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Case report

The mayo clinic model of clinical integration

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ABSTRACT

The multi-campus Academic Health Center (AHC) of the future will need to be system-based and committed to clinical integration to continue to meet institutional goals and serve the needs of its patients. The key tactics we describe to accomplish this are:

- the creation of a central governance body and a single strategic and operational plan
- the subsequent development of specialty councils and independent multidisciplinary practices (IMP)
- the creation of enterprise-wide specialty departments

1. Background/introduction

Developing clinical service lines (by bundling procedures and services within a specialty area) from traditional specialty practices has been a major interest in the field of health care management over the past 10–20 years.[1] The primary goal of this strategy is to create a continuum of care focused around patients and their medical conditions in ways that integrates clinical and financial structures to provide higher quality outcomes. Clinical service lines often cross boundaries of traditional specialty based departments thereby creating a number of management challenges that may misalign financial incentives, create competition for resources and patients, impair planning, slow decision making, and lead to a disintegrated approach to patients with identical or similar clinical conditions.[2] With the consolidation that is occurring in the health care market, an increasing number of health care organizations consist of multiple geographically disperse sites or campuses, often in different regions of the country. Maintaining practice integration with a standardized, evidence-based approach to the diagnosis and treatment of specific conditions within and across sites is a challenge that is exacerbated by the organizational structure of typical academic specialty departments.[2–4] The creation of multidisciplinary cross-specialty institutes or centers has been touted as a way to achieve patient-centered clinical integration. These unique organizational approaches have clear advantages and disadvantages.[5,6] Freestanding institutes and centers effectively promote integration within clinical service lines by breaking down silos created by traditional specialty departments. However, they often create new silos within the organization, spurring competition for resources and creating confusion for patients. They may facilitate “vertical” clinical integration within a tightly defined set of clinical conditions, but can further disintegrate clinical care when a patient's condition is poorly defined or when they have multiple other conditions that don’t fit the expertise of the institute's tightly defined scope of practice. In addition, centers and institutes can create tension and challenges to institutional leadership and may create a fragmented mission and threaten specialty department integrity and authority.[5]

Organizational design changes in health care tend to be the most prevalent during times of change in reimbursement strategies as we are currently facing.[1] The traditional academic model may not be able to effectively compete in the current health care market, which places a clear focus on improving patient-centered quality, care coordination, and service while reducing costs through clinical integration and standardization. The traditional Academic Health Center (AHC) structure, consisting of a medical college, several hospitals, faculty practice organizations, powerful traditional specialty departments, geographic as well as functionally disintegrated campuses, and competing research, teaching, and practice missions, will likely struggle unless Academic Health Centers find ways to become more nimble and patient-focused, rather than specialty focused.[7]

Often times in clinical or horizontal integration, differing cultures may decrease the chance for success. Bringing different cultures

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together demands committed and visible leadership with clear communication.[8] Another key component of successful clinical integration is the centralization of essential shared administrative and financial functions.[2]

The Mayo Clinic, which recently celebrated its 150th anniversary, established additional destination medical center campuses in Florida and Arizona nearly thirty years ago. We describe our experience and approach to organizational structures that support clinical integration across geographic locations and specialties. This evolved from traditional academic site-based specialty departments and multidisciplinary service lines within departments to enterprise-wide specialty councils, departments and "Independent Multidisciplinary Practices" (IMP) known externally as multidisciplinary "centers", with our goal to provide the highest-quality, integrated specialty care across the Mayo Clinic Enterprise.

2. Organizational context

The Mayo Clinic in Rochester, Minnesota began 150 years ago initially as the medical practice of Dr. Worrell Mayo and his two sons, William and Charles. By developing a team approach to specialized care and an integrated medical record, the Mayo Clinic developed into one of the largest group practices in the world, known for treating specialized problems and delivering complex, multispecialty care. One of the keys to the success of the Mayo Clinic has been the ability of members of the staff to develop very specific areas of expertise, becoming "sub-sub-specialists," thus enabling patients with rare or complicated illnesses to be treated by physicians with a great deal of experience in the particular disease and related complications. The tightly integrated salaried staff model and culture of Mayo Clinic allowed individual physicians ready access to this expertise. Both the Florida and Arizona campuses began with approximately 40 total staff physicians, and each has grown to approximately 500 staff physicians at present. At the onset of the practices in the southern sites, physicians were familiar with the individual areas of expertise of colleagues in Rochester, but as the staff grew, this became a significant challenge to clinical integration across the campus.

