



Promoting Advanced Education for Future O&P Professionals

Best Practice Report

Final Document

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EXECUTIVE SUMMARY & BACKGROUND

The National Commission on Orthotic & Prosthetic Education (NCOPE), on behalf of the O&P Futurity Committee, hired consulting firm, ClarityClose to provide market strategy and “go-to-market” recommendations for achieving goals previously established by the Committee.

As part of this effort, one of the critical components included conducting a success modeling study of a small group of Universities and Colleges (selected to represent maximum exposure of as many pre-established variables as possible). The objective of the study was to gain insight on the processes, issues, obstacles, critical success factors and lessons learned in the formation of an O&P Master’s program ... and the interest/ideas for establishing Pre-O&P curriculums to help ensure an appropriate “feeder” system of qualified Master’s candidates.

The desired outcomes from this work was to help create the foundation for a segmented marketing effort aimed at increasing higher-education adoption of Master’s programs and create new Pre-O&P programs at “best-fit” Colleges and Universities. The O&P Futurity Committee selected eight schools at different stages of development (in different geographic locations) in order to acquire a broad range of inputs and perspectives from the study candidates along the following progression track:

- Up & Going/Successfully Operating;
- In-Process/Transitioning;
- Getting Started; or
- Thinking About ... starting/transitioning to Master’s O&P programs ... and potential Pre-O&P curriculums.

Study Methodology

Originally planned as a combination of telephone interviews and on-site “shadowing” sessions, it became clear that the number of people needed to be interviewed ... and the timing of when they could be conducted (we were hitting right at the semester break and had to wait for second semester courses to resume), required us to re-evaluate our approach.

Therefore, we made all schools 2-day, on-site sessions. To accomplish the task, ClarityClose co-founders, Karen See and Michael Taylor, split the list of schools and simultaneously conducted these sessions ... with amazing cooperation and assistance from each of our “sponsor” representatives and their colleagues.

Two pilot interviews were held with representatives from Georgia Tech (with Chris Hovorka serving as our sponsor/lead interview participant) and St. Petersburg College



(with Arlene Gillis as the school's representative). We tested our Facilitator's Guides to ensure our questions were on track and the support materials being developed had value. With these pilots under our belt, we turned our attention to the remaining six schools on the list.

A series of out-reach communication efforts took place, including debriefs with the assigned sponsors, as well as distribution of project background documents, task checklists and bio credentials on ClarityClose. Prior to arriving on campus, we conducted secondary research on each school, reviewing their web sites and press releases.

Over the following few weeks, we were able to have outstanding participation and input whether we met one-on-one with Program Directors, with faculty/administration teams and/or group-settings with students.

Our timing provided an unexpected opportunity to "observe" the final Site Visit step for the University of Pittsburgh's journey to become accredited. This allowed us to gain even more insight into what NCOPE's expectations are for compliance, to hear first-hand issues and challenges new programs face, and to witness the process all future Master's programs will go through as part of their process.

Armed with literally hours of recordings and pages of notes, ClarityClose began to identify commonalities and distinctions among and between the schools. About the time we were preparing to deliver our verbal report to the Committee, the team spearheading the Orthotic & Prosthetic Educator Seminar program released its report from their Summit held in August 2010. We were pleased to see so much of what we were preparing was actually validated in their report.

Although we didn't realize at the time that many of the issues we raised (while sensitive and perhaps even controversial), needed to be raised. It is our professional opinion that at some point, these challenges are going to have direct implications on NCOPE's efforts to obtain, retain and promote the value of an O&P Master's degree and Pre-O&P programs.

The written report being delivered now, is more reflective of the insight we gained regarding best practices and some of the creative, unique ways these schools are supporting and/or working on developing their visions/missions. Having said that, we are documenting some of the more critical areas for continued dialogue ... and potential resolution.

Universities Visited:

- ❖ Alabama State University
- ❖ Baylor College of Medicine
- ❖ Georgia Institute of Technology
- ❖ University of Hartford/Newington
- ❖ Loma Linda University
- ❖ University of Pittsburgh



- ❖ St. Petersburg College/Florida State University
- ❖ University of Texas/Southwestern

Participants:

Although we anticipated and planned to meet with those directly involved in program development, administrative support, clinical partnership and students ... in fact, our interviews were vast and broad among almost every function within the “Allied Health” ecosystem. We estimate that each site visit resulted in at least 10-15 individual/group interviews.

A list of each school’s participants is provided as an addendum, as their contribution should be recognized.

Project Scope

What This Study Is:

This study was designed to provide an “outsider’s perspective” to learn about key practices, issues, and sharable insights from the selected schools and to learn about the different players, roles and influences involved (or believed needed) in forming successful O&P Master’s programs. It was also designed to uncover interest, perceived ease, or areas of concern for implementing a Pre-O&P curriculum track to ensure undergraduates are prepared to enter a Master’s program. The ultimate outcome was to provide greater overall context, and perspective of program formation in order to market the Master’s and Pre-O&P programs to new Universities more effectively. The inputs we include in this report are a result of patterns, or themes, that we heard repeatedly from our on-campus visits to the various Universities.

What This Study is NOT:

- ❖ Comparative assessment of specific academic or clinical practices;
- ❖ Quantitative market research;
- ❖ Scientific research on methods, practices, procedures, or technologies;
- ❖ Formal comparative analysis between University programs, initiatives or operations; or
- ❖ Academic Whitepaper.

Despite many years of discussion, providing advanced degree programs in O&P are in their infancy. However, there appears to be positive momentum around this effort from the many people we met. Public awareness of people in need of prosthetic and/or orthotic services is increasing. The need has been well documented, especially as it relates to the ravages of war, the effects of diabetes, an aging population, etc., ... coupled with new breakthrough technologies in O&P devices, technologies and care practices. The rationale for enhancing the profession through advancing O&P education is higher than ever for many Universities who see this field as a critical component to a holistic healthcare academic offering.



Craig Jackson, Loma Linda Dean of Allied Health put it succinctly when he said, ***"The rationale for putting in this Master's program is an easy one. The world makes the perfect case every day."***

Context of Report

Curriculum Overview – Pre-O&P:

Most of this report will focus on the Master's program findings, as this was the area of familiarity and action/interest by the various schools. However, we did discuss the topic of offering/creating a Pre-O&P curriculum at each school interviewed.

The concept of turning the previous Bachelor's curriculum ... or adapting other Allied Health undergraduate programs to provide a new track specifically geared toward helping students successfully enter and complete the Master's program, was positively received. Having said that, it was such a new concept, there was not much input provided, other than a "sounds logical" type of response. There was also limited interest in exploring the "how," "why," and/or "when" questions that would need answering prior to creating such a program. **We believe NCOPE may need to put a little more "meat" in positioning documents to show examples of how such a curriculum could be developed.**

With that said, a few schools seem to be backing into this idea, although not necessarily calling it Pre-O&P: St. Petersburg College, University of Hartford and University of Pittsburgh. Because they have had Bachelor's or certification programs running for a while, it appears to be a fairly easy transition to offer the "pre-requisites" needed to enter into their Master's programs.

School Overview Comments:

While each school was clearly unique and distinct, we tried to ensure we were capturing content on an "apples-to-apples" basis in order to find patterns of similarities and opportunities for differences ... both of which could be determined as "best practices."

Each school studied has an "overview" section covering its current status in their journey toward a Master's program, lessons learned (or are learning), issues of opportunities/issues of concerns, etc. We share this information as a way of highlighting the similarities AND differences of each school. Understanding and embracing these areas could help the field identify which school should be nurtured for more aggressive Research, Clinical and/or Educational programs to ensure the "whole cycle" needed for the profession is available and participating.



Organization of Supplemental Information

While the emotional drivers appear to be in alignment, the Master's programs themselves are actually in their relatively early stages of development, which lends itself to complexity, confusion and opportunity. Because of the vast amount of information we gained, we grouped our findings into four major categories:

1) Good Lessons and Practices

2) Marketing Examples & Observations

3) Challenges to Success – Education & Profession

4) Marketing Plan Recommendations & Next Steps

(Section 3 covers the highlights of our many conversations about the state of the profession within the healthcare field, as the practice of O&P is never performed in a vacuum. While this was not within our original scope of work, the consistent content/conversations we heard simply could not be ignored by us. As “neutral observers/outside,” patterns that have relevance to the overall success of our client obligate us to share that information, even if it is sometimes difficult to hear. While we attempted to cover this topic from the “Education” point of view, the fact is the “Profession” and its issues directly impacts how educational programs are developed, implemented and supported.)



KEY FINDINGS BY SCHOOL

Below are our high-level findings/commentaries that we felt represented unique and consistent input, which served as the foundation for much of our assessment and recommendations that follow:

Alabama State University –

- **Status:** Pursuing Application
- **Degree Offered:** MSPO
- **Hierarchy Infrastructure:** P&O Resides in College of Health Sciences
- **Motivation for P&O Master's:** With Alabama's demographic profile, there is a critical community need for P&O services within the state and surrounding communities. The school also has a charter for advancing professional opportunities for African American students and faculty. During the process of assembling members for the state's Board of Advisors for Licensure within the Alabama Prosthetic & Orthotic Association (APOA), it was discovered there was only one O&P professional of color in the entire state of Alabama ... and he was not certified, which was a requirement for Board participation. These combined issues led the school's leadership, as well as local and state government bodies, to take action.
- **Approval Required to Start P&O Master's Prior to NCOPE/CAAHEP Accreditation:**
 - ❖ College of Curriculum Committee
 - ❖ Academic Dean
 - ❖ Graduate Curriculum Committee
 - ❖ Provost & VP of Academic Affairs
 - ❖ President
 - ❖ Board of Trustees
 - ❖ Alabama Commission on Higher Education (ACHE)
 - ❖ Commission on Colleges
- **Process Used:**
 - ❖ Outside consultant hired: Geza Kogler
 - ❖ Advisory Board Developed Representing:
 - O&P Profession
 - Clinic Owners
 - APOA (Alabama Prosthetics & Orthotics Association)
 - Shoe Manufacturer/Reseller
 - Veterans Health Services
 - Alabama O&P State Licensure Board
 - Device Manufacturer/Reseller



➤ **Admission Criteria:**

- ❖ GPA/GRE scores
- ❖ Student's record of community service, service as a volunteer in a hospital or clinic, service to the poor, participation in a medical or humanitarian mission, and research experience in a lab.
- ❖ Written essay that describes interest and motivation for becoming an O&P professional.
- ❖ Minimum of 3 written letters of recommendations, 1 from a faculty member.

➤ **Staffing Plans:**

- ❖ Teaching/Leadership Staff:
 - New Program Director
 - Additional Faculty (currently have 1)
- ❖ Support Staff:
 - O&P Technician/Research Assistant
 - Administrative/Clerical

➤ **Program Assessment System for Success Outcomes Management:**

- ❖ Alumni Survey (after years 1 and 3 of graduation)
- ❖ Clinical Instructor Summative Comments
- ❖ Clinical Instructor Surveys
- ❖ Clinical Performance Instrument Component Outcome Data
- ❖ Employer Survey
- ❖ Facility Feedback
- ❖ Certification Exam Data Results
- ❖ Student Exit Interviews

➤ **Challenges Faced During Process:**

- ❖ Had a challenge finding current data on true numbers of grads needed to support/justify program
- ❖ Challenge finding all the text materials per the "Required Textbook Listing for O&P Technical and Clinical Programs, August 2010" – 93 listed. Not enough available/in print ... Georgia Tech has offered to supply the school library with back issues of their professional journals to help.

Baylor College of Medicine –

- **Status:** In-Process ... Completing Fund-Raising. (Editorial: Since our visit, the College has tentatively approved the first-year budget and authorized the Program Director position.)
- **Degree To Be Offered:** MSOP



- **Hierarchy Infrastructure:** O&P Will Reside in School of Allied Health Sciences along with:
 - ❖ Nurse Anesthesia Program
 - ❖ Physician Assistant Program
 - ❖ Center for Educational Outreach
- **Motivation for O&P Masters:** BCM is in the largest medical center in the U.S. and Baylor has advanced collaborations and partnerships with the VA Hospital, The Institute for Rehabilitation & Research (TIRR), and the National Center for Human Performance, along with many others, makes the addition of a Master's O&P program a longed-for addition. The school's new President is one of the most passionate leaders we met for the program, acknowledging that the school's Allied Health programs provide the training ground to feed this massive care "city," and those it serves.
- **Ecosystem of Support:** BCM has one of the most unique ecosystems surrounding itself, including world-renowned institutions like:
 - ❖ Houston DeBakey Veterans Affairs (VA) Hospital – the largest in the U.S. and home to the Traumatic Brain Institute (TBI). It is a Level 1 Trauma hospital, working directly with the Department of Defense.
 - ❖ The Institute for Rehabilitation & Research (TIRR)
 - ❖ The Shriner's Hospital of Houston
 - ❖ Harris County Hospital District
 - ❖ National Space Biomedical Research Institute
 - ❖ Texas Medical Center's (TMC), National Center for Human Performance
 - ❖ Rice University (potential Pre-O&P feeder)
 - ❖ University of Houston (potential Pre-O&P feeder)
 - ❖ 7 Houston-based O&P Clinics
- **Process Used:**
 - ❖ Outside consultant hired: Kevin Meade
- **Approval Required to Start O&P Master's Prior to NCOPE/CAAHEP Accreditation:**
 - ❖ President
 - ❖ Growth Committee (Fellows, Members of other Schools, Finance, Administration)
 - ❖ Academic Council
 - ❖ Board of Trustees
- **Admission Criteria:**
 - ❖ Bachelor's degree
 - ❖ 3.0 GPA, 1,000 on verbal & quantitative sections and 3.5 on analytical section of GRE
 - ❖ Completed application
 - ❖ Pre-requisite course completion
 - ❖ Two letters of reference



- ❖ Interviews

- **Unique Aspects of the Curriculum:**

- ❖ 30-month Program:
 - 12-months focused on Science Education
 - 18-months doing clinical residency
- ❖ Clinical rotations/clinical problem solving begins during 4th term of the 1st year through 3rd term of the 2nd year. The 4th term of the 2nd year spent completing Research Paper.

