. More connected
    b. Less connected
    c. I wish my campus office had more autonomy from administrative campus
    d. None of the above
12. Gender: Male/female/I identify with neither
13. Position: Faculty-administrator/staff/ student
14. How many different campuses does your institution manage?
    a. 1-2
    b. 3-4
    c. 5+
15. Institution (optional):

APPENDIX C

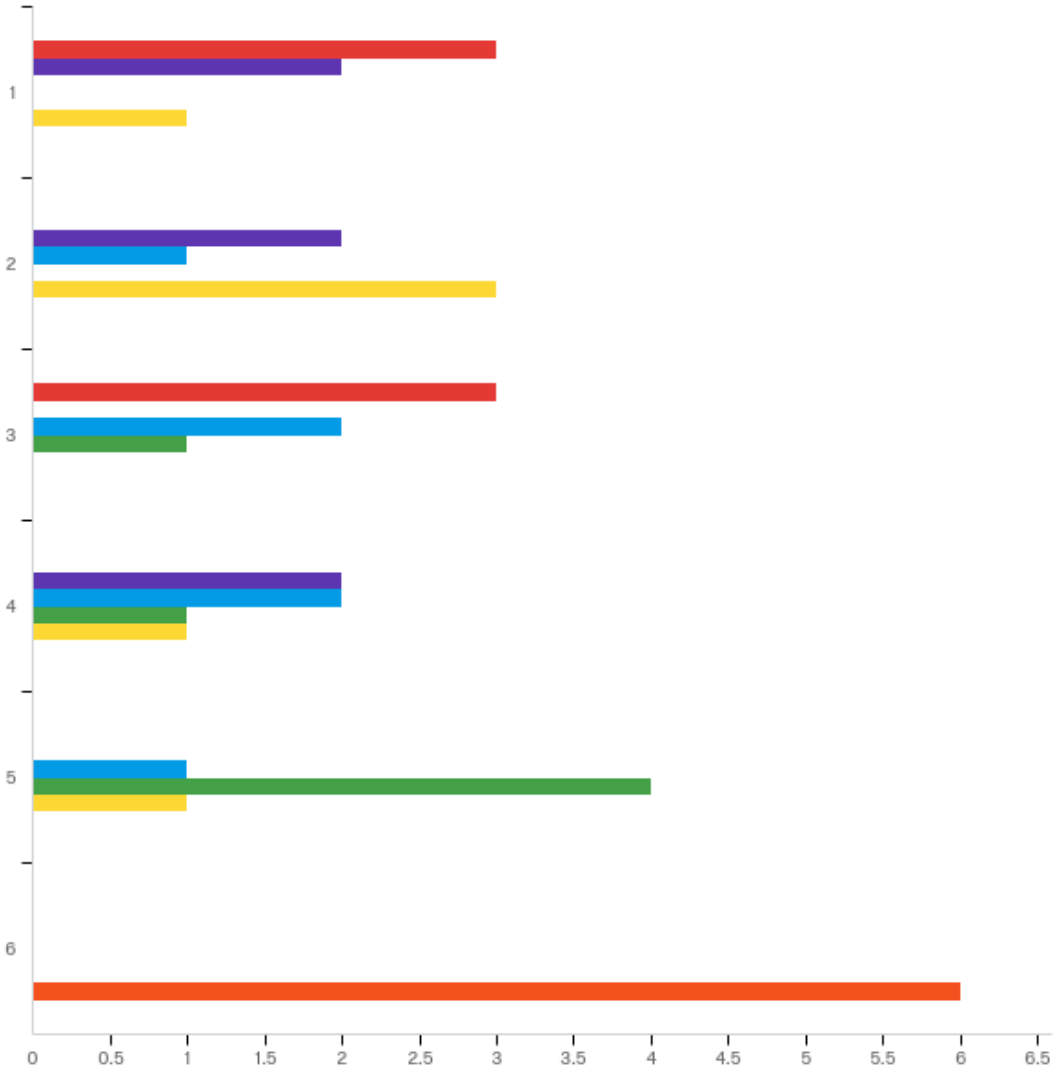


Figure 2. Quantitative Survey Question 1 Responses.

Question 1: What do you feel are the top communication challenges between your campus office and your administrative campus? 1) Scheduling issues with other campuses, 2) Knowing who to contact on other campuses, 3) Technology glitches, 4) Web navigation/remembering passwords, 5) Feeling “out of the loop in communication with other campuses, 6) Other

Table 2. Quantitative Survey Question 1 Responses.