3. Personal content

Having three locations widely separated geographically of different sizes presented a unique problem for us. As Mayo grew in size and geography a decision was made to operate under a holding company model with a single board but separate operating units across the three destination medical center campuses. Under this model there was a single holding company governing board and overall strategic plan but each site functioned somewhat independently with site governing boards and operating teams and a distributed model of decision making and resource allocation. Little or no organized communication or engagement occurred across sites at the department level. Although the entire organization adopted the same core values, promoted a patient-centered culture and practiced using the same "Mayo Model of Care", this model allowed for and in many ways encouraged a more disintegrated approach to clinical care. Practice leadership from the three destination campuses and selected community health system leaders met quarterly as a "Clinical Practice Advisory Group" to enhance collaboration and sharing of ideas but all agreements were non-binding and any recommended initiatives required approval and resourcing from each of the sites before moving forward.

As a holding company, each site developed different models of enhanced service line integration. (Table 1). Multidisciplinary clinics and centers were created within existing departments. In this situation the local site clinical practice committee assigned ownership of the center to a particular department to prevent competing services across departments. In other locations multidisciplinary departments were created. This model closely followed that of a free standing "Institute". An alternative approach to multidisciplinary service line departments and institutes was developed at the Rochester campus, where "centers" were created as a hybrid of the department and institute models. Internally this model was described as an "Independent Multidisciplinary Practice" (IMP) while externally it retained the "center" name to reflect the multidisciplinary disease or condition oriented approach to care. The IMP was led by a medical director partnered with an operational administrator. This establishes a platform and institutional expectations for development of a strong partnership between the Medical Director and key Department Chairs. This partnership leads to development of a shared vision and strategy as well as shared accountability and resources focused on a patient-centered approach to clinical integration for conditions defined by the scope of the Center. Built around the concept of sharing, centers that utilize the IMP model find it easier to move patients and staff seamlessly within the center (vertical integration) and between the center and the rest of the organization (horizontal integration).

Table 1
Model of enhanced service line integration example.

Center as part of a Department with "rented" Physician time from other Departments	Pulmonary Division Sleep Center, Rochester
Multidisciplinary Department consisting of Specialists from multiple Divisions	Transplant Department, Florida
Independent Multidisciplinary Practices (IMPs/ Centers)	Mayo Vascular Center, Rochester

Table 2
Mayo Clinic practice governance practice integration structure.

Mayo Clinic CPC; Overall chair with three Vice Chairs from Rochester, Az, Florida	Creation of Specialty Councils
Mayo Clinic CPC chaired by Dean of Practice, who also chairs Rochester CPC	Enhanced role/authority of Specialty Councils
Mayo Clinic CPC chaired by Dean of Practice With increased responsibility/authority	Three site Departments reporting to Dean of Practice

4. Problem

In 2008, Mayo Clinic Leadership realized that the holding company model, as well as the growth in size and complexity of Mayo and of medical knowledge in general, had a disintegrating influence on the institution leading to barriers to knowledge sharing and differences in patient experience across sites. In order to continue to provide the highest quality clinical care and patient experience at all Mayo Clinic locations, closer specialty practice integration throughout the Mayo Clinic Enterprise needed to be a top strategic priority. The primary goal of clinical integration at Mayo is to insure that patients have access to all of Mayo Clinic's knowledge and expertise no matter where or how they interacted with the practice.