- **Staffing Plans:**

- ❖ New Staff:
 - Director of MSOP
 - Clinical Coordinator
 - Additional Faculty
- ❖ Existing Staff:
 - A large pool of qualified instructors has been identified from fellow BCM programs, as well as many Adjunct Faculty from supporting clinics and hospitals.

- **Program Assessment System for Success Outcomes Management:**

- ❖ Student Evaluations (exams) – Basic Science
- ❖ Student Evaluations (written exams, simulated patient exam, clinical faculty evaluations) – Clinical Sciences
- ❖ Program Assessment
 - Quality of MSOP students
 - ◇ GPA
 - ◇ GRE
 - ◇ Personal Recommendations
 - ◇ Interviews
 - Course Evaluations by students and faculty
 - Performance on Board Scores
 - Faculty Performance & Developmental Needs Assessment

- **Challenges Faced During Process:**

- ❖ Fund-raising, as BCM requires each program to raise external funds to support its launch and operation.
- ❖ Desire to have had more standardized entrance expectations from NCOPE.

- **Unique Findings/Discussions:**

- ❖ The relationship with the VA hospital is providing unique opportunities to work with the new SmartFoot developed at MIT and funded by the DoD. (In fact, it was shared that the DoD is offering grants for innovations like the SmartFoot.)
- ❖ They are very outcomes driven and are establishing studies to prove better performance, especially regarding biomechanics of the gate for prosthetic users.



- ❖ Their National Center for Human Performance is working on “motion capture” data, using an advanced computer system to track gate progress/issues for diagnostic and research purposes. They are specifically working with children with cerebral palsy ... and with room design (i.e., apartments) issues along side Rice University’s School of Architecture.

➤ **Issues & Ideas to Share from School Representatives:**

- ❖ **Reimbursement:** They are doing pilot research to collect data on who can benefit from what particular services in order to provide positive outcomes, in order to help influence better/more appropriate reimbursements.
- ❖ **Pre-O&P Needs Definition:** Two faculty members offered to help define the curriculum for this track.
- ❖ **Transition Concerns from BS to MS Programs:** “There needs to be curriculum suggestions/plans for those students who have little Life Sciences coursework versus those with Life Sciences, but who may be challenged with engineering and device design and application expectations.”
- ❖ **Career-Changers Challenge:** “Is there something like a Post-BS/Pre-Med track for people who are coming back to school for career changing degrees?”
- ❖ **Common Admittance and Residency Applications Needed:** “Was shot down once, but shouldn’t have been.” (Apparently there has been an effort for the profession to build such a common document, but it did not come to fruition, for whatever reason.)
- ❖ **Residency Guidelines:** Residencies need more structure and consistency and perhaps should be put in the program so that NCOPE can approve them and their “teaching” plans.
- ❖ **Program Tension:** Belief that there is an “underlying tension” among schools offering Master’s O&P programs.

➤ **Issues & Ideas to Share from Current Residency Candidates:**

- ❖ **Application Process:** Would like the same application, filled out once and submitted to potential residency clinics.
- ❖ **Acceptance Timing:** The “waiting game” on residency acceptance is hard, especially since each has a different deadline of approval. Suggest a “season” of residencies so all offers can be evaluated at the same time.
- ❖ **Lack of Consistency Among Residency Programs:** Depending on the “type” (focused on Orthotics or focused on Prosthetics) and the size of the organization makes the experience totally different ... and sometimes not good.
- ❖ **Residency Management:** Colleges should help coordinate residencies for students ... and it would be better if they could be started while still in school.



➤ **Issues & Ideas to Share from Residency Providers:**

- ❖ **Concern over Differentiating Skills:** “Once someone gets their MSOP and are certified, they should be encouraged to add the MSOP behind their name, otherwise there is no difference between what they went through and all other COP professionals.”
- ❖ **Need for Continuing Education:** It was recommended that special training ... and continued training, be provided to those who are providing Residencies to ensure they deliver a consistent, quality experience as well as produce fully-skilled practitioners. An idea might be for the “Residency Providers” to have some sort of collaboration/best practices sharing conference on a yearly basis.

Georgia Tech –

- **Status:** 1st school accredited by CAAHEP for MSPO; Program initiated in 2002, accredited in 2004. 1st graduate degree program in School of Applied Physiology at Georgia Tech.
- **Degree Offered:** MSPO; PhD in Applied Physiology with focus in Prosthetics and Orthotics (initiated in 2007); PhD in Applied Physiology (this track does not have focus in P&O, but instead offers other tracks across various systems physiology; initiated in 2005).
- **Hierarchy Infrastructure:** P&O resides within School of Applied Physiology, which is one of seven schools in the College of Sciences (Applied Physiology, Biology, Chemistry & Biochemistry, Earth & Atmospheric Sciences, Math, Physics, and Psychology). There are six colleges within Georgia Tech (Architecture, Computing, Engineering, Liberal Arts, Management, Sciences). Considered a Biological Science path.
 - ❖ The MSPO is one of four focused Master’s degree programs at Georgia Tech (the others are Bioinformatics, Quantitative & Computational Finance, Human-Computer Interaction). The Council of Graduate Schools and the Sloan Foundation recognize each of these programs as Professional Science Master’s Degree programs (which are emerging at research universities).
- **Motivation for O&P Masters:** Georgia-Tech is a renowned Engineering & Bio-Science institution that is highly motivated to lead through innovation. It is also a competitive school vying for the best candidates who might also be considering MIT and other advance engineering/research-oriented colleges.
- **Ecosystem of Support:** Georgia Tech has several unique “support” systems to provide students with practical and “innovation” development opportunities. Atlanta is the premiere city for healthcare information technology headquarters, with the original start-up and rapid growth of WebMD, McKesson’s information technology headquarters, etc. It is also home for the Center for Disease Control (CDC), as well as several military bases within a short distance. Other advantages Georgia Tech offers are its own and/or partnerships with:



- ❖ Formal collaboration with Georgia Tech's School of Electrical and Computer Engineering, the Georgia Tech-Emory University School of Biomedical Engineering, Emory University School of Medicine, and the school's ATDC (Advanced Technology Development Center), which serves as the incubator for ideas that it believes could be commercially viable once past early start-up stage, Advanced Brain Imaging – a joint neuroimaging center at Georgia Tech and Georgia State University, Georgia Tech CATEA (Center for Assertive Technology & Environmental Access).
- ❖ Within the Atlanta metro area: Children's Healthcare of Atlanta (the 3rd largest children's hospital network in the U.S.), Emory Hospitals, Grady Memorial Hospital (Level 1 Trauma Center, indigent care, burn center), Emory School of Medicine, Morehouse School of Medicine (historically black college/medical school), MedShare International (International P&O and assistive technology device donor center), and multiple other medical, P&O and pedorthic clinics.
- ❖ The PhD program in Applied Physiology (with focus in Prosthetics and Orthotics) is the first P&O program to receive full funding by the National Institute of Health (NIH). This program provides full tuition and fees as stipend for three full time students per year to pursue the terminal academic degree (research doctorate) as it relates to P&O.

➤ **Process Used:**

- ❖ Key Players Involved in getting MSPO Started:
 - Arthur Koblatz, PhD, PE (mechanical engineering professor, now retired) who encouraged the idea of a graduate degree program in P&O in the mid-1990s.
 - Robert Gregor, PhD, former first chair of the School of Applied Physiology (currently is part time tenured professor, School of Applied Physiology and professor, University of Southern California, Department of Physical Therapy)
 - Gary Schuster, PhD, former Dean of College of Sciences, Provost and Interim President of Georgia Tech (now resides as tenured professor in the School of Chemistry)
 - President, Wayne Clough, PhD (retired from Georgia Tech in approximately 2008 and currently is the President of the Smithsonian Institute)
 - Jean Lou Chimeau, former Provost of Georgia Tech, now serves as president of California Institute of Technology
 - Chris Hovorka, hired initially as clinical director, and now serves as co-director and coordinator of orthotics curriculum. He adapted the original curriculum concept, designed the laboratories, hired the faculty and staff, procured equipment and supplies, wrote and negotiated initial clinical rotation site contracts, worked with Georgia Tech development office for fun raising
 - Robert Kistensberg, hired initially as part time faculty who transitioned to full time faculty, became coordinator of prosthetics and now additionally serves as co-director



- Robert MacDonald, hired initially as P&O fabrication laboratory technician, now serves as coordinator of all P&O laboratory operations and instructor of wearable technology design, fabrication and adjustment
 - Geza Kogler, outside consultant, now serves as full time faculty member in P&O as coordinator of research and instructor of orthotics curriculum
 - Benjamin Lucas, former MSPO alumni, now serves as part time instructor of Orthotics & Prosthetics.
 - ❖ Supported by the Council of Graduate Schools
 - ❖ Some initial start-up funding provided by the Sloan Foundation through its Professional Science Master's (PSM) program, which has a mechanism for providing initial support to new PSM programs. Georgia Tech worked with PSM to create a resource guide on "How to Start a Master's Program." An alumnus, who is a corporate executive, has provided additional ongoing support and funding for the program.
- **Admission Criteria:**
- ❖ GPA minimum is generally considered 3.0 (on a 4.0 scale)
 - ❖ Incoming class statistics for 2010 average of GPA of 3.68
 - ❖ GRE – minimum is generally considered verbal and quantitative and approximately 1,000 and analytical writing 3.5 on a 6.0 scale
 - ❖ Incoming class statics for 2010 average GRE (verbal) 558, (quantitative) 740, and (analytical writing) 4.5.
 - ❖ Extracurricular honors and awards
 - ❖ Personal essay
 - ❖ Three letters of professional reference
 - ❖ No formal "interviews" are held, although site-visits to the campus are highly encouraged
 - ❖ 5-person admissions committee consisting of faculty and staff in the School of Applied Physiology (1 full-time tenure track faculty, 3 full-time P&O faculty, 1 full-time P&O staff).
- **Unique Aspects of the Curriculum:**
- ❖ Georgia Tech, according to information on their website, designed a pseudo medical model entry-level Master's degree curriculum and was awarded CAAHEP accreditation upon the recommendation of NCOPE. The MSPO curriculum focuses on:
 - Applied physiology and engineering,
 - Clinical medicine and prosthetics/orthotics,
 - Applied science and research.
 - ❖ 2-year degree program with 48 semester credit hours (although opinion is it should be 60 hours, but the Institute has a policy cap of Master's programs at 48 semester credit hours).
 - ❖ Students must complete a minimum of 500 contact hours of clinical practicum in medicine, P&O and pedorthics combined, starting the first semester of attendance.



- ❖ A research capstone investigation is a requirement, although a formal Master's thesis is not required. Submission of an original manuscript for publication in a research journal is encouraged. The faculty-directed research is conducted by the student under the mentorship of a PhD-credentialed faculty member in the School of Applied Physiology (i.e., Neuroscience, Biomechanics, Motor Control, Exercise Science, P&O, Neuromuscular Physiology). The project selection begins early in the second semester and culminates at the end of the fourth semester with an oral report and poster presentation as part of a Research Symposium and submission of a written report. Part of this effort involves ensuring students have adequate and sustainable resources and funding to successfully complete research.
- ❖ Some laboratory resource highlights:
 - Split belt instrumented 3-D motion analysis laboratory
 - Over ground instrumented 3-D motion analysis laboratory
 - Exercise physiology laboratory with environmental chamber (to provide thermoregulation experiments)
 - Metabolic cart
 - DEXA (dual energy x-ray absorptiometer)
 - Lodi electronically controlled bicycles, treadmills
 - KinArm (isokinetic dynamometer)
 - Portable wireless surface and intramuscular electromyography (iEMG and sEMG)
 - Electroencephalography (EEG)
 - Instron instrumented servo-hydraulic loading apparatus
 - Cadaver laboratory (joint with Emory University)

➤ **Staffing:**

- ❖ Current Staff
 - Co-director of MSPO, coordinator of orthotics curriculum, Chris Hovorka
 - Co-director of MSPO, coordinator of prosthetics curriculum, Robert Kistenberg
 - Coordinator of Research, instructor of orthotics, Geza Kogler
 - Instructor of Orthotics & Prosthetics, Benjamin Lucas
 - Coordinator of P&O laboratories, Robert MacDonald
 - 3 FTE faculty and 1 FTE staff
 - 1 PT (future FTE)
 - Over 55 Allied Health, Medicine, Engineering, and Pedorthic faculty serve as clinical mentors and educators (most are given honorariums and related incentives)
 - Patient Models (given honorariums)
- ❖ Additional Staff:
 - Georgia Tech also faces challenges in hiring qualified educators with appropriate credentials. Therefore, it has “incubated” one of its own former students (class of 2004) to transition to full time faculty appointment. This individual currently serves a shared full time



appointment with dual role (part time – 40% - instruction in Georgia Tech P&O and part time – 60% - clinical appointment at Children’s Healthcare of Atlanta).