#	Challenge	1		2		3		4		5		6		Total
1	Scheduling issues with other campuses	50.00%	3	0.00%	0	50.00%	3	0.00%	0	0.00%	0	0.00%	0	6
2	Knowing who to contact on other campuses	33.33%	2	33.33%	2	0.00%	0	33.33%	2	0.00%	0	0.00%	0	6
3	Technology glitches	0.00%	0	16.67%	1	33.33%	2	33.33%	2	16.67%	1	0.00%	0	6
4	Web navigation/remembering passwords	0.00%	0	0.00%	0	16.67%	1	16.67%	1	66.67%	4	0.00%	0	6
5	Feeling “out of the loop” in communication with other campuses	16.67%	1	50.00%	3	0.00%	0	16.67%	1	16.67%	1	0.00%	0	6
6	Other	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	100.00%	6	6

- Three people ranked Challenge #1 as their top challenge.
- Three people ranked Challenge #5 as their second challenge.
- Three people ranked Challenge #1 as their third challenge.

APPENDIX D

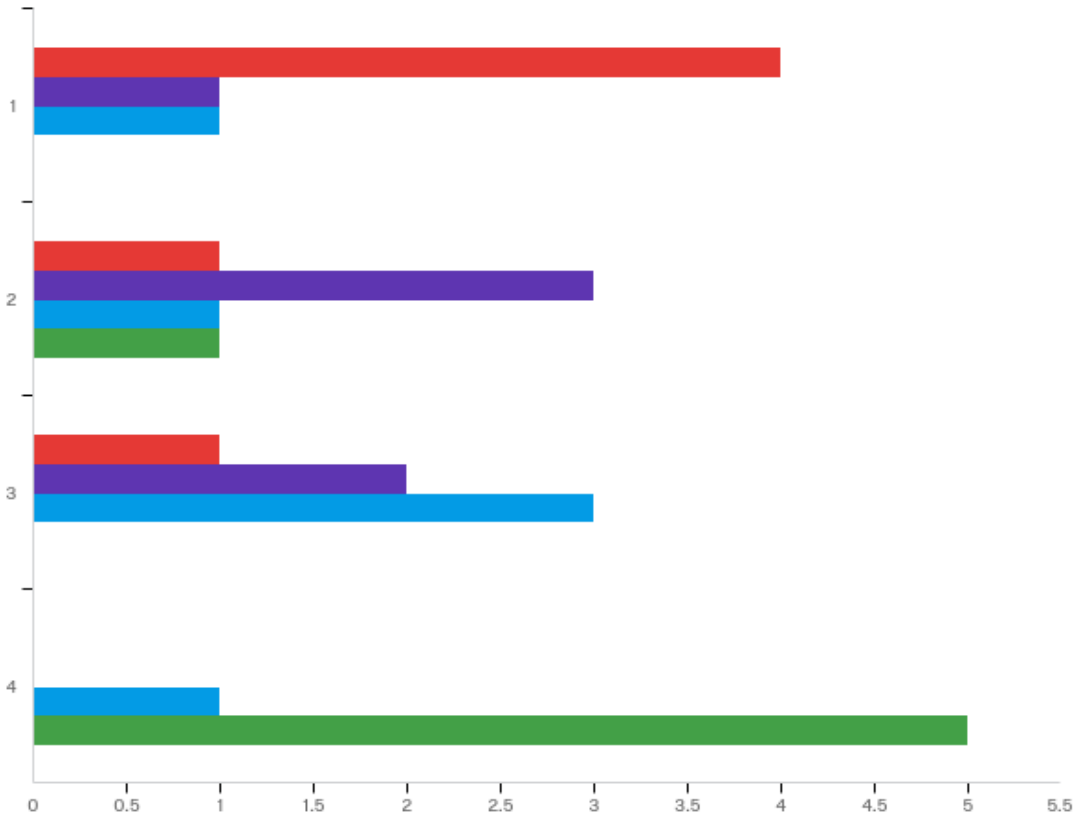


Figure 3. Quantitative Survey Question 2 Responses.

Question 2: What do you think would help people know who they should contact at other campuses? 1) An improved/enhanced organizational chart, 2) Better new employee orientation, 3) Retreats, 4) In-person campus visits, 5) Videoconferencing, 6) Other

Table 3. Quantitative Survey Question 2 Responses.