5. Solution: initial steps of practice convergence and integration (Table 2)

The first step was to markedly increase the responsibility and authority of the Clinical Practice Advisory Group. It was re-named Mayo Clinic Clinical Practice Committee (MCCPC), charged with developing and enhancing a single integrated high value practice, and given a central budget of resources to promote convergence of data, processes, systems as well as core clinical knowledge management across the entire enterprise. The resources were allocated in alignment with a single strategic and operational plan set by the Mayo Clinic Board of Governors and Management Team (i.e. a single operating model as opposed to the pre-existing holding company model). An initial high priority strategy for practice integration involved the development of enterprise wide Specialty Councils. Initially these were organized along

traditional specialty/subspecialty lines (e.g., Cardiology, Neurology, Radiology, etc.). The members of each specialty council included the Chairs of those specialties or subspecialties from the three destination medical centers. One of the three chairs was selected by top practice leadership to chair the Specialty Council. The majority of Specialty Council chairs were from the Rochester practice, the remainder from Arizona and Florida. The chair of the Specialty Council served a 2–3 year term after which the position rotated to one of the other site chairs. The Specialty Council Chairs were asked to facilitate relationship building and trust and to share best practices across sites. Specialty Councils reported informally and periodically to the MCCPC. They were asked to meet as frequently as needed and to work towards developing practice standards across the Mayo Clinic Enterprise.

The initial success of the specialty councils was mixed. Some functioned very well and were very productive, establishing common practice, departmental system and equipment standards, recruiting practices, and staff rotations across the practice. Others met less frequently and did not have as many accomplishments; some simply establishing relationships between the chairs with much less concrete practice integration.

Factors that contributed to success (or lack thereof) were varied. The relationship between the three chairs before the creation of Specialty Councils was often important. In some instances, they had all gone through residency or fellowship training together and these interpersonal relationships were a catalyst for the Council. In other situations, the three chairs may have spent very little if any time with each other, which led to a period of time of developing relationships and trust before the Council could become productive. There was some element of site parochialism, with not always consistent agreement between specialty council leadership decisions and individual site practice leader decisions. This in some cases, led to the development of conflict within the Specialty Council. In cases where the Council chair was from Rochester, the southern sites felt the chair may not fully understand their site practice challenges. When the chair was not from Rochester, they often felt they did not think their “authority” extended to the Rochester practice. Because of the varied success, it was not possible to develop the goal of common standards and expectations across the Councils. Although there clearly was some success at practice integration across the sites through the work of the Specialty Councils, it was not as great as what had been hoped for.

6. Solution: next step in enterprise practice convergence: establishment of the Dean of Practice

After the first few years of experience with Specialty Councils, a major decision was made in the path to full practice convergence throughout the Mayo Clinic Enterprise. The Chair of the MCCPC and the Rochester site Practice leader were merged into one position, The Executive Dean of Practice. This ensured that the practice at all Mayo campuses would be operated by a single governing and operating group (MCCPC) chaired by the Executive Dean of Practice. This also eliminated a potential conflict between the Practice Chair at the largest Mayo practice (Rochester) and the Chair of MCCPC– by merging those roles into the Executive Dean position. An enterprise Vice-Dean of Practice position was also created, reporting directly to the Executive Dean of Practice. The Specialty Councils then were the direct responsibility of the Dean and Vice Dean. This allowed the Specialty Councils to function to a much greater degree as enterprise-wide specialty practices. Clear expectations and metrics were developed for each Specialty Council. Regular reviews of each council are conducted by a multi-member team created and chaired by the Dean and Vice Dean.

Several specialty councils then essentially functioned as enterprise-wide departments with common clinical expectations, metrics, common equipment and facilities systems and requirements, common recruiting, and a single enterprise budget. These councils took the initiative to make this progress independently. These clearly were the minority however. Again, the success of the specialty councils varied, from councils that only were able to create some practice standards as their major accomplishment to councils that functioned as single enterprise departments. Despite the common expectations and metrics, these differences remained.

7. Solution: from specialty councils to enterprise departments and IMP/centers

With the changes occurring in the United State health care environment (i.e. third-party payers/ reimbursement, the Affordable Care Act, increasing local and national competition, as well as increasing complexity of tertiary and quaternary care), the expectations of the Mayo Clinic Specialty Councils were necessarily increased. These expectations focused on continued growth of tertiary and quaternary practices and procedures that distinguished Mayo Clinic from the competition. To facilitate an integrative approach to development and integration of these “competitive market plans“ a decision was made to move certain specialty councils to either single specialty focused enterprise departments or enterprise IMP/centers.