➤ **Program Assessment System for Success Outcomes Management:**

- ❖ Since its first graduating class in 2004, 100% of graduates that pursued clinical practice have secured residencies (62% in institutional practices – i.e., university, medical center, and hospital – and 38% in private practice).
- ❖ Approximately 9 out of 10 graduates pursue clinical practice while 1 out of 10 secure other professional career avenues (i.e., PhD, MD, PA).

➤ **Challenges Faced During Process:**

- ❖ Feeling of tasks being “overwhelming” to accomplish
- ❖ Need to plan and think years ahead of reality, which means people need to have patience to see a long-term vision versus short-term return
- ❖ Maintaining small class size with excellent faculty-to-student ration to sustain the highest quality graduates is one way Georgia Tech has addresses these challenges.

➤ **Unique Findings/Discussions:**

- ❖ Recently the School of Applied Physiology and P&O programs moved into a newly renovated building (\$5.4 million construction costs), which offers the P&O programs approximately four times more space compared to original facilities
- ❖ Use of resources from PSM (Professional Science Master’s association)
- ❖ Use of start-up and additional funding from Angel investor
- ❖ Each MSPO student is assigned a P&O Faculty Advisor

➤ **Positioning/Value Proposition:** According to the school’s website, it’s curriculum offers distinctions by providing:

- More detailed content on current topics including design, management technology transfer, etc.
- More potential career options including:
 - ◇ Clinical practice,
 - ◇ Research & development,
 - ◇ Product design & manufacturing,
 - ◇ Academic & clinical research,
 - ◇ Teaching in P&O, and/or pursuit of a terminal academic or clinical degree (Ph.D., M.D.) in a related discipline.
- Opportunities to participate in unique philanthropic clinical O&P practice (Project Hope Belize in Orange Walk Town, Belize; Good Samaritan Hospital Clinic, Atlanta, GA).
- Clinical Practicum experiences with Adult and Pediatric specialization.

➤ **Mission Statement:** There are three evolving aims and objectives of Georgia Tech’s MSPO education program:



- ❖ To provide the student with clinical problem solving skills for lifelong learning combined with advanced biomedical engineering education.
- ❖ To improve prosthetic and orthotic care in the treatment of the physically challenged in the rehabilitation setting.
- ❖ To conduct investigations to expand the body of knowledge in prosthetics and orthotics.

➤ **Issues & Ideas to Share from School Representatives:**

- ❖ **Reimbursement:** 3rd Party Payers are getting mixed messages from the profession and Providers are in conflict over the changes in the profession.
- ❖ **Residencies:** Would like to see NCOPE provide (or connect) Residency Representatives for the schools and students.
- ❖ **Research/Engineering vs. Clinical:** Students can sometimes feel “disconnected” from what they thought the profession is and what the curriculum requires. There needs to be a way to serve both “masters,” (i.e., research AND/OR clinical practice).
- ❖ **“Packaging the Field”:** An expressed view that the industry needs to do a better job of marketing the profession and its value. Specifically, suggestion that High School/College Advisors need to have more visually-oriented materials to share with students, as this generation is more visually oriented in the way they receive information. Marketing the “people side” of the profession with video testimonials was one idea.
- ❖ **National Youth Leadership Forum:** They’ve had success participating with the National Youth Leadership Forum in Medicine (high school sponsored programs for students interested in life sciences/medical professions). Stated this group is looking for other schools/clinical environments to participate and provide venues to “experience.”
- ❖ **Campus Career Advisors:** Suggested NCOPE (or others) collaborate more with the National Association of Health Professional Education Counselors (NAHPEC) to ensure there is better understanding of P&O as a career option earlier in the undergraduate degree planning so that the numerous prerequisites can be worked into the plan of study (this is especially important for engineering undergraduate majors because of the large number of biological sciences coursework, which is typically not included in many engineering tracks of study).

University of Hartford/Newington –

- **Status:** Accredited 2011 and Transitioning to Master’s. Scheduled review 2012.
- **Degree Offered:** MSPO, Bachelor’s Health Sciences (3+2 program ... if start as Freshman at University of Hartford, after 3rd year can begin Master’s program ... thus graduating within 5-years versus 6-years many others offer). They would consider their “3-year” undergraduate a Pre-O&P curriculum track. Students may also enter directly into the Master’s program after completing their degree and meeting all the prerequisites from another University.



- **Hierarchy Infrastructure:** P&O resides in the Department of Physical Therapy within the Centers of Health, Care and Well-being within the College of Education, Nursing & Health Professions. Other Centers in the College include Learning & Professional Education and Public Health & Education Policy.
- **Motivation for P&O Master's:** Newington, a 9-month Certificate program for O&P has recently partnered with the University of Hartford, as part of the transformation to the new educational requirements. The University was previously under contract to deliver a few foundational sciences courses to the Newington certificate program. Newington has transferred its resources to the private-college under its "Allied Health" umbrella, enabling the school to offer a more "whole patient" educational environment. The result has far-reaching implications for a geographic area in great need with limited services.
- **Process Used:**
 - ❖ Started planning for transition/MSOP in 2007.
 - ❖ Modeled program on MSPT, using similar approaches to degree elevation within the University setting. Because of experience with this process (PT transition), P&O transition has been relatively easy.
 - ❖ Because of strong PT background, transition was relatively easy.
 - ❖ Fabrication (technical) and Clinical education facilities provided by Newington location, so no need for substantial space renovation/addition.
- **Approval Required to Start O&P Master's Prior to NCOPE/CAAHEP Accreditation:**
 - ❖ College of ENHP (Education, Nursing, and Health Professions)
 - ❖ Faculty Senate
 - ❖ Provost
 - ❖ State Board of Education
- **Admission Criteria:**
 - ❖ GPA of 3.0 preferred, prerequisite courses earned at C grade or higher
 - ❖ GRE score considered, but not required
 - ❖ Letter of recommendations from a) course instructor or academic advisor, b) supervisor in professional or other work capacity, and c) another individual in either capacity
 - ❖ Display ethical, personal and professional qualities needed to fulfill role of a practitioner
 - ❖ The Admissions Committee decides acceptance
- **Unique Aspects of Curriculum:**
 - ❖ 59-hours, 3+2 program
 - ❖ Last semester, student chooses one track to concentrate studies:
 - Scientific Inquiry
 - Advanced Pediatric Exam/Intervention
 - Clinical Practice Gerontology
 - P&O Teaching Assistant



- ❖ One of the few schools that offers a course in Healthcare Management

➤ **Staffing:**

- ❖ Current Staff
 - Chairman, Dept. of PT
 - Academic Director, Ph.D.
 - Clinical Director, CPO
 - Adjunct Faculty & Collaboration w/PT, OT, Engineering

➤ **Unique Findings/Discussions:**

- ❖ Developing 15,000 sq. ft. space at St. Francis Hospital into Health and Rehabilitation Sciences Collaborative. Will have room for research, academics and an engineering lab (P&O is to be a key partner).
- ❖ Currently, P&O is physically located in the building that is part of the Integrated Science, Engineering & Technology complex. The department has 3 clinical-skills teaching labs, with 2 research labs dedicated to faculty and faculty-mentored student research activities. These research spaces include:
 - Human Performance Research Lab equipped with state-of-the-art, 3-D-motion-capture, digital videotaping equipment;
 - Force platforms;
 - EMG muscle-activation recording system and data analysis programs used for pediatric to athletic to geriatric needs.
- ❖ “The College for Education, Nursing & Health Professions’ (ENHP) Center for Health, Care and Well-being was created to conduct interdisciplinary research, translating achieved results into interventions that produce positive outcomes through improved clinical care, therapies, and new approaches to the promotion of wellness.”
- ❖ They have student/faculty led research projects underway within the Center and are using structured research methods, protocols, case models, and population studies.
- ❖ Through the Institute for Translational Research (part of the College of ENHP), 2 distinct research projects are underway (a formal RFP process was used to seek corporate partners):
 - **SAFeR** – The **S**ystematic **A**ssessment of **F**all **R**isk project is designed to create an evidence-based, clinically applicable, population-specific and modern hospital assessment tool to predict and mitigate falls. This is being done with the PT department & St. Francis.
 - **Fall Injury Mitigation Using Floor Pads** – Departments of PT, Mechanical Engineering, along with Patient Care Services at St. Francis are testing and piloting new floor pads from a private corporation, Innovative Medical Products.
 - Intent is to get these two pilot programs started with enough data points to use for future fund/grant-raising.
- ❖ One of the few marketing pieces found that references “advanced prosthetic knees can be controlled by microprocessors to allow clients to have a more



normal walking pattern. Braces equipped with Bluetooth devices can electronically interface with nerves to enhance motor skills.”

➤ **Issues & Ideas to Share from School Representatives:**

- ❖ **Reimbursement:** One of two big concerns. “Lobbying is a big issues ... we need to get the financial compensation up for our profession.”
- ❖ **Job Market:** The other concerns ... will the market support these new graduates (with respect to higher salaries or higher education)?
- ❖ **Faculty Education:** Need Ph.D. and other graduate programs designed to educate clinicians to become leaders, researchers, and teachers.
- ❖ **Engineering & Clinical Need to Come Together:** Need to use research to deal with real patient issues, not just innovation for innovation sake. Need for caregivers who can think creatively and scientifically. Master’s programs should address/apply concepts like robotics or micro-electronics/nano-technologies as part of the curriculum. Suggest collaborating with Rehab Engineering & Assistive Technology Society of North America (RESNA).
- ❖ **“Future will be based on Technical Advancements & Research”:** Today corporations mostly drive research and the feeling is that it needs to reside more in academic and practitioner settings.
- ❖ **Adjunct Faculty Needs Consistency Across Profession:** Concern that some schools are pulling teachers out of retirement or putting them straight into the classroom as soon as they are done with grad school & residency. There should be documented standards/validation of these educators.
- ❖ **Distance Learning:** Would like to make sure this concept will really work for this field, since physical patient interaction is so critical. Does NCOPE/others really understand the full strengths and weaknesses involved? One idea would be to limit “who” gets taught by Distance Learning methods. Should be just for transitional practitioners ... an Orthotist becoming a Prosthetist or vice versa.
- ❖ **Evidence-Based Outcomes:** The profession needs to set up the systems for capturing this information NOW! It directly impacts Joint Commission accreditation for large healthcare facilities ... and it will keep O&P down and/or out of the inner care circle if the group doesn’t get on board.
- ❖ **“Translational Documentation” Critical:** Proven, transparent, and integrated care plans are now required to get NIH grants. The profession is not seen as being good in this area.
- ❖ **Marketing & PR:** The profession needs to do a better job of marketing & promoting itself the way the PT profession has. “PT has done a better job of PR for their profession ... in articles, in movies, and even with practitioners and partners.”

Loma Linda University –



- **Status:** Pursuing Accreditation
- **Hierarchy Infrastructure:** O&P will reside in the School of Allied Health Professions
- **Degree To Be Offered:** Entry-Level (el)- MSOP
- **Motivation for Master of Science in O&P:** As a charter of providing out-reach healthcare services in critical areas of need through-out the world, Loma Linda found itself taken a-back when it sent its team to Haiti in January 2010 after its devastating earthquake. Upon arrival, it found thousands of people with limb amputations ... and no one from the school trained to provide O&P services. It realized this shortage of skill was even more poignant after assessing the overall need worldwide, from natural disasters, wars and the diabetes epidemic. With a strong School of Allied Health program and major financial and resource contributions from strategic partners, the effort to bring the el-MSOP on board was seen as a natural progression.
- **Process Used:**
 - ❖ Internal sponsorship – from worldwide church and education affiliations.
 - ❖ Southern Prosthetics Supply (SPS) – providing student discounts and information and industry support.
 - ❖ Consulting services from ProsthetiKa, a not-for-profit group presently hired in Haiti, on training and advises regarding their “Service to a Diverse World”.
- **Approval Required to Start O&P Master’s Prior to NCOPE/CAAHEP Accreditation:**
 - ❖ Sponsoring School Approval: School of Allied Health Professions (SAHP)
 - ❖ Sponsoring Department Approval: Physical Therapy
 - ❖ SAHP Administrative Council
 - ❖ University Academic Affairs
 - ❖ President’s Committee
 - ❖ Board of Trustee
- **Admission Criteria:**
 - ❖ Minimum of 3.0 GPA
 - ❖ 3 letters of recommendation
 - ❖ A one-page personal written statement
 - ❖ In-person interview
- **Unique Aspects of the Curriculum:**
 - ❖ Loma Linda has several courses that appear rather unique:
 - Patient Management, Assessment & Documentation
 - Economics & Business Management
 - Nutrition



- Research Design
- Personal & Professional Ethics
- Computers & Electronics for Clinicians
- Psychological Aspects of Health Care
- Biomechanics
- Art of Integrative Care
- Couples, Families & Disability
- Legal & Ethical Issues
- Rehabilitative Care in Developing Nations

➤ **Staffing Plans:**

- ❖ 3 Types of Faculty:
 - Core (Program Director, 2 – 3 FTE Faculty)
 - Associate (7 Educators from PT, Allied Health, JD programs)
 - Contract (5 Practitioners)
- ❖ Support Staff:
 - Academic Clinical Coordinator (as program matures)

➤ **Program Assessment System for Success Outcomes Management:**

- ❖ Program Entrance Survey
- ❖ Pre-quarter Meeting between program director and faculty
- ❖ Course Evaluations
- ❖ Post-quarter Meeting
- ❖ Quarterly Student/Advisor Meetings
- ❖ Exit Survey
- ❖ Yearly Curriculum Review
- ❖ Conditions for Successfully Completing Program:
 - Completion of all courses in the curriculum with a C or better (2.5 GPA)
 - Satisfactorily deliver a text and graphics file that can be used for a poster presentation at a professional conference in order to disseminate their research findings.