#	Solution	1		2		3		4		Total
1	Including appropriate staff on meeting requests	66.67%	4	16.67%	1	16.67%	1	0.00%	0	6
2	Set clear meeting objectives	16.67%	1	50.00%	3	33.33%	2	0.00%	0	6
3	Send meeting materials in advance	16.67%	1	16.67%	1	50.00%	3	16.67%	1	6
4	Other	0.00%	0	16.67%	1	0.00%	0	83.33%	5	6

- Four people ranked Solution #1 as their top solution.
- Three people ranked Solution #2 as their second solution.
- Three people ranked Solution #3 as their third solution

APPENDIX E

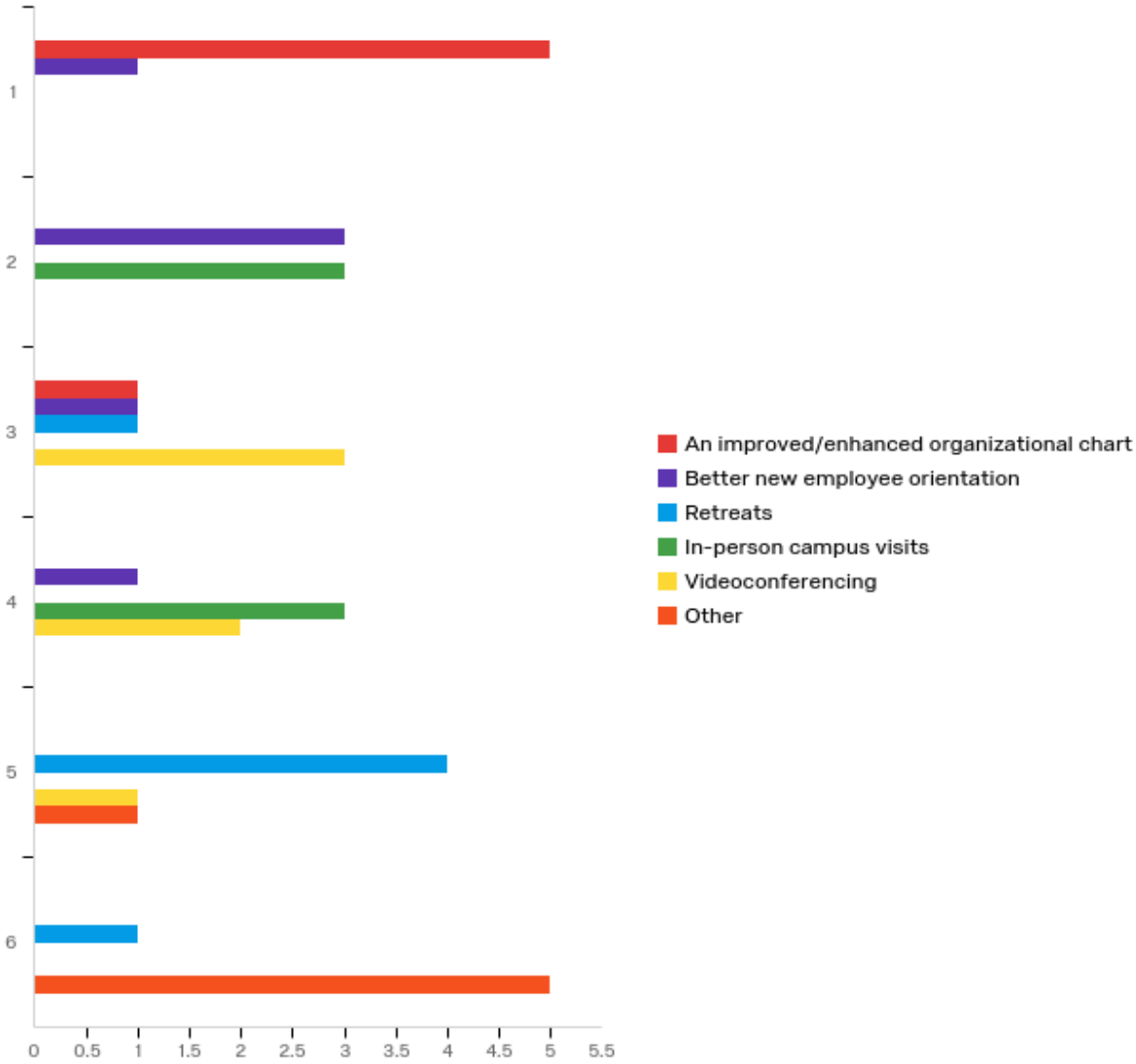


Figure 4. Quantitative Survey Question 3 Responses.