After extensive discussions and planning, enterprise departments of Cardiology, Cardiac Surgery, Neurology, and Neurosurgery were created. In some instances, the Chair of the Enterprise Department was also a chair of one of the three destination academic center departments; in other instances, the Enterprise Chair was a separate position from the three academic center department chairs. Cardiology and Cardiac Surgery were separated from Internal Medicine and Surgery as individual departments. In addition Cardiology-Cardiac Surgery and Neurology-Neurosurgery were combined as enterprise IMPs/centers co-lead by the two enterprise medical and surgical department chairs. Each enterprise department and IMP/center developed a combined strategic plan for the nationwide medical and surgical specialty practice. They also developed common metrics and productivity standards.

In addition to the four Enterprise Departments, in Transplantation Medicine and Cancer Medicine Enterprise IMP/center structures were developed to create enterprise-wide standardized transplantation and oncologic practices. As with site-based IMP/centers these enterprise structures are led by an enterprise chair and administrator, as well as an executive committee made of key stakeholder specialty leaders who contribute to the vision, strategy and operational coordination of the practice in order to create single, integrated, high value Transplantation Center and Cancer Center practices across all Mayo sites.

We feel this evolution has been successful. It has led to the development of common, system-wide care plans, system-wide equipment decisions/purchasing, common and improved staff recruitment and retention, common and improved quality and safety measures, system-wide educational programs and curricula, and system-wide research programs and clinical trials. Overall we are much more a single unified clinical practice across all of our sites.

8. Unresolved questions

Mayo Clinic enterprise departments have been in place for 18 months. To date, despite the challenges of new structures and increased expectations, they have been a success, meeting all growth, quality and financial targets set forth by institutional leadership. Even with this success, however, questions remain:

1) Should Mayo Clinic continue with Enterprise Departments, Specialty Councils, and IMP/Centers (depending on the specialty) or migrate to all Enterprise Departments?
2) Are the specialties that are currently Enterprise Departments the most appropriate? Should Mayo Clinic have begun with fewer or more Enterprise Departments versus Specialty Councils or IMP/Centers
3) Can the Mayo Clinic Model of Clinical Integration be applied to

University Medical Centers?

9. Lessons for the field/discussion

The AHC of the future will be systems-based and require strong and aligned governance, organization and management systems committed to a unified direction, transparency, and accountability for performance.[8] The Mayo Clinic, over the last thirty years, has evolved from a single-site academic practice of several hundred staff physicians to a national, multi-state, multi-campus academic practice of approximately 3500 staff physicians. We describe the evolution of our academic structure and practice governance, from traditional academic departments at widely separated geographic sites, which had (at most) regular communication and familiarity with each other, to service lines, specialty practices, specialty councils, and finally several enterprise nationwide departments across the entire Mayo Clinic Enterprise.

We believe that there are 5 key tactics that have allowed us to drive patient centered clinical integration across our geographically dispersed organization, a diverse group of specialties and multiple levels of care. First and foremost is development of a single strategic and operational plan with clear priorities for the entire enterprise. The second is the creation of a central governance body, the enterprise Mayo Clinic Clinical Practice Committee (MCCPC), lead by a Dean of Practice, and given the authority and charge, as well las budget, to drive convergence across the entire practice in support of the strategic and operational plan. The third key success factor was the development of specialty councils that helped foster relationships and trust across geographically dispersed sites and have been charged with driving key aspects of the operating plan at the specialty level with centralized funding support from the MCCPC. The fourth tactic involves creation of a unique governance structure, the Independent Multidisciplinary Practice (known internally as an “IMP” and externally as a “Center” that involves a hybrid between a traditional specialty department and a free standing institute, thereby enhancing both vertical and horizontal patient centered practice integration. The fifth and final key success factor involves our willingness, where strategically appropriate, to create enterprise-wide specialty departments or multidisciplinary IMP/centers, which create a shared accountability and authority to drive clinical integration and support the single enterprise strategic and operating plan. The underpinning of all these success factors is the rich culture of collaboration and sharing of knowledge and resources that exist since our founders first established Mayo over 150 years ago.

Conflict of interest

Neither author has any conflict of interest associated with the subject content of this manuscript.

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