➤ **Challenges Faced During Process (Actually none, as all were addressed):**

- ❖ CAD/CAM: it is el-MSOP's intent to teach the full spectrum of CAD/CAM process. In order to do so, private funds are being raised to obtain a complete, up-to-date system. At the present, the el-MSOP program has the hardware and software of the CAD portion for shape capture and shape modification.
- ❖ Physical space resources at first were a challenge. The Loma Linda University Rehabilitation, Orthopaedic, and Neurosciences Institute (RONI) incorporated all the O&P patient care into its 20k sq. ft. out patient facility in order to vacate space for an 18-student O&P teaching lab in the present O&P lab.
- ❖ The Dean of the School of Allied Health Professions agreed to exempt the program from school taxes (18.45% of tuition income) for 3 years to help support the program's growth.



➤ **Unique Findings/Discussions:**

- ❖ The objectives of this curriculum are to produce skilled O&P professionals with the following attributes:
 - Wholeness: Students understand & apply the University philosophy of wholeness into their personal & professional lives.
 - Values: Students understand the importance of integrating LLU's Christ-centered values in their personal and professional lives.
 - Critical Thinking: Students demonstrate critical thinking.
 - Life-long Learning: Students develop a commitment to discovery and life-long learning.
 - Communication: Students demonstrate effective communication skills in English.
 - Technology: Students demonstrate effective use of technology appropriate to the discipline.
 - Diverse World: Students understand the importance of embracing and serving a diverse world.
 - Collaboration: Students demonstrate the importance of collaborating with others within and across disciplines.
 - Discovery: Students will demonstrate a commitment to discovery.
 - Applied Science: Students will apply basic science concepts to O&P care.
 - Clinical Excellence: Students provide advanced patient-specific O&P care.
 - Medical Justification/Patient Advocacy: Students will demonstrate the ability to serve as patient advocates by obtaining medically necessary services and equipment.

University of Pittsburgh –

- **Status:** Accredited 2011
- **Degrees Offered:** BS in Rehab Sciences, MSPO (separate programs)
- **Hierarchy Infrastructure:** P&O resides in the School of Health & Rehabilitation Sciences (SHRS) in the Department of Rehabilitation Sciences & Technology, along with other departments, including PT, OT, Sports Medicine, Audiology Speech, Emergency Medicine, Physician Assistant, Clinical Dietetics & Nutrition, and Health Information Management. As a part of the Department, P&O is a peer program with Rehabilitation Counseling and Assistive Technology. The University of Pittsburgh also offers Ph.D.'s in Rehabilitation Sciences and Communication Sciences. Their current Bachelor's degree in Rehabilitation Sciences could be considered a Pre-O&P curriculum track.
- **Motivation for P&O Master's:** The University of Pittsburgh began the program development and accreditation process in 2005, by the present Dean of SHRS. The school has a nation-wide reputation as being a leader in areas addressing rehabilitation and P&O is a natural extension of the school's approach toward



research and development in assistive technology, wheelchair biomechanics and seating systems.

➤ **Process Used:**

- ❖ Under Dr. Ray Burdett's leadership, a core team of educators was assembled. Working with NCOPE, they went through the process from a self-study methodology.
- ❖ Funding is provided as a % of the tuition the University gets. A pool is established to "invest" in new programs, but must go through internal processes to be granted these start-up resources.

➤ **Approval Required to Start P&O Master's Prior to NCOPE/CAAHEP Accreditation:**

- ❖ SHRS Planning & Budget Committee
- ❖ SHRS Council on Entry-Level Education
- ❖ University of Pittsburgh, Sr. Vice Chancellor of Health Sciences
- ❖ University Council on Graduate Education
- ❖ University of Pittsburgh Provost
- ❖ University of Pittsburgh Chancellor

➤ **Admission Criteria:**

- ❖ On-line application submitted with an evaluation form
- ❖ 3.0 GPA
- ❖ Completion of prerequisites
- ❖ 3 letters of recommendation
- ❖ Self-essay
- ❖ O&P shadowing or volunteer experience
- ❖ 3 people from O&P review the applications
- ❖ Sometimes phone interviews are done, but none have been conducted in-person to date
- ❖ Dean approves final list of candidates.

➤ **Staffing:**

- ❖ Full-Time Staff
 - Program Director, MSPO
 - Program Director, BS, Rehab Sciences
 - Faculty – Research Assistance
- ❖ Support Staff Needed (Feel they have inadequate number of staff, particularly in these areas):
 - Clinical Coordinator to help set up, qualify, train and follow-up with clinical environments for Internships/Residencies,
 - Lab Tech to manage and maintain equipment and order supplies (would be ideal to have a tech fabricator),
 - Research Faculty, (part of responsibility is grant writing, as much of their funding comes from DoD/NIH grants).



➤ **Program Assessment System for Success Outcomes Management:**

- ❖ Dept. of RST Curriculum Committee Monthly Meetings
- ❖ MSPO Full-Time Faculty Meetings
- ❖ Adjunct P&O Faculty Meetings
- ❖ Clinical Site Experiences & Evaluations
- ❖ Student Input
 - Anonymous formal course evaluations
 - Meetings with student liaisons and Program Director held each term
 - One-on-One Full-Time Faculty Advisor Meetings
 - Exit/Graduation Surveys
- ❖ Peer Comparisons
 - Program Director participation in P&O educator meetings
- ❖ Advisor Board Annual Program Review, members include:
 - MD in Physical Medicine & Rehabilitation
 - ABC-certified Clinical Instructors & Adjunct Faculty
 - Owners of ABC-certified P&O Clinics
 - Academic Faculty in Rehab Research
 - Consumers (Post-care Patient)
 - Student Representative
- ❖ Student Performance in Program
 - Exams: 1) 1st Term Adequacy of Pre-Requisite Courses & Admissions Requirements; 2) Subsequent & Final Exams for Effectiveness of Program
- ❖ Student Performance on Certification Exam
- ❖ Student Performance on Comprehensive Exam
- ❖ Employer Surveys

➤ **Challenges Faced During & Post Process:**

- ❖ **Limited/Appropriate Space:** An appropriate fabrication lab required slowing the process to find adequate space. Finally found an off-campus “restored warehouse/high-tech center” to move program and new build-out completed. Now it’s a “cool and different” place ... turning a bad situation into a good.
- ❖ **Educator’s Education:** Felt they were “scrambling” to stay ahead of the students ... having to learn ahead of teaching. Developing content “just in time,” which added stress to the team/process ... particularly in figuring out the “order, schedule logistics, room use,” etc.
- ❖ **Supply/Equipment Procurement:** Lack of understanding and infrastructure within University for unique needs for ordering equipment & supplies proved a challenge in getting materials delivered on time (or at all), since the program did NOT control its own budget/procurement process. Now they have a centralized purchasing process, which has helped considerably.
- ❖ **Budget Management:** The MSPO budget is managed by the Rehab Sciences department, which caused some challenges in getting materials required for program. No other program requires so much equipment/materials,



therefore, there was a lack of understanding about the importance of these items ... and the need to have them available at the right time of instruction.

- ❖ **Clinical Management:** Lack of support staff to help manage Internships, Residencies, Adjunct Professor scheduling, etc., is a challenge.
- ❖ **Access to Patient Models:** Need to have more patient models for student instruction. Of particular challenge is getting these people scheduled at the right time to accommodate the student's schedules/availability.
- ❖ **Lack of Understanding of P&O Role from Dept. Head:** The Department Head is heavily trained/focused on "research" from an innovation standpoint (i.e., working with the VA on new devices/therapies and robotics experiments with mind control of robotic arms ... which has not traditionally involved the P&O group). MSPO team would like to see more focus on "research" for the practical side of care delivery, which would require more resources with this clinical specialty.

➤ **Unique Findings/Discussions:**

- ❖ Extremely unique research projects (mentioned above) are bringing great attention to University (but not necessarily the MSPO program as a part of the team).
- ❖ "Quality of Life" partnership with Carnegie Mellon.
- ❖ Have a proactive marketing team who is supportive of getting PR for MSPO program (see article in Marketing section announcing program).
- ❖ They provide undergraduate students an "Introduction to Rehabilitation" class, which introduces them to all the aspects of the Rehab Science field ... including the P&O profession. They also provide "introduction to O&P" as an elective to undergraduates. These classes were voiced as one of the main motivators several students cited for joining the Master's program.

➤ **Issues & Ideas to Share from University Staff:**

- ❖ **Educator's Education:** Access to text books/manuals is an issue. Either materials were out-dated or non-existent. Particularly needed Fabrication Manuals and other technical manuals. One of the staff members voiced concern about the lack of sharing of materials, perhaps due to receiving grant money for developing the information.
- ❖ **Education Resources:** Having to rely on Adjunct Faculty to assist with teaching means that some classes can only be taught between 4:00 pm – 6:00 pm. Can be hard on the instructors (after a full day of practice) and the students.
- ❖ **Student Assessments/Observations:** The program has had great success filling its program and its first class of 14 graduated with their MSPO in April. Their next class has 12 students. However, there are some interesting "challenges" noted:
 - Some students don't want to "read" directions ... want to be "shown." Very visual.
 - Students need to learn to relate with people. Human dynamics is a big issue today and will be in the future.



- Seeing more applicants from people in career transition ... they are older, more mature ... which can be a challenge for how to teach/ensure success from a generational perspective.
 - ❖ **Supplies:** With tightening budget, very hard to get adequate supplies/equipment. Would like to see other Universities share unused/slightly-used materials ... perhaps have a “Craig’s List” type of on-line procurement site where people can list what they have and either what they’d charge for it ... or open it up for on-line bidding.
 - ❖ **Concern About Profession’s Ability to Keep Its Specialization:** “How does the profession keep its specialization in P&O if everyone now has MSPO degrees? How are we going to acknowledge distinctions from those without Master’s? How can these professionals be good at both P&O? How does one know whether they tend to be better at Orthotics OR Prosthetics?”
- **Issues & Ideas to Share from Students:**
- ❖ **Clinical Experiences/Internships:** Students voiced they would like more “hands-on” time during their Internships.
 - Specifically, they would like to rotate to a variety of clinical settings to get a better sense of how each is run/functions differently.
 - ❖ **Curriculum Comments:** Many voiced that the current curriculum is so tightly structured there is no room for flexibility or creativity. Some would have liked to be offered elective choices, particularly in Rehab.
- **Issues & Ideas to Share from Current Residency Candidates (in-process at local Clinic):**
- ❖ **O&P versus O then P:** Concerned that there really isn’t much integration in O&P from a residency perspective. Have programs that are just Prosthetics and those that are just Orthotics. But yet the degree has dual P&O. “Shouldn’t there be more clinical experiences where both exist together?”
 - ❖ **Inconsistency in Experiences:** “Clinics vary on what they allow residents to do. This new level of education is new to them, so it’s been hard. Many still want us to do “old, technical” support things versus helping us prepare to be practitioners.”
 - “It would be great if we could visit the clinics to evaluate them versus just applying and hoping we get accepted. I may want a more advanced environment and get stuck with a more traditional one.”
 - ❖ **Residency Programs Need Consistency & Management:** “These programs need to be scoped, have the criteria established for what we will be expected to learn and do, and what unique areas they can offer. Like Information Technology or Human Relations with patients, families, physicians.”
- **Issues & Ideas to Share from Current Residency Providers:**
- ❖ **Expectations for Skills:** “Certain schools have reputations ... their students don’t have good ‘hand skills’ ... so we won’t ever offer a residency to one of their graduates.”



- ❖ **Expectations for People Skills:** “These new students (editorial: from various O&P schools, not specifically directed to University of Pittsburgh), don’t have very good interpersonal skills. How will they deal with baby boomers when they are faced with this type of patient?”
 - “This field requires a team approach, which also means good people skills.”
- ❖ **Desired Expectation:** A “perfect background:” Biomechanical background with leadership skills. Creative problem-solver & brain storming abilities.
 - Suggested doing “beta” research/clinical trial type work for “vendor” companies that are developing new products/devices.

St. Petersburg College/Florida State University –

- **Status:** Accredited 2010, Transitioning toward Master’s
- **Degree Offered:** BAS, Orthotics & Prosthetics. Master’s of Science in Industrial Engineering with specialization in Materials Engineering & Management of Orthotics & Prosthetics (MSIE-MEMOP) from Florida State University (a collaboration partnership).
- **Hierarchy Infrastructure:** SPC’s Bachelor of Applied Science in Orthotics & Prosthetics is under the J.E. Hanger Orthotics & Prosthetics Program within the College of Health Sciences.
- **Motivation for O&P Masters:** With the BOC mandated move to the Bachelor’s degree as its minimum requirement for professional accreditation in 2008, according to Arlene Gillis’ interview in O&P Almanac, August 2009, “the Centers of Medicine and Medicaid Services (CMS) are developing regulations to prohibit payment to suppliers who cannot demonstrate minimum competencies through education and experience.” As a leader in the profession, NCOPE, ABC and CAAHEP’s announcement that a Master’s would be the “true” entry-level point, SPC quickly adapted and found physical, financial and partnership resources to be a leader in the field.
- **Ecosystem of Support:** SPC is located in the middle of a state with a high elderly population. It has strong relationships with Hanger as well as many local clinical practices. It’s relationship with Florida State University enables the school to offer a Master’s degree for its “feeder” students, delivered via distance learning. FSU has renowned programs in industrial engineering, business and medical specialties as part of the consortium.
 - ❖ There appears to be a strong alliance with AOPA, who have provided “use of their software and online resources to allow us to have a more complete curriculum for our students,” according to SPC literature. Students use the “Illustrated Guide for visual L-code descriptions; and employ information obtained from AOPAversity modules into their clinical decision making.”