Question 3: What do you think would help people know who they should contact at other campuses? 1) An improved/enhanced organizational chart, 2) Better new employee orientation, 3) Retreats, 4) In-person campus visits, 5) Videoconferencing, 6) Other

Table 4. Quantitative Survey Question 3 Responses.

#	Solution	1		2		3		4		5		6		Total
1	An improved/ enhanced organizational chart	83.33 %	5	0.00%	0	16.67 %	1	0.00%	0	0.00%	0	0.00%	0	6
2	Better new employee orientation	16.67 %	1	50.00 %	3	16.67 %	1	16.67 %	1	0.00%	0	0.00%	0	6
3	Retreats	0.00%	0	0.00%	0	16.67 %	1	0.00%	0	66.67 %	4	16.67 %	1	6
4	In-person campus visits	0.00%	0	50.00 %	3	0.00%	0	50.00 %	3	0.00%	0	0.00%	0	6
5	Videoconferencing	0.00%	0	0.00%	0	50.00 %	3	33.33 %	2	16.67 %	1	0.00%	0	6
6	Other	0.00%	0	0.00%	0	0.00%	0	0.00%	0	16.67 %	1	83.33 %	5	6

- Five people ranked Solution #1 as their top solution.
- Three people ranked Solution #2 as their second solution.
- Three people ranked Solution #4 as their second solution.

APPENDIX F

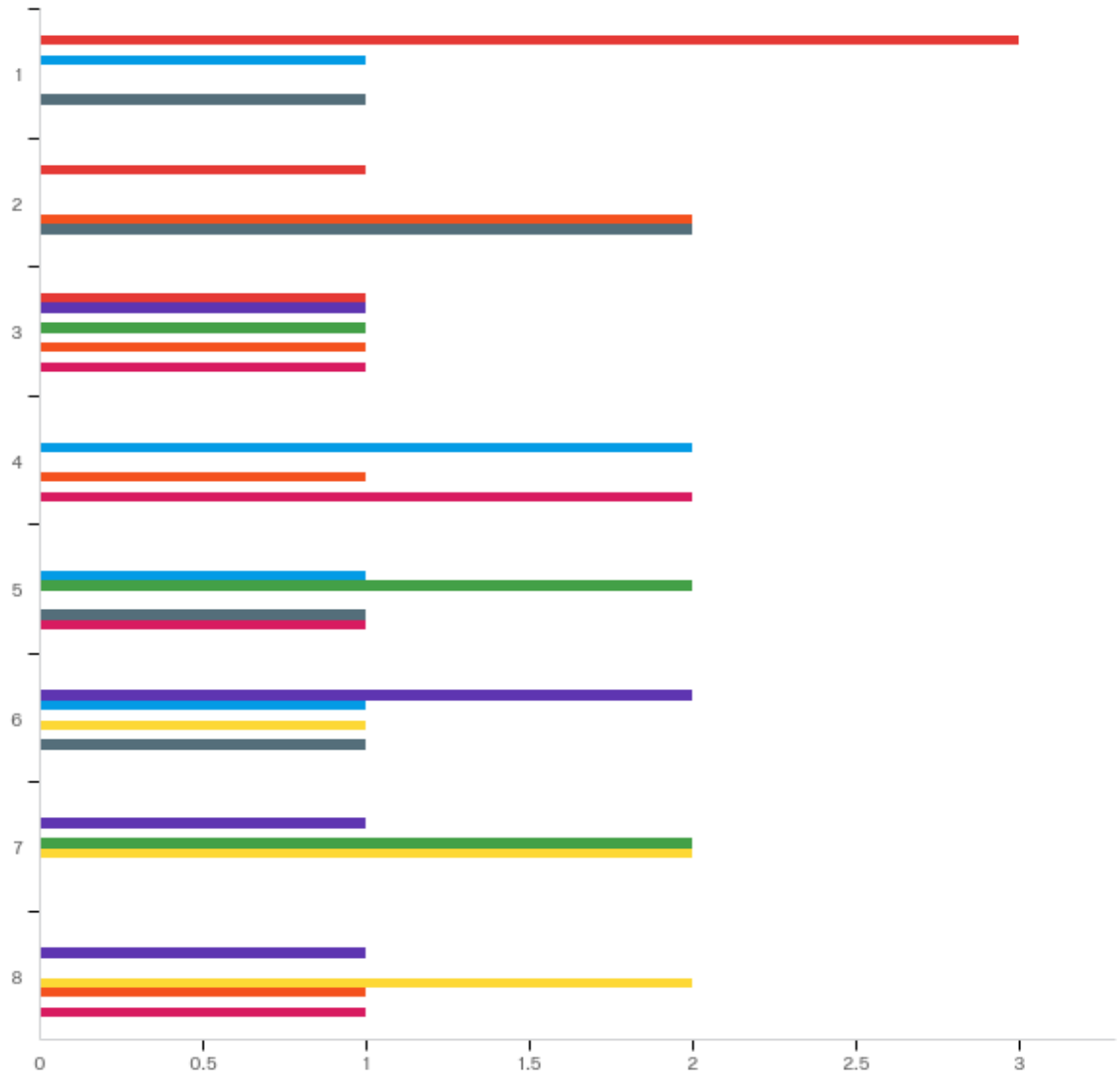


Figure 5. Quantitative Survey Question 4 Responses.

Question 4: What are your preferred communication methods? 1) E-mail, 2) Electronic medical record module, 3) In-person meetings, 4) Instant messenger, 5) Pager, 6) Phone, 7) Texting, 8) Videoconferencing

Table 5. Quantitative Survey Question 4 Responses.

#	Comm Method	1		2		3		4		5		6		7		8		Total
1	E-mail	60.00%	3	20.00%	1	20.00%	1	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	5
2	Electronic medical record (EMR) module	0.00%	0	0.00%	0	20.00%	1	0.00%	0	0.00%	0	40.00%	2	20.00%	1	20.00%	1	5
3	In-person meetings	20.00%	1	0.00%	0	0.00%	0	40.00%	2	20.00%	1	20.00%	1	0.00%	0	0.00%	0	5
4	Instant messenger	0.00%	0	0.00%	0	20.00%	1	0.00%	0	40.00%	2	0.00%	0	40.00%	2	0.00%	0	5
5	Pager	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	20.00%	1	40.00%	2	40.00%	2	5
6	Phone	0.00%	0	40.00%	2	20.00%	1	20.00%	1	0.00%	0	0.00%	0	0.00%	0	20.00%	1	5
7	Texting	20.00%	1	40.00%	2	0.00%	0	0.00%		20.00%	1	20.00%	1	0.00%	0	0.00%	0	5
8	Videoconferencing	0.00%	0	0.00%	0	20.00%	1	40.00%	2	20.00%	1	0.00%	0	0.00%	0	20.00%	1	5

- Three people ranked Communication Method #1 as their top communication method.
- Two people ranked Communication Method #6 as their second communication method.
- Two people ranked Communication Method #7 as their second communication method.

APPENDIX G

Recommendations to administration to improve communication among campus offices

Based on this qualitative study and findings, the following recommendations will be made to the administration of at least one community-based medical school, possibly more as requested.

General office

1. Copy staff on all e-mails to students and faculty-administrators.
2. Make every effort to respond to student e-mails within 24 hours.
3. Consider retreats for existing faculty-administrators, staff and students.
4. Improve administration orientation to include campus information.
5. Give campus offices more autonomy as allowed by LCME.

Meetings

1. Schedule student and faculty-administrators meetings through campus staff.
2. Send meetings materials in advance for review.
3. Have purposeful meetings by following meeting flowchart (Appendix K).