- **Process Used:**
 - ❖ Arlene Gillis, LPO, CP, M.Ed., is the clinical coordinator at SPC, who took the charge to build the case for Master's accreditation several years ago.
- **Approval Required to Start O&P Master's Prior to NCOPE/CAAHEP Accreditation:**
 - ❖ Proposal to Dean of Health Sciences College
- **Admission Criteria:**
 - ❖ Application into SPC O&P Program with minimum of 15 semester hours of transferable general education coursework.
 - ❖ 2.5 GPA from post-secondary coursework.
 - ❖ Minimum of 16 hours observation, volunteer service, or work experience in O&P
 - ❖ Hours officially be documented and signed by certified/licensed O&P practitioner
 - ❖ Letter of recommendation from a certified/licensed Orthotist or Prosthetist.
 - ❖ Pass background check and drug screening
 - ❖ Admit 24 students/year.
 - ❖ BAS in O&P requires completion of the 64-hour, 2-year program (along with A.S. or A.A. degree).
 - ❖ Admission into FSU MSIE-MEMOP Program:
 - GRE scores, 3.0 GPA, course requirements
 - Complete 32-hours (full- or part-time) to receive degree
- **Unique Aspects of Curriculum:**
 - ❖ Heavy emphasis in general educational requirements (i.e., Communications, Humanities/Fine Arts, Math, Natural & Physical Sciences, Social & Behavioral Sciences, Ethics, Computer/Information Literacy) with O&P Pre-requisites focusing on Human Anatomy & Physiology (including O&P/Rehab, Biomechanics, Clinical Methods, Gait Analysis & Pathomechanics, Research Methods, etc.) for most of its content.
 - ❖ Students must meet foreign language, computer and CLAST requirements.
 - ❖ There is a heavy emphasis on distance learning, with many classrooms equipped to provide such forums ... especially for students who are in the FSU Master's program, which is primarily instructed via this new medium.
- **Staffing:**
 - ❖ Full-Time Staff
 - Program Director, Clinical Coordinator (currently getting her Ph.D.)
 - Full-Time Faculty (2 CPOs)
 - Adjunct Faculty (6 CPOs, 2 MDs, 2 Ph.D.s, 2 PTs), Research Assistance
 - ❖ FSU Staff
 - 6 Ph.D.s
 - ❖ Support Staff:



- In-House Lab Manager to manage and maintain equipment, order supplies, help with student activities and oversee Lab work. They stated they are the “only school” to have someone who does this.
- **Program Assessment System for Success Outcomes Management:**
 - ❖ *(Did not obtain data on this, but know the desire is to track successful conversions from Master’s to credentialing to employment as a clinician).*
- **Challenges Faced During & Post Process:**
 - ❖ Funding was one of the biggest obstacles, but with its relocation into the School of Health Sciences, much of its space, equipment needs and faculty could be collaboratively shared among other affiliated departments.
 - ❖ It took 3 years to get the space put together in order to service the new student population.
 - ❖ Have had to decrease hours (“dilute course work”) in undergraduate studies in order to provide O&P-specific courses and stay within the allotted hours approved by the College.
 - ❖ Filling the pipeline of qualified faculty to stay ahead of student pool.
- **Unique Findings/Discussions:**
 - ❖ Positioning of the BAS program heavily focused on “assessment, design, fabrication and fittings.”
 - ❖ “The ONLY bachelor’s degree in Orthotics and Prosthetics in the Southeast,” according to their literature.
 - ❖ The school is very active and aggressive in its recruiting efforts and does a lot with the Tampa Bay Higher-Ed Alliance (TBHEA).
 - ❖ Shared that they have seen an up-tick in “re-careering” candidates ... coming from manufacturing/engineering professions.
 - ❖ SPC/FSU’s program is one of the most inexpensive of the schools visited.
 - ❖ High success rate, with 95% retention of accepted students ... and 90% of applicants ONLY applying to SPC.
- **Issues & Ideas to Share from O&P Staff:**
 - ❖ **Inconsistency About What Qualifies a School to be Accredited:** There appeared to be some concern about the timing/efforts for some schools over others the issue of parity. For some schools that had already been offering Master’s programs, there was a 5-year period provided to ensure their existing programs were appropriately transitioned, while newer schools had to move quicker to make the switch.
 - Believe that there must be a mandate on % of graduates who are/have been clinically practicing. If a school does not have at least 50% of its students involved in clinical rotations, it should not be allowed to provide a MSOP.
 - Concern that some schools are accepting people with “fashion” or “fine arts” degrees ... or just “engineering, which lacks any background in anatomy.”



- ❖ **Concerns About Overall Master's Program:** Because of restrictions on hours that must be accomplished in order to get a Bachelor's and now Master's degree, there was a sense of "compression" of curriculum from the old programs to the new, which concerned some at the school that the new "Master's" created more classes without much changing in the curriculum previously taught.
 - Application deadlines appear to be out of synch with "feeder" schools.
 - There should be flexibility to create different pathways ... for instance in Florida, there could be a science path and a public health management path.
 - Suggested the need to TRACK accreditation success to monitor program success.
 - Need to ensure the "warm and fuzzy" part of the profession is part of the curriculum.
- ❖ **Concerns Regarding Profession:** Fundamental concern - "Is this an industry of Practitioners or Engineers?"
 - Concern there still is a lack of evidence-based outcomes.
 - Believes CAD/CAM and paperless documentation are a big part of the profession's future ... and therefore, they're a big proponent of technology use (clinical documentation, etc.) in their programs.
 - Concerned that practitioners need to sell the profession's value to physicians and insurance companies (who need to help address the lack of states that have licensure).

University of Texas/Southwestern –

- **Status:** Accredited 2010
- **Degree Offered:** MPO, the Bachelor's O&P program was started in 1982.
- **Hierarchy Infrastructure:** Under the University of Texas/Southwestern Medical Center are three Colleges: 1) Medical School; 2) Graduate School of Biomedical Science and 3) School of Health Professions, where the MPO resides. Housed on one of the largest medical campuses, it's colleague school – the Graduate School of Biomedical Science offers Ph.D. programs in Biomedical Engineering, Clinical Psychology, and Neuroscience.

As a member of the School of Health Professions (and its 300 students), the MSPO program resides among those obtaining degrees as Clinical Nutritionists, Physical Therapists, Physician Assistants, Medical Lab Scientists & Technologists, Radiation Therapists, and Rehabilitation Counselors.

- **Motivation for O&P Masters:** With a rich environment of care delivery, research and innovation, as well as strong affiliated partnerships, providing a Master's level curriculum was a fairly easy transition.



- **Ecosystem:** (See Hierarchy Infrastructure above). The MSPO program also houses its own clinic for patient care, providing a unique revenue-generating opportunity, “real-world” experience for its students, and on-going research/innovation with its faculty, who also are all continuing practitioners. Specific organizations that provide clinical rotation/Internships and/or Residencies include, but are not limited to:

- ❖ UT/Southwestern clinics for Multiple Sclerosis & Amyotrophic Lateral Sclerosis
- ❖ Pediatric clinics at Scottish Rite Hospital for Children and Children’s Medical Center

- **Admission Criteria:**

- ❖ Bachelor’s Degree received with a 3.0 overall GPA:
 - Biomechanics
 - Physics
 - Mechanical Engineering
 - Biomechanical Engineering
 - Biology or Applied Physiology
- ❖ GRE with no minimum score requirement
- ❖ Visit, shadow, volunteer or paid work in a P/O practice
- ❖ 3 letters of recommendation (instructor, employer, undergraduate advisor, volunteer experience or leadership position supervisor, other academic/research mentor)
- ❖ Personal interviews ... looking for commitment and future leaders in the field

- **Unique Aspects of Curriculum:**

- ❖ Human Anatomy Dissection Lab
- ❖ Biomechanics of Human Movement
- ❖ Professional Development Education: Interaction with other healthcare disciplines. Topics include communication skills, team dynamics, conflict management, cultural competency and other professional skills needed to collaborate in a healthcare work environment.
- ❖ Contemporary Practice & Synthesis: 3 distinct areas are covered during the last semester – 1) Practice Management, 2) Advanced Technology, and 3) Clinical Reasoning & Synthesis.
 - It emphasizes documentation & coding skills and includes regulations related to reimbursement by federal, state and private payers. It also covers quality assurance & accountability, healthcare economics, marketing, licensure and certification.
 - It covers professional organizations, International services and life-long personal and professional development.
 - It builds on current P&O design principles by introducing additional available technologies and research trends including:
 - ◇ Computer aided design
 - ◇ Myoelectric P&O control
 - ◇ Functional electrical stimulation



- ◇ Microprocessor controlled joints
- ◇ Management of high activity individuals
- ◇ Advanced prosthetic socket design & suspension
- ◇ Complex orthotic gait and device design
- ◇ Targeted reinnervation & osseointegration.

➤ **Staffing:**

- ❖ Full-Time Staff
 - Program Director – Assoc. Professor, M.Ed., CPO/LPO
 - 3 Instructors – CO/LO; CP/LP
 - 3 Asst. Professors – Ph.D.; M.Ed., CPO/LPO; CPO/LPO

➤ **Program Assessment System for Success Outcomes Management:**

- ❖ The Texas Education system requires tracking and progress reporting on the following criteria:
 - # of students
 - # of diversity-categorized students
 - State:Student:FTE Faculty ratios
- ❖ Revenue generation and patient satisfaction from on-site clinic

➤ **Unique Findings/Discussions:**

- ❖ The schools' on-site clinic provides an opportunity for Faculty to remain "current" in skills ... and the supply of patient models and student experiences in line with curriculum needs.

➤ **Issues & Ideas to Share from O&P Staff:**

- ❖ **Concern Re: Pace of New MSPO Additions:** "We should increase our pool of qualified applicants before we open additional programs."
 - "Encourage young clinicians to consider advanced degrees and become educators."
- ❖ **Research Should Have Two Paths:** Feeling that most academic environments focus on research from an academic/innovator's perspective versus "clinical" research designed to advance the entire profession.
- ❖ **Space on Campuses:** Because of the equipment/ventilation needs, space is always a concern ... and a constraint for growing the field/class sizes.
- ❖ **The DME Code/Reimbursement:** "This problem is going to haunt us as a profession."

➤ **Issues & Ideas to Share from Students:**

- ❖ **Input from Current Students During Dinner:** We had a rare opportunity to talk with an entire class of students about their backgrounds/reasons for picking this field. Below is a sample of the kinds of credentials/points of views from students at UT/Southwestern:
 - Monica – Biomedical Engineering BS, University of Tennessee:
"Observed at Shriner's Hospital, liked that it combined technical skills with people needs."



- Sally – Kinesiology BS, Texas A&M: “Wanted to work with amputee’s and college advisor suggested O&P.”
- Derick – Chemical Engineering & Kinesiology BS, Penn State: “There’s a real lack of brand awareness for P&O. Had to interview people and do research to find this program.”
- Galen – Kinesiology BS, University of Dallas: “Looked into PT under Allied Health and found O&P.”
- Rachel – Kinesiology BS, LSU: “Thought I wanted PT until I discovered O&P.”
- Marissa – Biomedical BS, New Jersey: “Was originally planning a Rx career. Saw Rutgers had a program, but it collapsed. So volunteered at a clinic and found the NCOPE web site.”
- Kelsey – Biomedical Engineering BS, Texas A&M: “My mom was being fit by her Orthotist and we started talking about UT/Southwestern.”
- Jamie – Bioengineering BS, Rice: “Wanted a mix between math and care. My sister is a PT who works with an Orthotist. Started searching web and found NCOPE.”
- Caitlin – Kinesiology BS, TCU: “My advisors didn’t know what to suggest or where to send me when I told them what I wanted to do. Did a PT internship in pediatrics. Saw a lot of O&P work and knew that’s what I wanted.”
- Trieu – Integrated Physiology BS, University of Colorado: “Started in aeronautical engineering. Met an amputee at camp. Found a professor to shadow and found school through NCOPE.”
- Allison – Biomedical Engineering BS, Tulane: “In high school I wanted to design. Went into Peace Corp., and taught for 2 years. Got a job at Rice doing device design ... then moved over here to P&O field.”
- Phuoc – Biology BS, UT/Austin: “Interested in nursing. Dad’s friend was an O&P practitioner, so searched on NCOPE to find school.”
- Shane – Psychology BS, East TX: “Worked for my uncle who did PT. Knew a professor in O&P who guided me.”
- Dave – Kinesiology BS, William & Mary: “Had hurt my back in high school and had to wear a brace ... decided to work in P&O back then.”

➤ **Issues & Ideas to Share from Current Residency Candidates:**

- ❖ **Competition for Residencies:** “For every 15 graduates here, there are few residencies available in the area. We need more options, especially if we don’t want to move.”
- ❖ **Timing of Residencies:** “Residencies need to be organized so that students enter into their programs at the same time ... across all schools.”
- ❖ **Image of Profession:** “I think there’s a credibility issue with P&O versus others in the field, particularly PT. To become a certified P&O practitioner, you need to take 8 years of school: 4 years for BS, 2 years for Master’s, 2 years for Residency. For PT, it takes only 6 years: 4 years for BS, 2 years for Master’s ... 1 test, then you get your Ph.D. They do their residencies while in school! Hard to financially justify this, except for passion.”



- ❖ **Desired Curriculum as Master's Student:** "We wish we could have had more classes in Psychology of the Disabled, especially relating with kids and their parents ... some sort of specialization in understanding how to encourage/influence 'self-motivation'."
- ❖ **Documentation System:** "I hate 'Typhon.' It literally adds another 1 ½ hours of extra work to my day ... and I don't know what anyone does with that information."
- **Issues & Ideas to Share from Current Residency Providers (Hospital):**
 - ❖ **Concern Re: Need for a Master's Level Degree:** "Feels like we're just trying to keep up with the 'Jones'" ... just chasing the PT/OT field who did nothing different in their curriculum than add Ph.D. behind the degree."
 - "Need to show a more distinct difference in skills between a Master's and a BS degree. There's a BIG difference between BS and 2-year certification programs, but don't see it between BS and Master's."
 - "Technicians starting to do more of what was traditionally done by college-educated practitioners."
 - "We need more qualified students! The country is underserved and the government isn't reimbursing us like it should."
 - ❖ **Concern Re: Residency Programs:** "NCOPE should require that all residency programs (specifically from the private clinical environment) come from ABC accredited organizations." (Editorial from ClarityClose: It appeared from this particular practitioner that some Residency programs were not appropriately providing the kind of practical experience a larger hospital environment desired from its Residents, therefore, requiring them to "go back and teach what should have been mastered.")
 - "This is a very expensive program to teach. We've seen schools dump a lot of the 'core teaching of hand skills' to those of us providing residencies. Takes longer to bring students up to a minimum level of competency."
 - "Students need to graduate with better paper/EMR skills."
 - "Would like to see schools provide more 'real-world' experience ... how to think on their feet, respond verbally ... NOW!"
 - "They need to be taught 'Psychology of Disability'."
 - ❖ **Concern Re: The Profession:** "What group owns the outcomes? There should be a bonus program for residents that perform and can document their results in a way acceptable for outcomes management."



BEST PRACTICES STUDY REPORT

KEY FINDINGS

Two Distinct “Experience” Patterns:

From our point of view, it appears the current state of the O&P (or P&O) profession ... and subsequently the educational needs and expectations of those entering the field appear to be rather fragmented and disjointed. The reason for highlighting this is that the “experience” one has when visiting (and deciding to join as a student/faculty member) has a direct correlation to whether a more “visionary” profile is a good “fit” or a more “traditional” profile.

In fact, we found most schools; students and the profession’s leadership fell into two distinct “psychographic” profiles. Of particular interest was that many of these schools were not aligned with even themselves; their Academic Leaders shared very strong and forward-thinking ideas and plans. In contrast, some of the programs and their teams were functioning on a more traditional path; moving the field forward in incremental steps relying on improving the skills already offered today. The profession has a great opportunity to identify these “styles and visions” ... and support each one with different expectations, acceptance and support. Without acknowledging these differences, the risk for continued confusion and unfulfilled potential is great.

The “profiles” we saw fell into the following two categories, which we have labeled as “Big Thinkers/Aggressive Drivers” and “Traditionalists/Incremental Advancers”:

- **Big-Thinkers/Aggressive Drivers** – These are schools (and leaders) that have a very distinct vision for the profession’s potential ... and articulate it easily and with passion. They want change and are extremely supportive in obtaining best practice input from others in order to establish consistency among schools and future practitioners (while recognizing the importance of having a program that aligns with their University’s brand proposition and fundamental “DNA”). These are people/programs that embrace collaboration and forward thinking and are willing to “open” themselves up in any way if it means helping the entire field.
- **Traditionalists/Incremental Advancers** - These are schools (and leaders) who do not want to necessarily join together with others in a collaborative fashion, as there is a feeling of “competition” with their fellow institutions for students, faculty, funding, etc. This competition (whether real or perceived) resulted in rather siloed thinking and agenda setting. These were schools that were not necessarily aligned with a “bigger picture” vision of the profession. While all verbally shared their support of NCOPE’s initiative and work to date, they are going to follow the rules in a way that serves them best ... not necessarily the industry as a whole. Their viewpoint is to deliver a quality education based on their understanding of what an O&P professional must do to provide quality care ... today.



When there are these types of chasms within professions, there usually follows a disconnect regarding things such as:

- ❖ **Standardization in Foundational Elements** (i.e., types of criteria/processes used to admit students, curriculum provided ... and optional tracks of interest to pursue. Other elements include testing tools/methodologies/grading scales, Internships & Residencies structure and outcome expectations, adoption and use of industry standard technology systems for documentation and case management).
- ❖ **Agreed Vision of the Profession** (Better “hand” skills? ... More psychological counseling skills? ... Innovation/research abilities? ... Ph.D. tracks for future educators?). Is it all of the above, one area over another? In other words, those schools lead by the more progressive thinkers absolutely see the profession embracing all the above. Those more narrowly focused, tend to gravitate to more proficient understanding of human kinesiology/physiology with the expectation that advancement is still within a tightly defined role for ensuring “device-to-body” skills are performed with high efficacy.
- ❖ **Nomenclature/Status** (as with anything that is transitioning, dealing with the “previous” versus the “new” is often a challenge. The O&P (or P&O) profession has this challenge in spades (the fact that there are two accepted acronym terms for the field is just a small example). What’s the true difference between someone who gets an AA, BS, or Master’s degree ... and how do the two credentialing bodies help identify the difference ... ABC or BOC? What about people who have these credentials today, yet never earned a four-year college degree? Does it matter?)

Although there are pockets of great enthusiasm about advanced O&P educational programs, there doesn’t seem to be a unified view of what it takes to prepare students for the new, more sophisticated level of O&P practice ... or even what the next generation of professionals should be doing every day as a member of the profession with all the “letters” behind their name.

To help understand the variety of visions/thoughts about the profession we heard, here are a sample of quotes that point out how different each curriculum/program could be simply based on what the leadership believes is the role of the profession.

For Jon Williamson, Associate Dean from UT/Southwestern, he shared the following observation:

“O&P will NEVER be the profession it could be unless it OWNS its own innovation and knowledge!”

For the Dean at University of Hartford, Dr. Ralph Mueller, it’s blending research with patient care:



“It’s time to take the profession out of the closet. It’s not a ‘skill/craft,’ but an ‘academic/research profession.’ But the field can’t survive in academia alone ... or patient care side alone. It needs to apply research practices toward real patient needs.”

For an O&P Practice Leader from Alabama State University, the profession should be seen as more “whole person” centric:

“It is time to move our profession above the knee. There is a whole person connected to that knee ... someone who has been traumatized, and has great difficulty. We can help them in so many ways (beyond the devices we use), to re-enter the world as happy productive people.”

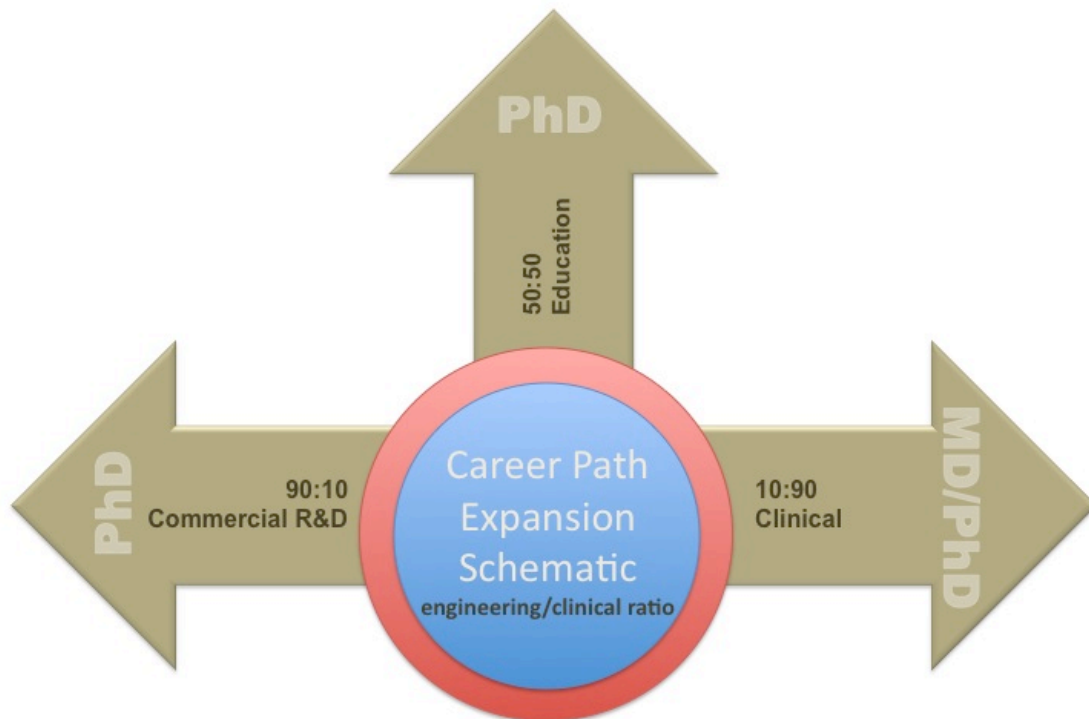
None of these statements are right or wrong, in our opinion. But they are certainly different. As the education-standards body, NCOPE and the O&P Futurity Committee needs to decide if there is one path for the profession ... or optional paths. Whichever, a clear definition needs to be articulated and together, ensure programs are being created to produce the types of graduates with the type(s) of skills most needed.

What we thought was especially interesting was the number of times (with no prompting from us), the more “forward-thinking” leaders drew this type of triangulated vision for the profession:





The challenge is that all three legs to the stool must exist in order to build a solid foundation for the practice. The following diagram illustrates a longer-view career path with allocated emphasis on skills/education as envisioned by Jon Williamson, UT/Southwestern:



As stated previously, a unified vision of O&P advanced education, whether care-centric, research-centric, and/or academic-centric, (and the career paths themselves) were also repeatedly cited as a critical success factor to gain the support and adoption needed. There were repeated suggestions for more in-depth learning (from a variety of sources) in order to help develop the main common theme:

Either adopt a unified umbrella organization or collaborate better to move the profession forward. Regardless of the structure, there was an overwhelming desire to create and support a single vision from the field of educators and practitioners, particularly as it relates to roles and responsibilities of the profession – today and in the future.

Despite the apparent differences and lack of uniformity in the overall vision for the O&P profession ... and the potential disconnect with the current expectations for advanced education and care practice, we felt each school visited had unique strengths that were complimentary and should be shared and combined with their colleagues in order to move the vision forward in a more complete way. We provided a graph as an



addendum to illustrate these unique strengths we found at each University. Below are some of the thematic “Good Practices” we uncovered:

GOOD LESSONS & PRACTICES

Value Is Defined Beyond a Strict Business Case:

Because each school's programs are relatively small and the resources needed are high, revenue generation alone is not a strong case for adoption. In most cases we found each University required something beyond a strict business case for gaining the momentum to launch an O&P Master's program. The cases differed but the value of the program was seen as completing an overall picture of “whole patient” care.

The commonality, however, was a strong leadership team (all the way up to the University President level), who were/are PASSIONATE about the profession ... and saw the addition as a mission-critical component for:

- Rounding out its Allied Health curriculum;
- Establishing a unique differentiator from geographically competitive schools; and
- Fulfilling the school's fundamental mission/vision of care and/or practical innovations for those in need.

The Importance of a University Culture and “Brand” Fit:

Another important success factor is assuring the program is a “fit” with the schools' DNA, culture, value proposition and focused mission. “Selling” the program across the divide of agendas, politics, and needs of various departments, boards, and leadership through pro-active partnering, outreach, and communication is something the successful program leaders do very well.

This “best fit DNA” can be repeated over and over with every school we visited. Their unique locations, community needs, fundamental value/mission, and drive to be the best at it, were clearly seen ... in multiple ways and through the voices of those we interviewed.

Collaboration:

Collaboration also appears to be a major success factor in pulling together the many elements required to rally support, acquire resources, overcome obstacles, fund and launch programs. Since forming a new Master's level O&P program is expensive relative to the size of the programs, collaboration is an integral tool for most of the Universities studied.

The benefits of collaboration for the Universities we spoke with include:

- **Shared resources** (i.e., educators, space, equipment, funding) to significantly reduce the capital investment required for new programs;



- **Shared leadership** and faculty to provide closely-aligned program experience (most commonly delivered from those with PT backgrounds), reduces learning curve and accelerates ramp up; and
- **Shared intelligence**, people and facilities better prepare students for the next generation of the profession.

Collaboration Best Practices:

These were the common collaboration resources we found while visiting the schools –

- ❖ VA Hospital partnerships
- ❖ Children's Hospital partnerships
- ❖ Private Clinic partnerships
- ❖ PT/OT program partnerships
- ❖ Engineering/Business School Resources (either as part of the school's program or in affiliation)
- ❖ Hanger (who supports many of the schools we visited, either financially and/or through Internships, employment)
- ❖ Local/State Government partnerships

A Focus on Expansion of Skills and Patient Care:

Leaders at most Universities we visited had a deep interest in educating a new type of practitioner with a broader range of skills than in the past. There was great enthusiasm for increasing the level of skills in the following areas:

- Rehabilitative Psychology,
- Business Management,
- Interpersonal Communication,
- Creative Problem Solving (particularly on the fly), and
- Research (whether device-oriented, physical/mental adoption, or combining the various engineering/robotics innovations into creating a body/device connection).