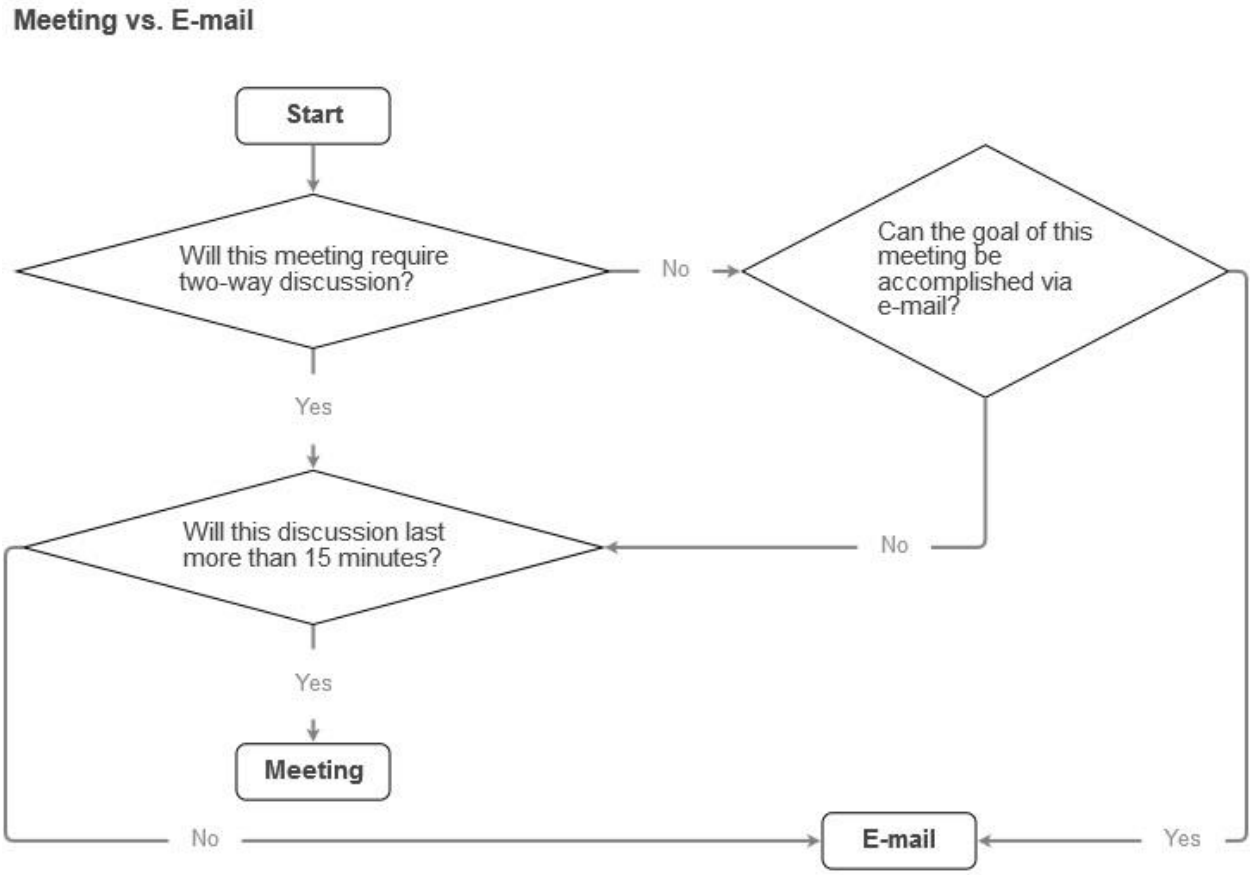
Technology

1. Have backup plan when videoconferencing doesn't work.
2. Allow videoconferencing from locations closer to clinical setting.
3. Consolidate passwords for clinical faculty.
4. Train new clinical faculty how to merge e-mail accounts by providing step-by-step instructions.
5. Train staff how to use instant messenger.

Website-specific

1. Improve contact information/chain of command listed on website so everyone knows who to contact in particular situations (Appendix M).
2. Improve website navigation.
3. Train faculty-administrators, staff and students on website navigation.
4. Create FAQ website to house questions about where to find things on website.

APPENDIX H



Meeting tips:

1. Schedule meetings through campus staff or copy them on meeting requests.
2. Send meeting materials in advance.
3. Have backup communication plan if videoconferencing technology doesn't work.

APPENDIX I

UND School of Medicine and Health Sciences Office of Student Affairs and Admissions website *before* redesign

Contact

<mailing address>

<phone number>

<name> - <title>

<name> - <title>

Admissions

<phone number>

<fax number>

<name> - <title>

<name> - <title>

<name> - <title>

<name> - <title>

Student Affairs

<phone number>

<fax number>

<name> - <title>

<name> - <title>

<name> - <title>

<name> - <title>

Medical Student Financial Aid

<phone number>

<fax number>

<name> - <title>

<name> - <title>

APPENDIX J

UND School of Medicine and Health Sciences Office of Student Affairs and Admissions website *after* redesign

Contact

<mailing address>

To schedule an appointment with the director of advisement, for questions regarding immunizations, and for other general questions, contact:

<name> - <title>

<phone number>

For questions regarding medical school prerequisites, contact:

<name> - <title>

<phone number>

To schedule an appointment with the Associate Dean, contact:

<name> - <title>

<phone number>

For questions about the Medical Student Academic Performance Committee, contact:

<name> - <title>

<phone number>

For questions about medical student interest groups, contact:

<name> - <title>

<phone number>

For questions regarding financial aid entrance counseling, scholarships and loans, contact:

<name> - <title>

<phone number>

For general accounting services questions, contact:

<name> - <title>

<phone number>

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