The primary driver for many of these schools, is to provide an integrated diagnostic and research skill into their practice, thus providing a “whole” patient care experience ... for patients, families and colleagues. These skills prepare the future practitioner for reality once they enter the field, specifically as it relates to:

- ❖ **Improved influence** and effectiveness working with the spectrum of caregivers, institutions, and payers;
- ❖ **Improved outcomes** through a higher level of care and deeper involvement with the patients overall well being; and
- ❖ **Understanding** and use of clinical case management/documentation technology tools to enable “proven, transparent outcomes management” mandated by the U.S. government for hospitals/large clinics in order to receive their professional accreditation.

MARKETING EXAMPLES & OBSERVATIONS

We did not expect to see highly developed marketing materials or programs at this early stage of development, but there are some highlights, observations and high-level recommendations regarding marketing approach to share from our visits.

O&P has a remarkable opportunity to make an authentic emotional connection with any audience and it is one we feel should not be missed.

Strategies & Ideas:

A good example of authentic, emotional marketing is the “Possibilities” center at Loma Linda. The proposed center (currently in preconstruction phase) will be, in essence, a “city” that helps prepare recent amputees reenter society.

The “city” is an environment full of installations of real life obstacles such as ATM machines, stairs, and typical barriers that the patient will encounter. The marketing is powerful because it focuses on a selection of remarkable survivors who not only survive a tragic ordeal physically, (such as landmines in the below example) yet thrive as inspirational human beings with positive attitudes and contributions.

The employees we spoke with at this facility mentioned the presence of the people who are in these campaigns as “motivating” to others because they were optimistic and did not see themselves as victims or even having serious disabilities. It is a natural and real opportunity to showcase the human impact of this career. There are many stories to tell from many viewpoints and they can be powerful.

Loma Linda

Campaign Using
Real Patients with
Inspirational
Stories





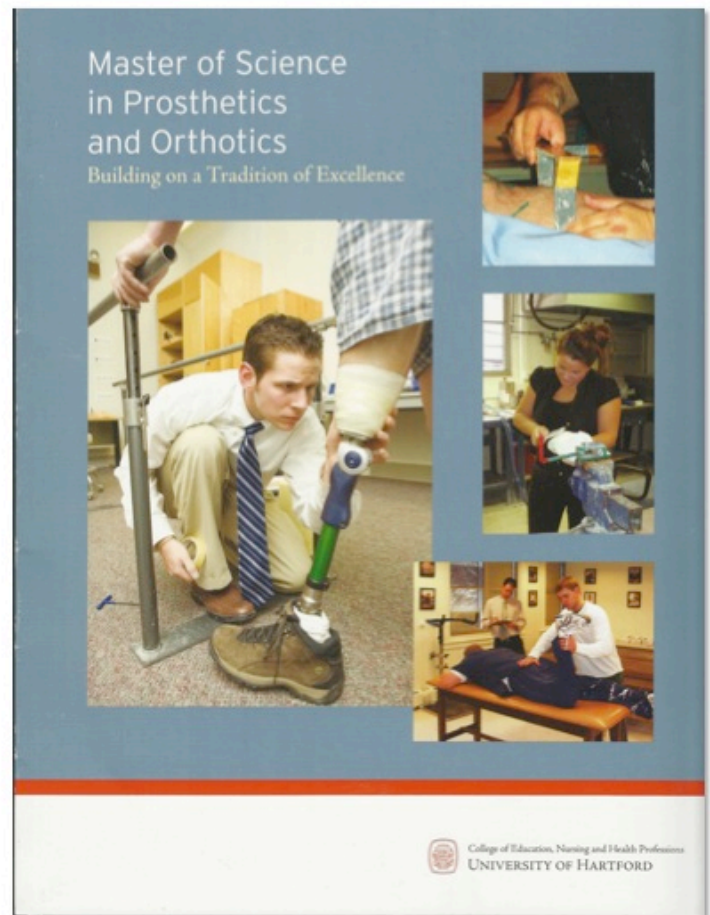
- **O&P Program Marketing – Use Emotional Connections:** The following recommendations do not include segment specific communication strategies, but overall marketing recommendations.
 - ❖ ***Focus on outcomes more than process:*** The real meaning of the practice moves most people more than the tools and devices: freedom, liberation of pain or immobility, and helping people live better lives.
 - ❖ ***Tap your unique & powerful emotional message:*** Emotions drive action. Show your audience the experience of helping people who have survived trauma, the impact on the lives of patients and families, etc. It is the emotional part of this profession that makes it such a great career. If you want a program that galvanizes support, make sure your emotional message is clear as much as your descriptive or objective explanations.
 - ❖ ***Prioritize people and relationships over objects, devices and facilities:*** People respond more to people and relationships. Devices, processes and facilities only have meaning and impact when they relate to how they impact people and relationships. Projecting a device centric image can undermine a practice that is working hard to expand its image to the whole patient.
 - ❖ ***Tell the stories vs. dumping information:*** There are many stories that are waiting to be told in this environment from the vantage point of a practitioner, or a patient, family and/or friend of someone who has received O&P care. People forget information but they remember stories, especially real ones.
- **O&P Program Marketing – Use Practical Information & Real Students/Faculty:** Aside from the need/opportunity to create “campaign-like” marketing programs, there were many excellent examples of straightforward, educational materials professionally produced by many of the schools we visited.

Below are a few examples of what we deemed “best practice” educational materials. We highly suggest that all schools participating in providing Pre-O&P and/or Master’s programs establish a “collaboration library” of marketing resources to share content, design, ideas, etc., in order to fully embrace and leverage a best-practices approach:



University of Hartford

A full suite of materials specifically designed & written for the MSPO program ... using real students, faculty & testimonials.



Baylor
College of
Medicine

*Where your
DREAM
becomes
REALITY*

[illegible]

UNIVERSITY OF PITTSBURGH

FACETS

SCHOOL OF HEALTH AND REHABILITATION SCIENCES

FALL/WINTER 2009

TO PROTECT AND SERVE

A COLLABORATION WITH A MISSION

REHABILITATION SCIENCE AND TECHNOLOGY

A Step In The Right Direction

*New Prosthetics & Orthotics Made
Designed To Meet A Growing Need*

The scholar Tim Parsons is a title of a Roman general with an augmented arm who fought in the Second Punic War, long after he had lost his right arm to a sword.

Parsons has a similar story when it comes to who inspired surgery for amputees who then sought prosthetics to replace their lost arms and carrying a wooden flap that enabled him to walk 10 miles to safety.

Uses of many prosthetic devices have been documented throughout history, but dramatic advances in the field have been slow and far between. That is, until present times. The last half of the twentieth century brought about innovative technology and a growing need for prosthetics and orthotics.

This led, the scholar indicated in four glass of students in one Master of

Science in Prosthetics and Orthotics (MSPTO) program, and marked a new era of progress. The MSPTO program is the only one of its kind in the surrounding area, and will prepare students for careers in a growing field.

According to the U.S. Department of Education, a deficit of prosthetics and orthotics practitioners exists. It is now only the tenth school in the country to teach MSPTO professionally. A recent study shows the demand for prosthetic services is expected to increase by 23 percent for orthotics, and over 47 percent for prosthetics, over the 2010. Experts predict that there will be an increase in the number of MSPTO graduates, approximately 21 percent of the population using orthotics, and only 18 percent of prosthetics consumers will be served.

WHY THE GROWING NEED?

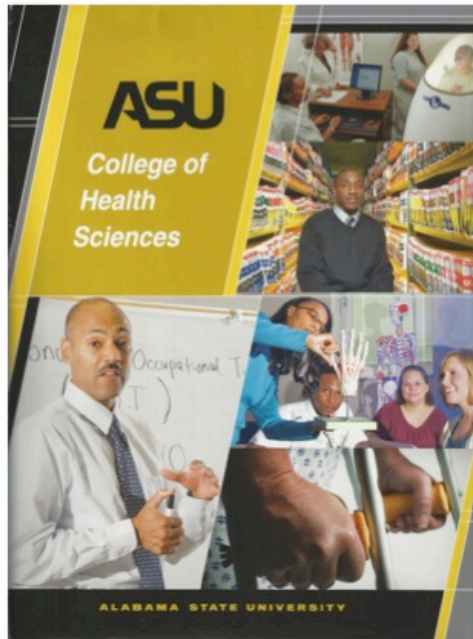
Asians are aging, and with age comes a variety of physical limitations. Older Americans typically use a higher number of health care services than their younger counterparts, but the generation of seniors is also more physically active than ever before. Innovative orthotics and prosthetics will allow them to participate in more of the activities they crave, without compromising their lifestyle.

Furthermore, two widespread health problems are putting a strain on the need for trained MSPTO professionals. According to the Department of Health and Human Services, diabetes and obesity are reaching epidemic levels, with the number of Americans diagnosed with diabetes projected to reach 29 million by 2010.

32 FACULTY FALL/WINTER 2010



Alabama State
University



University Mission & Goals Literature

Packaging Folder



CHALLENGES TO SUCCESS – EDUCATION & PROFESSION

Impact for Education

While we heard and saw so many positive stories, experiences and plans, there were key issues that kept coming out from each school. We delivered much of this content in the PowerPoint and verbal presentation delivered in Orlando.

(Please review that document, entitled Best Practices Presentation – Orlando, for detail, as we will not repeat all the issues/challenges in this written report.)

The key areas for the Committee to concentrate on, in our opinion, are the following (in no particular order):

- **High Requirements/Small Pool of Qualified O&P Master's Faculty:** Because there is a limited supply of appropriately “educated” educators (O&P practitioners with a Ph.D.), the profession has to approach back-filling these critical areas in two ways:
 - ❖ **Borrow** ... either from closely aligned programs (such as PT/OT) or from appropriately vetted practitioners, and/or
 - ❖ **Build** ... work together to create a “rapid deployment” degree program at one or more Universities where graduating/graduated professionals can be put through intense training to earn their Ph.D.’s/M.Ed.’s credentials.

Strategies and Ideas:

Support from O&P schools to share faculty and/or advanced curriculums for receiving Ph.D.’s in order to be appropriately trained to teach this new generation, is greatly desired. Whether there can be shared workshops, course materials or actual doctoral programs, there appeared to be a serious struggle among almost all the schools when it came to staff recruitment/re-education. A consideration might be to provide incoming faculty mentors from a senior level faculty member in related area(s) such as PT, OT, etc. Because senior level PT/OT faculty deal with similar instruction challenges, the commonalities are more relevant and O&P-specific needs can be jointly solved and shared with other O&P faculty.

- **Lack of Space & Cost of Equipment:** Advanced O&P education requires a significant investment in dedicated facilities vs. other Allied Health programs (mostly due to the amount of space/equipment/storage/ventilation required). In most cases we heard that programs would not be profitable for quite some time, so sustainability is an issue that does not seem to have clear resolution.

Strategies and Ideas:

Being creative problem-solvers will be key to resolving this issue. Many schools have successfully addressed this issue by:



- ❖ **Partnering** with local clinical providers for renovation and equipment funds, use of their facilities, etc. (See Loma Linda's 'partnership funding,' St. Petersburg's renovation within its College environment, University of Hartford's collaboration agreement with St. Francis Hospital, UT/Southwestern's internal clinic to provide revenue and space resources).
- ❖ **Finding new space** that can be easily converted. (See University of Pittsburgh's approach to "new space" renovation, Baylor College of Medicine's plans for adapting unoccupied space).
- ❖ **Financially building** toward creating a new environment. (See Georgia Tech's plans for occupying a new state-of-the-art facility on campus).
- **Need for Consistency and Unified Vision for Education and The Profession:** There appears to be confusion regarding value, status, and standards associated with level of education. There was often great confusion on what the differences were for someone getting their AA, BS, and Master's ... especially if the uses of credentials (such as ABC or BOC) are behind everyone's name, regardless of the education received. We also heard several comments of concern about the widely varying degrees of skill, education, and sophistication between today's practitioners, as well as those graduating ... since the curriculums/focus seem to vary by school DNA/mission.

Although, this issue does not completely fall within NCOPE's responsibility, Universities considering advance O&P programs are affected by any confusion regarding level of education as it applies to value in the market. A lack of a unified view on the value/experience/expertise of someone with a Master's vs. lesser degree(s) may dilute the economic value of those seeking educational advancement. Income potential is often one motivator for people seeking advanced degrees.

Strategies and Ideas:

The formation of the Orthotic & Prosthetic Educators Group by the participants that met on August 2-3, 2010, is an excellent step toward forging a vision together, ... across Universities. It will be critical, however, that this group be seen as school agnostic ... and industry-centric. If political agendas or personal career motivations are in any way a motivator for participation, the entire effort will be disregarded by other Universities ... thus leaving the profession in a continued state of limbo.

- **Need Structured, "Calibrated" Expectations & Scoring Reports from Clinical Experiences:** While each school was following the criteria list of expected "teachings," provided by NCOPE, the areas of Internships and Residencies (and even how much patient-interaction" was involved during the course work) was a repeated concern and area of potential disconnect. From current students, to Residents to Clinicians to Faculty ... the repeated desire for "structure, rules, best practices, expectations, and consistencies of experience/evaluations" was shared. No two programs appeared to be the same. While most schools "controlled" the



experience while they had control of their students (either with their own clinics, like UT/Southwestern or through strong partnerships like University of Hartford and Newington/St. Francis Hospital) ... once the students “left the building” to do their Internships or Residencies, it was voiced that the schools really had not control of the “quality” or “type” of experience students received. For some, expectations were not met (whether these expectations were previously established or assumed by the candidates was not fully articulated).

Again, this is not necessarily NCOPE’s responsibility, but it is an experience that is not delivering consistency upon completing the requirements for credentialing, which does have a reputational impact on NCOPE.

Strategies and Ideas:

Work collaboratively to develop an Internship & Residency Guide and create a “train-the-trainer” model where schools have a tool to identify, vet and manage the clinical experience for its students in a more consistent manner. (Editorial from ClarityClose: NCOPE shared during the editing review process, that they have one on-lined module completed and available, a second set to go on-line by the end of the year, and subsequent modules in the works.)

- **O&P Has Little Awareness With Potential New Students:** We heard from students and faculty that there was little awareness of the O&P path unless someone close to them was an O&P patient. The number of students needed for most programs is small, so mass awareness does not appear to be necessary. However a potential risk to very low awareness is students not picking this path early enough in their college careers, which may make the decision to change their desired profession to O&P (which usually requires an additional two years in the O&P Master’s program plus Residency) mid-stream difficult and cost-prohibitive.

For those that knew about the profession and had interest, it was rather startling how un-educated a resource academic advisors were during the process. The students, in frustration, began “Googling” the field ... landed on NCOPE, which provided the source to continue their exploration and ultimate engagement. This speaks well for NCOPE’s social media strategy, which is the preferred research tool for today’s undergraduate.

Strategies and Ideas:

Tapping the flow of students from better-known programs such as PT, OT, and other health fields (particularly from those in any type of AA degree/technical college program) and introducing them to O&P was a common strategy. Many students trying to get into one of these health professions either does not get accepted or changes their mind. These are top priority potential students who already have an affinity for a similar profession at the right time in their lives to learn about the O&P track.

- **A Lack of New/Relevant Course Materials:** Several times, the subject of course materials (or lack therefore) was mentioned, particularly from the educators



themselves. We are not aware of how deep an issue this is, but it does appear to be an important consideration. Realizing much of today's teaching is electronic or hands on, we were not sure if textbooks were key educational assets as other mediums. It was, however, mentioned that the textbooks have been the same ones for many years.

Impact for the Profession

Because there were so many conversations regarding the state of the O&P profession we opted to add this section in order to document some of the themes we heard regarding the profession. While this is **NOT** NCOPE's charter, nor was it a part of our project assignment, the fact that there was so much dialogue around these issues ... and the ripple effect it has and will have for the entire profession (including the process of attracting students, faculty, institutions), we felt it important to share some of these very CRITICAL issues:

- **Lack of Unity:** Because there are multiple bodies of influence and no single body influencing the overall profession in a leadership position, there appears to be a high degree of fragmentation and confusion regarding the direction of the profession. A lack of unity for a relatively small field can potentially stifle progress.

The apparent fractionalization of the field is particularly concerning since it is such a small body of professionals currently practicing/educating. Personal agendas and politics between various groups whose charter is supposed to be for the betterment of the profession, is extremely unfortunate, in our viewpoint. Having multiple credentialing organizations without clear understanding inside the field and certainly outside, is a concern.

When students (and many professionals) don't really understand which group (ABC, The Academy, AOPA, BOC, NAAOPA, NCOPE) does what ... and after reading literature and documents from them all, we can understand this confusion ... the industry has a problem.

There are so many examples of groups doing redundant or wasteful work:

- ❖ Research projects or white papers written, yet maintained within their own organizations rather than shared (for whatever real or perceived competitive driver);
- ❖ Grant money raised for siloed activities that only benefit one part of the profession (or worse, wasted because it wasn't re-scoped based on new information);
- ❖ Marketing materials, videos, websites developed that aren't jointly created or shared ... creating further confusion on who does what, etc.

Lack of Unity Directly Impacts Addressing the Really BIG ISSUES:

1. **Fixing the DME/L-Code Status is Critical.** Without addressing this issue, the profession will remain small and low on the "pecking order" of care giving. The students most likely to take on additional course work and costs to gain a



Master's will be motivated by personal conviction (which is important) versus an aspirational, status-driver (which can often motivate people who do not have a "personal" experience with O&P).

Salary adjustments and opportunities for advancement will not be achieved if reimbursement is not fixed.

Physicians, PAs, PTs, OTs, and others involved with care delivery will continue to rely on their O&P colleagues as "device fitters." Taking "orders" versus collaborating as peers is fine for some people ... but future generations may find this status ranking not of their liking. They could be easily influenced to move OUT of the field and into one closely aligned in order to gain higher income and influence on the care process.

2. **Gaining Consistency in Licensure Standards Across States.** Again, depending on where you reside ... the rules are different ... and the level of education/skill/care delivered are directly related. If some of the more mundane industries (such as massage therapists or hair stylists must be licensed ... no matter what state, then surely O&P should have the same OR BETTER expectations).
3. **Embrace the Electronic Medical Record & Identify Industry-Standard Software/Best Practices.** Whether an O&P practitioner is working in a Clinic or a Hospital environment, the proven use of an EMR is federally mandated. At several of the clinics we visited, they were using their "Interns" or "Residents" to develop custom applications.

There are too many solutions already available to have individual groups go off and create their own, which will only continue to keep the O&P field outside the walls of a fully integrated care delivery system.

And most importantly, customized applications prevent integrated collaboration and transparency for documenting and producing evidence-based outcomes, which directly impacts reimbursement.

4. **Agree to the Definitions & Expectations of the Various Degrees and Certifications.** Clearly articulating the difference in performance and skill between someone with an AA, BS, Master's, and potentially a Ph.D. is critically important as the next generation emerges.

Using the "business world/accounting profession" as an example, someone graduating from a 2-year college as a "bookkeeper" is very different than someone with a four-year accounting degree ... or someone with an MBA.



These people have a clear career path. For those entering the Public Accounting/Services side (i.e., E&Y, KPMG) they know their career track looks like this:

- Associate
- Manager
- Sr. Manager
- Partner
- Partner-in-Charge (vertical)
- Managing Partner (geographical)
- Global Practice Partner (vertical and geographical)
- CEO

For those entering the Private Sector (and many are hired from the Public Accounting firms because of the CPA requirement of two-years of public accounting work, their career track looks like this:

- Accounts Payable
- Accounts Receivable
- Accountant
- Controller
- Director
- Vice President
- CFO ... and up.

Whether public or private enterprise, people understand these differences and know the career performance each had to master to gain the next level of authority/responsibility.

Most important, it is clearly understood and expected that to move up the career ladder, a CPA exam must be taken and passed. (A single body manages this to ensure consistency across the industry and the country, while allowing for variability as laws differ between various states). The educational expectations, however, are closely aligned no matter what University one attends. This commonality is critically important for the O&P profession.



NEXT STEPS MARKETING PLAN RECOMMENDATIONS

Based on the information we have gathered, the comments we've received, and our experience at launching programs and companies over the past 50+ combined years, we have some rather bold recommendations to make at this juncture.

The main theme, however, is this ...

The original goal of getting 5 new Master's programs and 5 new Pre-O&P curriculums ... should NOT be the focus at this time.

NCOPE and its leadership have done an outstanding job of moving many of the schools that were interested, into an active transformation process and/or through the accreditation experience. BUT ... "closing" and "delivering repeatable successes" are two very different things. The foundation for the later is still being built. To add more on top of it, at this time, is of great concern.

Therefore, we recommend alternative ideas to shore up all this work so that any new, proactive marketing can be done with confidence, experience and an expectation of high success ... for all involved.

With that said, here are some specific recommendations we believe are worthy of consideration:

- **Turn ALL Attention Toward "Success" of Today's Pipeline/Participating Schools:** As stated, at this stage of the roll-out effort, we believe it is critical to ensure success with those schools already up and running and in transition prior to adding new schools to the roster.

Getting appropriate faculty, successful/consistent/available curriculum tools, documented and managed Internships & Residencies, and successfully graduated/employed practitioners is critical to ensuring a solid foundation for growth.

- **Establish an On-Going "Progress Check-In" and "Communication Liaison" to work with ALL the Universities:** Whether they participated in this Best Practices project or are already in the pipeline/operational, for structured "check-in" progress reporting/issues identification/resolution assistance, using an "un-biased/outsider" resource will be extremely helpful in ensuring momentum and continued dialogue. We see this role as important in helping enable **more** communication, collaboration and cohesion ... among the schools, students, faculty ... and other O&P/Allied Health associations. With NCOPE's small and stretched staff, relying on a familiar, yet outside resource, is possibly a viable solution for this management issue at this particular time.

We would be honored to have ClarityClose (with Karen See assigned as the lead partner) serve in this role, as we believe NCOPE and The Committee has already



received value from having a non-academic, non-O&P/healthcare professional, unbiased “outsider” serve as the conduit for these candid conversations.

There is a wealth of information to share between these schools/programs and we believe it is critical that NCOPE be the “leader” of this effort. We also acknowledge and believe the new Educator’s Task Force is critical ... as more “meaty” subjects should be discussed and addressed. Having ClarityClose participate to ensure both efforts are in synch and not causing contradictions will be important.

If this idea meets with the approval of the O&P Futurity Committee, a formal scope document/proposal will be developed and presented.

- **O&P Futurity Micro-Site & On-Going Communication:** As stated previously, the lack of communication between and among schools is an area that needs immediate attention. Sharing “best practices” should be a natural and constant mode of operation. Implementing a consistent and professional communication plan (proposal provided by ClarityClose and delivered during the meeting in Orlando) is critical to helping dispel rumors, misperceptions and feelings of competition. This begins the process for building a coalition of cooperation to address some of the bigger issues we have mentioned.

Just having access to new marketing programs and materials each school uses, would be very helpful. Featuring success stories as a part of the content is another great opportunity to learn and share.

- **Create “Centers of Excellence:”** Identify schools that have shown a proven track record in the areas of:
 - ❖ **Educational-Centric Programs:** Identify schools that can rapidly build and deploy Ph.D.’s and/or M.Ed.’s for practitioners willing to re-engineer their careers toward academia (may need to find grant money to augment their salary disparity).
 - ❖ **Patient-Centric Programs:** Identify schools that have a solid strategic partnership with clinical partners who allow them to aggressively matriculate into the practitioner field.
 - ❖ **Research-Centric Programs:** Identify schools where innovation and research are drivers ... and who have access to corporations and/or funders ... plus colleague schools, to proactively participate in the development of new devices, research methodologies, evidence-based documentation, etc.

These Centers of Excellence should be responsible for “leading” the industry through collaboration, communication, documentation, and on-going joint sharing of knowledge, experience and results.

- **Environmental Design For Space:** Identify collaboration opportunities (with Schools of Architecture ... across Universities) to address space/equipment



challenges. Collaborating with these schools could produce win/win results. Today's architectural students need practical experiences designing for challenging environments. And the O&P field provides a unique wet/dry lab design challenge!

Grant money and/or partnership with some of the leading Science & Technology/Higher-Ed Architectural Design firms may be a way to fund such projects ... allowing them to identify creative ways to best optimize space, equipment and materials management issues.

- **Advisory Think Tank:** Another suggestion we have found quite useful with many of our clients is the development of a non-affiliated Advisory Think Tank Committee. The purpose/structure of such an Advisory Think Tank is as follows:
 - ❖ **Members are hand-selected and invited for participation.** They are made up of people with skills, backgrounds, experiences, connections, etc., that the O&P Futurity Committee does not necessarily possess ... but is needed to create a more “business-like” approach to establishing sustainable programs.
 - ❖ **The groups’ charter is to participate in Think Tank sessions,** held at least twice/year. The meetings have formal agendas and include such topics as a) key issues of concern, b) successes to date, c) best practices/experience idea brainstorming, d) action items to assign/complete prior to the next meeting.
 - ❖ **The PEOPLE who might be asked to participate could have backgrounds in any of the following areas:**
 - University President and/or Dean of Allied Health School
 - Hospital/Clinic Chief Medical Officer and/or Administration
 - VA/DoD/NIH Leadership
 - Chief of Research/Product Development from Device Manufacturing Company
 - Fund-Raising Expert (either from a University, State/Federal Grant Program, Private Foundation Executive, and/or Lobby background)
 - Chief Marketing Officer from University and/or Manufacturer
 - Patient (preferably one who has been a successful adopter & supporter)
- **Go-To-Market Planning:** Once NCOPE and the O&P Futurity Committee believe the models/issues have been sufficiently resolved ... and “best practice” ideas have been put to use and are a part of the fabric of the profession, it will be time to take these testimonials/examples and package them in a way that gains greater and faster traction while ensuring a more consistent and successful program implementation, student recruitment and appropriately experienced graduates (whether there are three tracks: education/research/care) for the future of the O&P profession.



CONCLUSION:

We strongly recommend building a solid coalition among the various O&P associations and credentialing bodies to jointly use the power of an influential lobbyist to address the issues mentioned previously, particularly in the areas of reimbursement and licensure. How that is accomplished is something that needs to be candidly and non-politically driven.

We also believe the O&P Futurity Committee has an obligation to assist NCOPE, with its limited staff and resources, resolve some of these real and perceived issues. Expecting this team to shoulder the burden of accomplishing all these tasks is unrealistic. Finding ways to take some of the load off the shoulders of this 2 ½ -person organization ... whether through your University/Business affiliation, financial resources, and/or introductions to people who can help, will go a long way toward ensuring success for the entire group, practice and long-term viability of the profession.

We have been honored to work with each of you on this important task these past several months. There has never been a group of professionals we've ever worked with who were so open, candid, responsive and supportive.

After meeting so many genuine, caring people, we have a greater and more humbled appreciation for your field and the hard work that has already taken place to get your profession to where it is today.

We especially want to thank Robin Seabrook for her true partnership approach in working with us. We feel truly fortunate to have had this experience and are willing to help in any way deemed appropriate/needed to ensure NCOPE's (and the profession's) success.



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O&P FUTURITY

ADDENDUM: Unique Value Strengths by Best Practice Study Universities:

