

University of Minnesota
Medical School Financial Plan

2010

1 March 2010 (revised 25 May 2010)

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EXECUTIVE SUMMARY

While this Task Force has been part of a larger strategic planning initiative, the members recognize that implementation of the recommendations in this report will help define the strategic direction of the Medical School over the next 3-5 years. The recommendations include the following:

- *Narrow the scope of Medical School activities*

Engage in a process of objective analysis of each of our research and education programs, using a transparent approach of analyzing them for strength of strategic fit and performance, with a goal of categorizing programs into those that should be maintained or grown and those that should be eliminated. This will allow us to narrow the scope of our activities without sacrificing excellence.

- *Align finances with the Medical School's strategic plan*

- *Allocate tuition and state funds by a rational method*

The Dean's Allocation Methodology has been revised so the tuition and state funds are distributed by a principle-based formula that is aligned with educational and research activity. An 8% (\$6.6M) discretionary pool will be used to support mission-critical departmental expenses not adequately funded by the formulaic distribution.

- *Align hiring with strategic goals*

Strategically-directed hiring will be accomplished by requiring approval of all staff and faculty hires, reallocating vacated faculty positions strategically, and by developing an overall clinical and academic hiring plan

- *Implement prudent financial management practices*

The Plan emphasizes the prohibition of deficit spending and commitments, recommends the re-establishment of departmental and Medical School reserve funds in the future when that becomes feasible.

- *Increase revenues*

Suggestions are given for the roles for and means of increasing revenue through increased recovery of the indirect costs of research, increased philanthropy, maximizing tuition revenue, and increasing clinical revenues.

- *Decrease costs*

Plans are discussed for eliminating duplication of services by Medical School and administrative centers and developing new ways to perform work

The overall goals of the plan are to ensure that in the face of decreased state revenue and threats to other sources of funds the Medical School will be able to sustain existing high value activities and programs and invest in new high potential ones.

1. Background

The Medical School faces significant financial challenges. Its sources of revenue are tuition, state appropriations, sponsored research, clinical revenue, and philanthropy. The Medical School currently has expenses that exceed predictable revenue by approximately \$10 million annually. Reserves can no longer continue to be used to fund recurring expenses and must be conserved for strategically important, short-term investments.

Medical education is costly. A Medical School task force using FY05 data calculated the cost of an MD education to be 3.5X the tuition received. This calculation excluded the substantial cost of community-based clerkships that are born by those sites. Tuition is now high and there is little room to increase it. Therefore, tuition is not likely to be an important source of revenue growth in the future. State appropriations are decreasing to the University and, in turn, will decrease to the Medical School. A possible worst case scenario is that by 2013, the state's appropriation to the University will have decreased by approximately 40% compared with the peak just a few years ago in 2007.

The school has been successful in growing its research portfolio, increasing 7.5% in the last 5 years. However, the external funding for this research does not cover all of the Medical Schools expenses. For every dollar of direct research funding, the Medical School and University spend nearly 80 cents (unrecovered direct costs, indirect costs, and ramp-up and ramp-down cost for investigators). Federal agencies, such as NIH, AHRQ, and NSF, reimburse only 51 cents of these indirect costs, while other funding agencies such as foundations and the State of Minnesota pay none to 20 cents. The Medical School remains committed to growing its research portfolio, particularly in strategic areas, however to do so requires additional funds to cover the unsupported costs.

Clinical revenue has traditionally been used to cross-subsidize research and education at medical schools, and this support is even more important than in the past. Clinical revenue generated by University of Minnesota Physicians (UMP) continues to grow at almost 6% per year. Nevertheless, the margin from clinical activities is not sufficient to pay for all of the unfunded research and education that is currently taking place.

Philanthropy is an important source of additional funds for student scholarships and research projects. However, donations and earnings on endowments are particularly susceptible to economic cycles. Moreover, large gifts, while critical to attaining excellence in specific research areas, are often restricted in the types of costs they will support and may require additional "matching" by the Medical School. Most donations cannot be used for general operational expenses of the Medical School. Therefore, like sponsored research funding, philanthropy is critical to the long-term success of the Medical School, but will require the Medical School secure additional unrestricted revenue.

For the current fiscal year (FY10), the Medical School is anticipating a \$ 4-6 million deficit if additional actions are not effective. As noted above, the Medical School's total recurring expenses are approximately \$10 million greater than its recurring revenue. In addition, the Medical School's short-term commitment pool (Dean's Commitment Pool) is still not balanced and is over-committed by approximately \$6.7 million (13%). If the pool is balanced by extending written commitments into future years, the Dean's Commitment Pool will not be available for new investments for at least 3 more years.

This situation is not sustainable. Without aggressive programmatic changes and more careful financial planning, the Medical School will be unable to invest in its most important activities or to develop new programs and initiatives. Because the expenses associated with current Medical School activities exceed the available revenues, the Medical School must increase revenues, decrease costs, or do both. There are also circumstances beyond the control of the Medical School that contribute to this difficult financial situation. The Medical School must continue to advocate for and work with outside entities to improve the situation. For example, the Medical School does not directly control expenses mandated by the University, such as unfunded compensation mandates, cost pool charges, F&A distribution (wet laboratories are more expensive than other scholarly worksites), the pooled fringe rate, or allocation of student bad debt. The Medical School does not directly receive federal or state money for GME – the hospitals do – but must bear the bulk of administrative and instructional costs. The hospitals who benefit from the presence of graduate medical trainees should share these costs.

The next section outlines a multipronged approach to allow the Medical School to balance its budget, restore its investment capability, and, therefore, sustain excellence and grow to meet future needs. By adopting this financial plan, the Medical School will be able to achieve its strategic vision.

2. Recommendations

1. *Narrow the scope of Medical School activities*

The most effective approach to sustaining and growing excellence in a time of decreasing or inadequate resources is to focus on a smaller number of activities. The modified scope of these activities should be determined by how well each activity fits with the Medical Strategic Plan, how well it performs, and how well it is predicted to perform over the next 3-5 years depending upon resource availability. A systematic approach is required to identify which activities to invest in more, which to maintain, which to fund at lower levels, and which to eliminate. The Medical School will embark upon a 6-18 month exercise of evaluating its entire portfolio of educational and research activities at multiple levels – within departments and across the Medical School. The outcome will be that a number of activities will be discontinued so that the remaining ones can be adequately supported.

The Medical School has developed semi-quantitative tools to directly compare similar educational activities or research activities among themselves. For example, the research portfolio analysis tool would allow comparisons among the many Medical School interdisciplinary centers or among various research foci within a department. Similarly, the education portfolio analysis tool would allow comparisons among the many GME programs or among the various third and fourth year Medical School elective offerings. When this portfolio analysis is performed, the tools permit a graphical display of the results (Exhibit 1). In this example, Program A is one that should be sustained or grown, Program B is one that should be eliminated and program C is one that should be worked with to perform better or face future decreases in funding or elimination. All decisions regarding future funding should also consider what the program's trajectory will be in the next 3 to 5 years. Is this a program whose performance has peaked, or one that is still developing at a satisfactory rate?

To determine where on the plot a program belongs requires the use of standardized criteria for both *strategic fit* and *performance*. General criteria have been developed for comparing educational activities and for comparing research activities. For specific comparisons, these criteria can be modified or their scoring system can be modified.

The education evaluation criteria for strategic fit are:

- Relates to accreditation

- Addresses work force needs

 - Clinical or academic needs of Medical School and medical center **and/or**

 - Primary care, rural, and/or other underserved for state

- Links with research priority areas

 - Research corridors and/or major core technologies

- Links with clinical priority areas

 - To be determined working with UMP and FV

- Impacts Medical School's core learners (medical students, residents, fellows, graduate students)

- Relates to interprofessional education

The education evaluation criteria for performance are:

- Learner quality

- Reputation

- Cost/learner

- Program quality

- Career outcomes (compared with stated priorities or goals of the program)

Exhibit 2 shows a possible scoring system to be used to perform an education portfolio analysis. These are examples of how the general criteria for *strategic fit* and *performance* could be refined to perform a specific analysis. Using the general criteria, customization of the scoring system is likely to be required for different analyses.

The research evaluation criteria for strategic fit are:

- Alignment with the five research corridors and/or clinical priority areas
- Leverages existing strengths and/or resources
- Is an emerging, important area or technology
- Impact across Medical School/AHC/University
- Is an area where the Medical School is or could be a national leader

The research evaluation criteria for performance are:

- Average H-index/faculty
- Average annual sponsored direct costs/faculty
- Average annual total indirect cost recovery/ faculty
- Ratio of Federal to total funding
- Return on Investment (ROI)
 - last 5 years (sponsored direct and indirect costs – institutional investments)
 - /institutional investments

Exhibit 3 shows a possible scoring system to be used to perform a research portfolio analysis.

The exercise of analyzing the portfolio of research or education activities is important, even if funding is available. Current funds and future funds should not be used just because they are available, but to support the highest value activities. Even with a balanced budget, the goal is to shift more funding to the highest value activities (best combination of strategic fit and performance) and away from lesser value ones. Ultimately, in order to accomplish the financial goals set forth in the Medical School Strategic Directions, the Medical School will need to eliminate some research and education programs and interdisciplinary centers, and possibly consider restructuring some departments. No potential action should be dismissed *a priori*. These tools will not be employed independently to make strategic or funding decisions. There is no predetermined “score” which is good enough or not good enough. Rather, this tool allows us to compare among our numerous activities and to inform subsequent decisions.

2. Align finances with the Medical School’s strategic plan

All of the proposed actions to increase revenue, eliminate costs, or both, must occur with the appropriate long-term goals in mind. To guide these decisions the Medical School’s strategic plan, or Medical School Strategic Directions, was updated this year. The current version of the Strategic Directions document is Exhibit 4. To finance the Medical School vision, it will need to eliminate the structural imbalance by FY13 and by the start of FY14, replenish the Dean’s Commitment Pool so that at least 50% of the funding available in the following three years can be used for new, rather than previous, commitments.

3. Allocate tuition and state funds by a rational method (Dean’s Allocation Methodology)

For more than four years, faculty committees have worked on a new methodology for distributing tuition and state funds (O&M funds) to the departments using a rational method or formula. This committee work began as part of the Medical School’s previous plan to adopt mission-based budgeting. Previous allocations have not had a clear methodological basis and have not been

transparent across departments. This new methodology was developed with faculty and consultant input to achieve the following principles:

- Provide a clear connection between the size of the allocation and a department's participation in education and research
- Determine allocations in a way that is principled, understandable, and administrable
- Provide flexibility for funding priority programs that are poorly served by a standard formula
- Provide a reasonable adjustment period for those departments whose allocations decline

This allocation methodology does not address the problem that tuition and state funding are not adequate to fund current research and educational activities. As with any formula, compromises were necessary to avoid excessive complexity. The new formula will be used for FY11 budgets on the Twin Cities campus. Duluth's allocations will be incorporated in future years.

The new Dean's Allocation Methodology provides nearly equal sums for educational and research activities. It also supports departmental administrative costs for research and education. An important feature of this methodology is a discretionary component of approximately 8% (\$6.9M) that will be used to support mission-critical departmental expenses not adequately funded by the formulaic distribution. In the first year, approximately \$5.6M of this discretionary pool will be used to smooth the transition for departments whose allocations will decline under the new methodology. The remaining \$1.3M discretionary component will be used to support priority programs that are disadvantaged by the standard formula. Allocations of this \$1.3M pool will be determined during annual budget discussions between the Executive Vice Dean and department head.

A complete description of the Dean's Allocation Methodology, including underlying principles, an overview of the Medical School's overall budget, predictions for the FY11 distribution (to be finalized by February 2010), and background documentation can be found in Exhibit 5.

4. Align hiring with strategic goals

4.1. Require approval of all staff and faculty hires

As a means of restraining costs and to be sure that growth of faculty and staff is optimally aligned with strategic priorities, an approval process for hires should remain in place permanently. The single exception is that routine approval for hires of staff totally paid by sponsored funds will not be required. However, such hires must be fully funded by sponsored funds already at the University, or documented by a notice of grant award. Hires using sponsored funds should always be contingent upon the grant funding only and should not require employment beyond the period of grant funding, subject to University regulations.

4.2. Reallocate vacated faculty positions strategically

The Medical School needs to be able to adjust to the needs of changing scientific and clinical opportunities and requirements. When faculty retire or leave the university, the vacated position will not be automatically replaced within the department incurring the vacancy. Instead, new hires will be based upon research, educational, and/or clinical strategic priorities. These decisions will be made in the Dean's Office, with appropriate consultation.

4.3. Develop an overall clinical and academic hiring plan

New faculty and staff are often identified through planned searches. However, sometimes excellent candidates are identified by serendipity. To be prepared for both possibilities, the Medical School, in conjunction with UMP and in consultation with Fairview, will develop an overall plan for future hires in both clinical and academic areas. This is particularly important because clinical scholars have both heavy clinical responsibilities, but also academic (research and teaching) responsibilities. The Medical School and UMP need to optimize the use of their limited resources for start-up and on-going support of these faculty by ensuring that new hires address strategic needs in both academic and clinical service realms.

5. Implement prudent financial management practices

5.1. Prohibit deficit spending and commitments

Deficit spending by individual departments will only be allowed if it has been budgeted and approved by the Dean's Office. Departments with structural deficits will prepare an analysis of the causes and a plan of correction, which may span multiple years. The Dean's Office will assure alignment between the performance expectations placed on a department and its funding.

Dean's funding commitments went into deficit in recent years because new sources of funding did not materialize as expected. In the future, commitments will only be made to the extent that funding is secure. Full funding of commitments should be contingent on meeting performance expectations.

5.2. Re-establish departmental and Medical School reserve funds

At this point in time when the Medical School already has a structural imbalance in its budget, it is difficult to conceive of generating reserve funds. However, to avoid in the future the type of financial stress now being experienced, the departments and the Medical School as a whole should redevelop reserve funds for operations, bridging (for temporary sponsored research funding gaps), short-term investments, and capital projects. Reserve funds previously existed, but have been substantially depleted in recent years. It may require a decade or more to develop optimal reserve funds, but if the plan to do so is not in place now, it will be impossible for them to be generated. Whenever the Medical School decreases costs or obtains a new source of funding, a portion of the money should be placed in reserve.

The types and size of the desirable reserve funds are shown in Exhibit 6. The relative priority for establishment of the various types of reserve funds is different for departments versus the Medical School, as is their optimal size. Some of these reserve funds already exist in whole or in part. For example, the Medical School investment fund is what is now called the Dean's Commitment Pool. The Minnesota Medical Foundation (MMF) Research Grants have been used, in part, to provide gap funding. Other MMF accounts, in specific cases, are available to the departments or dean for investment purposes. UMP requires each Clinical Service Unit to maintain operating reserves of 60 days. Exhibit 7 shows the actual size of these funds based on the FY10 budget. In aggregate, the optimal size of all reserves may be somewhat less because

the Medical School would not be expected to access reserve funds for all uses at the same time.

Specific rules for use of these reserve funds will need to be established. Such rules need to specify what types of uses would be appropriate for each fund and how often the reserves would need to be replenished. It is not the intent of the Medical School to “sweep” departmental reserve funds for use by other departments or the Dean’s Office. Nevertheless, departments will be required to use reserve funds for their intended purposes and not be used for regularly recurring operating expenses. To assure that reserve funds are being used to support departmental and Medical School strategic priorities, expenditures above a certain threshold would require Dean’s Office approval.

5.3. Use an “all funds” approach to budgeting

The Medical School’s financial well-being will be best managed through an all funds approach to budgeting. For departments, clinical service units’ revenues, expenses and fund balances within University of Minnesota Physicians (UMP), the University and the foundations (MMF and UMF) will all be considered when constructing a single budget each year. The Medical School budget will be similarly developed. The underlying assumption is that clinical revenues, particularly hospital-derived revenues, will be used to support educational and research activities, as they always have. State support, tuition, and sponsored revenues are simply not adequate to support these efforts alone.

It is also clear that some activities earn more than others despite comparable time and effort expended. The Medical School must deal with these inequities by funding mission critical activities based upon prioritization, rather than routinely matching the source of revenue with the location of expenses.

5.4. Build long-term obligations into budgets

The Medical School must build all reasonable long-term obligations into its multi-year budgets. Periodic, mandated (unfunded) compensation increases must be anticipated and budgeted. New hires usually consider initial start-up costs, including some amount of time-limited salary support. However, it is unusual to plan for other “faculty cycle” support needs. All research-intensive faculty should be expected to recover more than 60% of their research-related salary on grants. Recommendation 5.2 recognizes the needs for departments and the Medical School to anticipate funding gaps and to support faculty salary and laboratories during such gaps. However, it is rare to plan for salary support during the ramp-down phase of faculty careers. In the absence of changes in the tenure code, it is incumbent upon departments to plan for these eventualities, even as early as the time of initial hire. A conservative estimate is that research faculty will require up to six years of start-up salary support, rather than the current practice of 3-4 years (see Exhibit 8). Approximately 22% of researchers are in a “ramp-down” phase requiring funding for salary and infrastructure. There are also other overhead costs which are not fully supported by grants, clinical revenue, or teaching support. These include space charges and other University cost pool allocations.

Any plans to add new faculty must budget for all start-up costs and future gap funding, ramp-down and unrecovered infrastructure costs. The Medical School will develop a standard template for calculating these costs and will perform these calculations for all faculty hires.

6. Increase revenues

6.1 Increase recovery of indirect costs of research

For every dollar of direct research funding, the Medical School and university, spend nearly 80 cents (unrecovered direct costs, indirect costs, and ramp-up and ramp-down cost for investigators). Federal agencies, such as NIH, AHRQ, and NSF, reimburse only 51 cents of these costs, while other funding agencies such as foundations and the State of Minnesota pay none to 20 cents. Sponsored Project Administration has published indirect cost rates that are standard for its contracts with funders (http://policy.umn.edu/Policies/Research/COST_RATES.html). The University permits investigators to request a waiver of the standard indirect cost rates under special circumstances. Investigators often request waivers so as to shift limited grant awards from indirect to direct expenses. This merely shifts the problem of inadequate support for research from one part of the Medical School to another. If department heads feel that they want to provide additional support for sponsored research beyond what a funding agency provides, they can use their departmental share of the ICR (75% of what the agency pays) to pay for direct research expenses. The policy of the Medical School will be to deny requests for waivers, except under the most unusual circumstances.

The Medical School must also examine the ICR for its entire portfolio of research. Each unit must determine whether accepting sponsored funds from agencies that reimburse less than the Federal rate of 51% is in their best interest since they will need to secure more revenue from other sources to cover ALL of the research costs (direct and true indirect). No simple rule is appropriate here and decisions must be made on a case by case basis. For example, NIH training grants pay only 8% indirect costs yet no one would advocate decreasing the number of training grants we apply for. Similarly, faculty development grants, particularly important for new investigator, carry this low ICR. Some strategically important areas of research are not well funded by Federal agencies, and must be funded by foundations that have low ICR. The Medical School should continue to perform this research but must recognize the increased burden of identifying a proportionately greater amount of charitable or clinical funding to allow this work to be undertaken. There may be, however, areas of research that are less well strategically aligned (see 2.7) and performing less well than other areas, and in such circumstances the best option would be to not apply for research funding with low ICR. Finally, investigators need to appreciate the importance of receiving full external support for their research and whenever possible should negotiate with sponsors to receive full Federal ICR on grants. A faculty task force will be appointed to determine whether medical school-wide rules should be established for ICR.

6.2. Increase philanthropy

For the most part, the MMF has done an excellent job in raising money to support specific areas of research and medical student scholarships. Major gifts in 2008 of \$60 million from the Masonic Charities for cancer research and \$40 million from the Schulze Family Foundation for diabetes research are two important examples. MMF continues to aggressively seek high profile potential donors. Grateful patient campaigns are under development. However, there may still exist additional opportunities to raise additional funds. In particular, more effective annual campaigns focused on faculty giving and alumni giving could increase substantially the number of large scholarships the Medical School could offer to the neediest and highest potential Medical School applicants.

Major gifts must also be scrutinized for additional obligated expenses. Some donors do not allow their gifts to be used for capital improvements or infrastructure cost, even though those costs will occur. Similar to the discussion of acceptable ICR (Recommendation 6.1), some gifts may be unacceptable because of the requisite cost sharing.

6.3. Maximize educational revenue

Increasing the number of nonresidents in the Medical School class would have a modest effect on tuition revenues, but should be considered, particularly since the obligation to educate Minnesota residents has been eroded by the state's reduction of support to the Medical School. Currently approximately 16% of the student body is nonresident, although 23% of the freshman class is nonresident (the nonresident percentage of the Twin Cities freshman class is 38). As an example, if an additional 100 students were selected from nonresident applicants, the class would be 67% nonresident. The increase in annual revenue would be approximately \$ 800,000. For now the recommendation is to admit as many highly qualified nonresident applicants as are interested in attending the University of Minnesota.

Increasing tuition is also a potential source of additional revenue. Current policy is to hold tuition constant for all four years of Medical School. This unique program is felt to provide a competitive advantage to the Medical School. However, this severely restricts the ability to generate new revenue through tuition increases. A 5% tuition increase that affects only the entering class generates approximately \$356,000 compared with nearly \$1.5 million if applicable to the entire student body. Currently the Medical School should continue to employ its unique guaranteed tuition plan, but increase tuition for entering students by at least 5% annually as long as that does not place Minnesota in the noncompetitive position of having the highest tuition of public Medical Schools.

The Medical School also needs to develop a new source of revenue to pay for the substantial administrative costs of graduate medical education (GME). Medicare and state MERC funds are distributed to the hospitals where residents and fellows work, but little money currently flows from the hospitals to the Medical School to support the nearly \$15 million dollars of departmental and medical school administrative costs. A new arrangement with our hospital sponsors is being sought to avoid closure of programs.

6.4. Increase clinical revenue

The clinical activity of the faculty remains a major source of income for clinical departments and, through the Dean's Tax, the Medical School. In addition, development funds are made available for recruiting and retaining faculty and leaders. Clinical revenue also supports the research and education missions through academic transfers. Enhanced management of faculty activity, in particular the potential clinical time (i.e., the non-research and education effort) has a significant potential for new revenue due to the increasing demand for the services of UMP in many specialty areas. In addition, work with the Fairview Health System and other clinical partners affords opportunities for expansion of the clinical practice to provide additional opportunities for faculty and enhancement of the research and education missions.

An additional opportunity for revenue is through the Academic Affiliation Agreement with Fairview Health Services. This agreement calls for payments to the Academic Health Center in support of GME if the health system's net operating margin exceeds a preset threshold. UMP clinicians have an opportunity to collaborate with Fairview to improve patient care quality and value and, therefore, the system's net operating margin.

7. Decrease costs

7.1. Eliminate duplication of services by Medical School and administrative centers

Administrative expenses can be reduced through standardization, selective centralization, and clarification of responsibilities at process hand-offs. The biggest areas of opportunity appear to be in GME administration, medical student clerkship administration, standardization and automation of management reports, physician on-boarding and credentialing, and clinical practice development.

Administrative overhead is high in part because of the layering of costs by the University, AHC, Dean's Office, UMP, administrative centers, departments and divisions. The Medical School and UMP have undertaken a joint review of administrative costs in the latter five layers noted above to identify savings opportunities. This work will build on previous efforts to clarify roles, eliminate duplication, and streamline processes. The Medical School Dean's office will reduce its costs by an amount proportionately the same or greater (for FY11 the amount will be proportionately greater) than that which is expected of the departments.

To decrease the total costs associated with the Medical School's GME programs, a task force has just been charged to assess the quality, strategic fit and performance of current resident and fellow programs and to develop both the principles and the process for right sizing the resident and fellowship programs. The task force will also assess the administrative infrastructure for GME and make recommendations for improving administrative efficiency and effectiveness, including an assessment of distributed versus centralized administration in the Dean's office.

7.2. Develop new ways to perform work

The Medical School will participate in the development an AHC-wide unit for e-learning to better integrate and coordinate all aspects of education technology. The Medical School and AHC will investigate ways to consolidate education technology support and learning platforms for the Medical School and AHC.

The Medical School, and the University, must examine mandated reporting by departments to assure that unnecessary work is avoided.

The Dean's Office will provide an incentive to efficiently utilize space by departments by developing a Space Bank. This is essentially a market whereby the Medical School will assume responsibility for unneeded space. The Medical School will also renovate and repackage space to make it more effective. Details of such a plan can be found in Exhibit 9.

3. How this plan was developed

In August 2009 Dean Frank Cerra charged a task force to develop a new financial model for the Medical School. The Medical School Financial Model Task Force was led by Executive Vice Dean Mark Paller. Members were Joan Bailey, Administrative Center Director; Terry Bock, Academic Health Center Chief of Staff; Denis Clohisy, M.D., Department Head of Orthopedic Surgery; Bobbi Daniels, M.D., Chief Executive Officer, UMP and Vice Dean for Clinical Affairs; Gary Davis, Ph.D., Senior Associate Dean, Duluth; Tim Ebner, M.D., Department Head of Neuroscience and Chair of the Basic Science Council; Aaron Friedman, M.D., Department Head of Pediatrics; Lindsey Henson, M.D., Ph.D., Vice Dean for Education; David Ingbar, M.D., Chair of the Faculty Advisory Council; Linda Kenny, Administrative Center Director; Wesley Miller, M.D., Department Head of Medicine and Chair of the Clinical Science Council; Peter Mitsch, Chief Financial Officer; Charles Moldow, M.D., Vice Dean for Research; Beth Nunnally, Academic Health Center Chief Financial Officer; Ann Schwind, Chief Administrative Officer; Bevan Yueh, M.D., Department Head of Otolaryngology; and Selwyn Vickers, M.D., Department Head of Surgery.

The Task Force was asked to do the following: identify and analyze each revenue stream of the Medical School, including strengths, risks and ways to maximize; identify and analyze potential new sources of revenue for the Medical School, including strengths, risks and ways to maximize; identify and analyze each major line of expenses in the Medical School and develop criteria for and analyze its relationship to mission; during the analysis of expenses, identify potential areas of increased efficiency, effectiveness and cost savings; look at the scope of programs in the Medical School and develop principles and a process for categorizing each into the taxonomy President Bruininks has established: strengthen or expand, maintain, reduce or consolidate, or discontinue; develop basic financial assumptions and benchmarks for financial planning for the foreseeable future; develop the concepts and principles for an investment budget that supports the mission.

The group met many times between September, 2009 and January, 2010, both as a whole and in three subgroups. One subgroup developed the education evaluation criteria, one group developed the research evaluation criteria, and the third worked on general financial principles and for developing reserve funds.

The Task Force reviewed Medical School financial reports for the past five years, Medical School budgets for the next three years; reports of past Medical School task forces; Securing the University's Leadership Position in the 21st Century: A Report of the Strategic Positioning Work Group; the Report of the Future Financial Resources Task Force of the University, and various Medical School and AHC presentations about Medical School and University finances.

The Deans Allocation Methodology was initially recommended by a committee led by Deborah Powell and including Timothy Ebner, Aaron Friedman, Peter Mitsch, Charles Moldow, Selwyn Vickers, and Ann Schwind. The methodology was finalized after with revision by the Medical School Financial Model Task Force and consultation with the Basic Science Council, Clinical Science Council, and the Faculty Advisory Council.

Other recommendations were similarly developed by Task Force subgroups, revised by the entire Task Force, and then consulted with department chairs and the Faculty Advisory Council.

EXHIBIT ONE. Portfolio Analysis Graphical Display

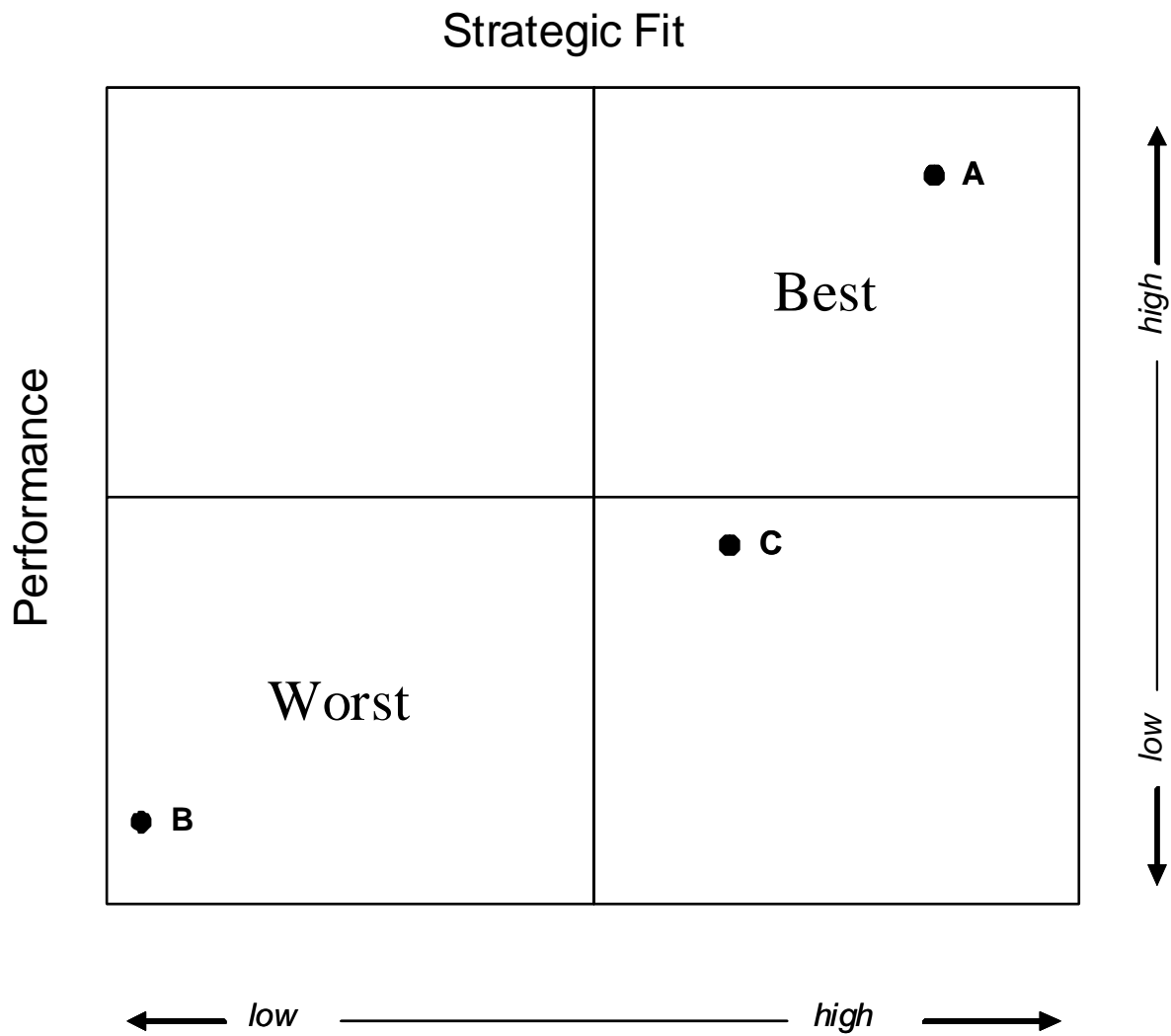


EXHIBIT TWO. Scoring System that could be used for Education Portfolio Analysis (This example is for GME. The tool can be modified as needed)

Strategic Fit Criteria	Proposed Scoring		
	0	5	10
1. Relates to accreditation	Not needed	“Should have”	“Must Have”
2. Addresses workforce needs: (clinical needs of UMMS/UMMC and/or PC, rural or underserved for state)	No obvious relation to a defined workforce need	Indirect relation to a defined workforce need	Strong relation to a defined workforce need
3. Links with research priority areas	No obvious link	Indirect link	Direct link
4. Links with clinical priority areas (input from UMP, FV, UMMS)	No obvious link	Indirect link	Direct link
5. Impacts medical school core learners (medical students, residents, fellows, graduate students)	No impact	Intermediate or indirect impact	Impacts several groups of key learners
6. Relates to interprofessional education	No relation	Indirect relation	Direct relation
Maximum Potential Score			60

Performance Criteria Criteria will differ for level or type of learners (UME, GME, graduate students)	Proposed Scoring (example for GME)		
	0	5	10
1. <u>Learner Characteristics (GME)</u> : Characteristics of Entering Residents or Fellows (% US Senior, % AOA, USMLE Step 1 and Step 2 scores) compared to national benchmarks for specialty and normalized across UMN programs	< 1 SD below UMN mean	Within \pm 1 SD of UMN mean	> 1 SD above UMN mean
2. <u>Reputation (GME)</u> : Faculty Academic Productivity (papers, presentations, leadership roles in national organizations, and educational scholarship as defined by the AAMC* per core program faculty)	Data not sufficient to determine scoring method	Data not sufficient to determine scoring method	Data not sufficient to determine scoring method
3. <u>Program Quality (GME)</u> : ACGME Resident Survey, Accreditation Cycle Length, Board Pass Rate compared to national benchmarks for specialty and normalized across UMN programs	< 1 SD below UMN mean	Within \pm 1 SD of UMN mean	> 1 SD above UMN mean
4. <u>Average Annual Cost per Learner (GME)</u> : All allocated & attributable costs/number of learners, excluding faculty and trainee salaries and fringe.	>\$8,500/trainee	\$6,900 - \$8,500/trainee	<\$6,900/trainee
5. <u>Career Outcomes (GME)</u> : Evaluated against stated goals of program, e.g., fellowship for residency, PC practice for PC residency)	Data not sufficient to determine scoring method	Data not sufficient to determine scoring method	Data not sufficient to determine scoring method
Maximum potential score			50

EXHIBIT THREE. Scoring System that could be used for Research Portfolio Analysis (can be modified as needed)

Strategic Fit Criteria	Proposed Scoring		
	0	5	10
1. Aligns with one of the five research corridors and/or clinical priority areas	Not related	Related	Essential
2. Leverages existing strengths and/or resources	None	Some	High
3. Is an important emerging area or technology	No	Maybe	Yes
4. Current and potential impact across Medical School / Academic Health Center / University	None	Some	High
5. Is an area where the Medical School is or could be a national leader	No	Maybe	Yes
Maximum potential score			50

Performance Criteria	Proposed Scoring				
	0	2.5	5	7.5	10
6. Average H-index/faculty	0-1	2	3-4	5-6	>6
7. Average annual sponsored direct research costs/faculty (excludes training grants)	\$0K	\$1-35K	\$36K-152K	\$153-287K	>\$287K
8. Total indirect cost recovery/ sponsored direct research costs	<18%	18% – 32%	33% – 43%	44% – 48%	>48%
9. ROI = (last 5 years of sponsored direct and indirect costs – institutional investments) /institutional investments	<-150%	-150% – 50%	50% –150%	151%-250%	>250%
Maximum potential score					40

EXHIBIT FOUR. Medical School Strategic Plan



Ensure that patients receive the highest value health care

Recognize that clinical excellence is integral to academic prominence

Measure and reward the highest standards of professionalism in the clinical learning environment

Develop willing partnerships to achieve more efficient commercialization of innovative discoveries

Encourage, promote, and value civic engagement

Be a resource to the community for leading edge health information

Advance outreach with respect to research on the Duluth Campus

Develop a new economic model for the Medical School to sustain future development

Narrow the scope of the Medical School's mission to advance a distinctive constellation of excellence

Manage overhead expenses to optimize faculty effectiveness and funds available for direct program support



Support the faculty in their research

Set processes in place to promote the success of dynamic research corridors

Support new discovery that is outside the corridors

Align the research mission of the Duluth Campus with its educational mission that emphasizes rural and Native American health

Achieve excellence in competency based education

Cultivate an environment characterized by professionalism, collegiality, and active learning

Appropriately allocate resources to reflect education efforts

Further develop rural and Native American health as the educational focus for the Duluth Campus

Enhancing the Value of the Clinical Enterprise

Ensure that patients receive the highest value healthcare

- Partner with UMPHysicians and Fairview Health System to maximize the value of the interrelationships.
- Achieve alignment of clinical goals, strategies, tactics, and metrics with those of UMPHysicians.
- Evaluate department heads and, through them, the faculty on meeting strategic clinical targets as set by UMPHysicians.
- Reward faculty and learners for providing outstanding clinical service.
- Recognize that high quality patient care is part of the Medical School mission.

Recognize that clinical excellence is integral to academic prominence

- Strengthen the central role of clinical care in the educational and research missions of the Medical School.
- Ensure excellence of the clinical programs needed to facilitate translation of discoveries from the research corridors to clinical practice.

Enhancing the Value of the Clinical Enterprise (cont.)

- Foster a culture of inquiry with the application of evidence based practice.
 - Develop care models that are population based and outcomes focused.
 - Facilitate the opportunity for patients to serve as teachers.
- Develop a stable base of patients for mission fulfillment.
- Utilize the expanded patient base to catalyze discovery of new knowledge and application of research skills by faculty and trainees.
 - Expand the base of patients participating in clinical trials.
 - Assure scholarly output of clinical research program (e.g., publications, intellectual property).
- Develop new therapies and translate emerging novel approaches to the treatment of disease.
- Value the role of clinical scholars and recognize outstanding clinical scholarship in the promotion process.

Enhancing the Value of the Clinical Enterprise (cont.)

Measure and reward the highest standards of professionalism in the clinical learning environment

- Define attributes of effective faculty mentorship of learners.
 - Develop metrics and process for evaluating mentoring activities.
 - Develop guidelines for valuing mentoring in the promotion and tenure process.
 - Identify a valued means of recognizing faculty for effective service as role models and mentors.
- Coordinate mentorship of students to provide a longitudinal view of the student's progress in developing the professional qualities essential to the practice of medicine.

Advancing Excellence in the Research Corridors to Realize their Value

Support the faculty in their research

- Sustain our programs of excellence.
- Support a vibrant graduate student research experience.
- Evaluate department heads and, through them, the faculty on meeting strategic research targets.
- Establish an effective business management structure for critical research support core facilities.
- Allocate funds to support pilot studies within these cores.

Set processes in place to promote the success of dynamic research corridors.

- Establish high profile groups of faculty in each priority area.
- Sustain multiple multi-project and training grants and increase federally sponsored funding in each corridor.
- Partner with MMF to enhance philanthropic support for the corridors.
- Align resources with faculty positions redistributed to support research corridors.

Advancing Excellence in the Research Corridors to Realize their Value (cont.)

Support new discovery that is outside the corridors.

- Establish a mechanism to identify which new areas of discovery to support.
- Establish a mechanism to determine return on research investments.
- Link research programs with the CTSI to leverage resources and foster interdisciplinary collaborations.
- Increase enrollment in clinical trials and the number of research reports in relevant clinical journals.

Align the research mission of the Duluth Campus with its educational mission that emphasizes rural and Native American health.

- Conduct translational and clinical research using biomedical, mental health, clinical, educational and population health research approaches.
- Develop research programs that target areas with direct relevance to the improvement of health outcomes for the rural and Native American populations of Minnesota.
- Support current researchers who are funded and those with a high probability of future funding.

Achieving Value in Education Across the Continuum

Achieve excellence in competency based education

- Establish and implement methods of assessing the attainment of competencies within all educational programs. In UME, roll this out to Year 1 students in FY11 while planning for subsequent year roll outs until all years are incorporated. GME will follow a similar rollout beginning at new resident orientation. CME will increase the scope of competencies assessed in 1/3 of courses offered in 2011.
- Meet the standards set for educational programs by the Liaison Committee on Medical Education, the Accreditation Council for Graduate Medical Education, and the Accreditation Council for Continuing Medical Education.
- Evaluate department heads and, through them, the faculty on meeting strategic educational targets.
- Complete development of the Teaching Track and value education in the promotion and tenure process.
- Effectively implement revised curriculum models on both campuses.

Cultivate an environment characterized by professionalism, collegiality, and active learning

Achieving Value in Education Across the Continuum (cont.)

- Assess perceptions of professional behaviors in the learning environment in 2010 and provide feedback to students, residents, faculty, and staff. Initiate a longitudinal process in 2011.
- By 2012 incorporate additional models of eEducation into the basic science and clinical courses of Years 1 and 2.
- In FY10, systematically document and evaluate the interprofessional education opportunities offered in undergraduate, graduate, and continuing medical education. Increase and enhance the interprofessional education experiences from this baseline in FY11.

Appropriately allocate resources to reflect education efforts

- Support departmental and interdisciplinary graduate student education programs.
- Appropriately support faculty and students through the eLearning infrastructure.
- Implement a course management system by Fall 2010.
- Appropriately recognize and compensate teaching efforts in departmental compensation policies.
- Reassess the size and focus of GME and CME programs.

Achieving Value in Education Across the Continuum (cont.)

Further develop rural and Native American health as the educational focus for the Duluth Campus.

- Build on the successes already achieved as a separate track for the education of medical students for rural family medicine and primary care.
- Build on the successes already achieved in the recruitment and education of students with a commitment to improving the health of Native American communities.
- Increase the coordination and cooperation across the two campuses and tracks.
- Create a medical education laboratory on the Duluth campus.

Capturing the Value of Outreach

Develop willing partnerships to achieve more efficient commercialization of innovative discoveries

- Increase the number of new clinical research applications which include community partners.
- More effectively use the CTSI infrastructure to support community outreach.
- Link discovery in the Medical School with Research Corridors and the technology commercialization process.

Encourage, promote, and value civic engagement

- Increase participation in the statewide AHEC network.
- Recognize faculty for participation on boards and in other forms of community partnerships.

Capturing the Value of Outreach (cont.)

Be a resource to the community for leading edge health information

- Make use of the new media tools being developed in the AHC Office of Communications to effectively disseminate information to the community that addresses their needs.

Advance outreach with respect to research on the Duluth Campus

- Develop effective research partnerships with rural and Native American communities that will address health concerns of those communities.
- Nurture and expand collaborations with appropriate regional research partners such as the Essentia Health system, St. Luke's Health system, Fond du Lac Reservation, the UMD campus, Northern Ontario School of Medicine, and the UM Twin Cities campus."

Financing the Vision

Develop a new economic model for the Medical School to sustain future development

- Eliminate the structural imbalance by FY13.
- By the start of FY14, replenish the Dean's Commitment Pool so that no more than 50% of the funding available in the next three years is committed.
- Hire additional faculty for the Biomedical Discovery District using new sources of revenue for the Medical School.

Narrow the scope of the Medical School's mission to advance a distinctive constellation of excellence

- Assess the strategic fit and performance of educational and research activities and reallocate resources to strengthen, maintain, reduce, or discontinue programs.
- Based on identified educational priority areas, ensure appropriate resource allocation in the FY11 budget to achieve and maintain excellence.

Financing the Vision (cont.)

Manage overhead expenses to optimize faculty effectiveness and funds available for direct program support

- Manage administrative costs in the Dean's Office, administrative centers, departments, and CSUs to no more than **X%** of total revenue.
- Manage the Medical School's facilities expense so that it is **~X%** of total revenue.

EXHIBIT FIVE. Dean's Allocation Methodology Underlying Principles

Key Principles

A new method has been developed to substantiate the Dean's recurring support allocations to the academic departments. Previous allocations have not had a clear methodological basis and have not been transparent across departments. This new methodology was developed with faculty and consultant input to achieve the following principles:

- Allocate resources equitably and transparently
- Provide a clear connection between the size of the allocation and a department's participation in education and research
- Determine allocations in a way that is principled, understandable, and administrable
- Provide flexibility for funding priority programs that are poorly served by a standard formula
- Provide a reasonable adjustment period for those departments whose allocations decline

This allocation methodology does not address the problem that tuition and state funding are not adequate to fund current research and educational activities. As with any formula, compromises were necessary to avoid excessive complexity. The new formula will be used for FY11 budgets on the Twin Cities campus. Duluth's allocations will be incorporated in future years.

Support for Faculty Teaching Effort

- Supported by a predetermined percentage of tuition generated
 - Medical Student teaching: 33% of tuition revenue will be allocated to the departments for their contributions to teaching, course direction and advising.
 - Graduate, undergraduate and other professional teaching: 80% of the tuition received by the Medical School will be allocated to the departments.
- Tuition for interdepartmental courses to be allocated among departments using percentages that reflect relative contributions.
- Resident and fellow teaching is not supported by Dean's allocations with the exception of special State support for Family Medicine & Community Health. Future modifications will consider adding a GME component to the allocation.

Support for Faculty Research Effort

- Faculty research effort will be supported by the Dean through the allocation of research "units."
 - The value of each unit is set initially at \$55K. It is uniform for all departments.
 - The total number of units is based on funds availability and may change over time
- ~100 units for basic science departments
 - A unit will be assigned for every tenured and tenure-track appointee in the basic science departments.

-
- Basic science units revert to the Dean for negotiated distribution when faculty depart.
 - ~175 units for clinical science departments
 - Units are allocated among the clinical departments in proportion to their share of total clinical department faculty salary recovery on grants averaged over a rolling 3-year period.
 - Clinical income and philanthropy will continue to provide additional support for clinical department research.
 - Units will be allocated to departments not to individuals.

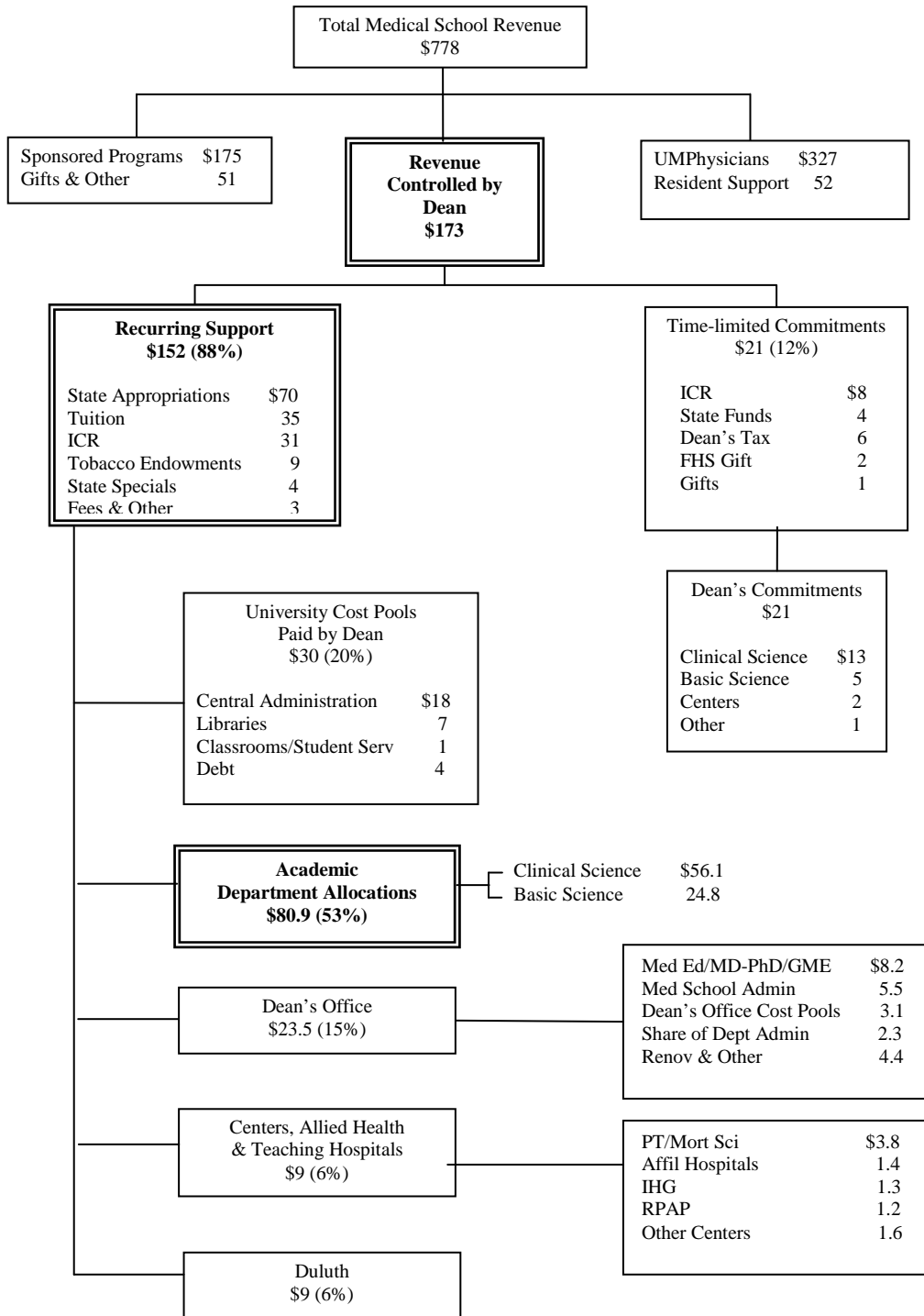
Support for Administration and Cost Pools

- Full support provided for department head administrative augments.
- An allowance equal to \$6M is set aside to support administration and cost pools. These funds are allocated among departments in proportion to their allocations of tuition and research units. Forty percent of the funds is in recognition of faculty service and is allocated pro rata among the departments using weights of 1:1 for tuition and research units. Sixty percent of the funds is distributed among departments using a weight of 1 for tuition and 10 for research units to reflecting the higher expense of research.
- Departments will continue to receive 75% of their sponsored indirect cost recoveries.

Discretionary Component

- A discretionary amount of \$6.9M will be allocated outside the formula described above.
- In the first year, approximately \$5.6M of this discretionary pool will be used to smooth the transition for departments whose allocations will decline under the new methodology. These funds will be used to restore about 50% of the reductions. They are not guaranteed and will be confirmed on a department by department basis.
- The remaining \$1.3M discretionary component will be used to support priority programs that are disadvantaged by the standard formula. Allocations of this \$1.3M pool will be determined during annual budget discussions.

**University of Minnesota Medical School
FY10 Budget Allocations (in millions)**



Dean's Allocation Methodology
 FY 10 Modeled Allocations by Purpose
 Dollars in thousands

	01/26/10 Method	
Teaching Allocations:		
Medical student teaching	\$ 5,502	
Medical School course directors & advisors	1,575	
Undergraduate & other professional teaching	3,722	
Graduate teaching	1,830	
FMCH resident teaching	1,896	
Teaching Subtotal	\$ 14,526	18%
Research Allocations	15,359	19%
Faculty & Staff administration; Cost pools	9,057	11%
ICR	29,368	36%
First year graduate stipends	1,441	2%
Presidential comp & MNCare	4,126	5%
Restoration of 50% of lost allocations	4,667	6%
Reserve for discretionary allocations	2,361	3%
Grand Total	\$ 80,904	100%

Dean's Allocation Methodology
University of Minnesota Medical School
FY11 Allocation

Department	UME teaching	UME Course Dir & Advisors	Undergrad & Other Prof	Grad	Research	Dept head Augments	Provost Support & MNCare	Admin & Cost Pools	Graduate Student Stipends	Phase-in Support	Discretionary Funding	FY11 Allocation	Adjustment Column	CBS revenue	Actual FY 2010 Allocation	
<i>Basic Sciences</i>																
Biochemistry, Molecular Biology & Genetics, Cell Biology, & Development	\$ 92	\$27	\$ 172	\$ 134	\$ 1,073	\$ 72	\$ 67	\$ 392	\$ 216	250		2,494	(250) ¹	742	\$ 2,766	
Microbiology	\$ 57	-	128	244	1,320	102	276	480	216	171	40	3,031	(151) ¹	318	\$ 3,177	
Neuroscience	\$ 133	46	723	424	880	96	134	356	339	-		3,132			2,941	
Pharmacology	\$ 102	46	342	463	1,650	63	279	614	370	115	107	4,151			4,168	
Integrative Biology & Physiology	\$ 188	35	323	321	935	66	136	360	308	-		2,671			2,568	
	\$ 232	101	2,015	8	330	66	19	199	62	-		3,031			2,229	
Basic Sciences Total	\$ 804	\$ 255	\$ 3,704	\$ 1,593	\$ 6,188	\$ 465	\$ 910	\$ 2,401	\$ 1,509	\$ 535	\$ 147	\$ 18,511	\$ (401)	\$ 1,060	\$ 17,849	
<i>Clinical Sciences</i>																
Anesthesiology	\$ 53	-				184	-	2		175	15	428			\$ 603	
Dermatology	\$ 84	-			55	103	-	22		189		453			520	
Emergency Medicine	\$ 289	50			-	67	-	12		36		453	(36)		515	
Family Medicine & Community Health	\$ 633	286	3		495	176	337	207	1,896 ³	739		4,775	(739) ²		5,575	
Laboratory Medicine & Pathology	\$ 188	35	248	41	1,045	207	130	386		173		2,452			2,640	
Medicine	\$ 1,474	441	3		3,135	132	487	1,171		-		6,842			4,765	
Neurology	\$ 330	50			220	99	403	91		300	162	1,654			1,817	
Neurosurgery	\$ 22	12	2		55	154	27	21		179		472			535	
Obstetrics, Gynecology & Women's Health	\$ 360	50			110	158	42	53		370	300	1,442			1,272	
Ophthalmology	\$ 37	-			220	20	102	79		183		640	(90) ⁴		704	
Orthopaedic Surgery	\$ 112	62			-	192	141	6		247		760			1,028	
Otolaryngology	\$ 75	62	6	11	110	124	-	44		153		585			638	
Pediatrics	\$ 651	152	3		1,650	172	1,136	609		435	550	5,359			4,974	
Physical Medicine & Rehabilitation	\$ -	-			-	67	-	0		371	20	458			569	
Psychiatry	\$ 441	61			935	209	161	347		938	60	3,152			3,421	
Radiology	\$ -	-	4	126	715	167	376	256		108		1,753			1,869	
Surgery	\$ 378	50	17	50	605	212	66	230		212		1,821			2,051	
Therapeutic Radiology	\$ -	-			110	74	-	39		115	80	417			462	
Urologic Surgery	\$ 65	112			55	103	-	26		117		478			478	
Clinical Sciences Total	\$ 5,191	\$ 1,425	\$ 286	\$ 227	\$ 9,515	\$ 2,620	\$ 3,408	\$ 3,599	\$ 1,896	\$3	\$ 5,039	\$ 1,187	\$ 34,395	\$ (865)	\$ -	\$ 34,437
Reserve for non-formulaic allocations																
Medical School Total	\$ 5,994	\$ 1,680	\$ 3,990	\$ 1,820	\$ 15,703	\$ 3,085	\$ 4,319	\$ 6,000	\$ 3,405	\$ 5,574	\$ 1,334	\$ 52,907	\$ (1,266)	\$ 1,060	\$ 52,286	

¹ Will receive faculty salary support from CBS for teaching efforts

² Family Medicine receives support from Ucare

Dean's Allocation Methodology
University of Minnesota Medical School
FY11 Allocation

Department	Estimate ICR revenue for FY09 allocated in FY10	Actual FY09 final ICR	Variance between estimate ICR for FY10 and actual FY09*	Dec 09 Actual ICR revenue	Estimate ICR revenue for FY10 allocated in FY11	Total FY11 Allocation	Dept amount
<i>Basic Sciences</i>							
Biochemistry, Molecular Biology & Genetics, Cell Biology, & Development	\$1,878	\$2,119	\$242	\$1,064	\$2,129	\$2,370	\$1,778
Microbiology	1,282	1,481	200	846	1,693	1,892	1,419
Neuroscience	2,161	2,044	(117)	1,005	2,011	1,894	1,420
Pharmacology	2,417	2,324	(93)	1,246	2,492	2,399	1,799
Integrative Biology & Physiology	1,882	1,922	39	1,076	2,152	2,192	1,644
	456	456	(0)	279	557	557	418
Basic Sciences Total	10,075	10,345	271	5,517	11,034	11,304	8,478
<i>Clinical Sciences</i>							
Anesthesiology	63	16	(47)	0	1	(46)	(35)
Dermatology	19	37	18	79	159	177	133
Emergency Medicine	46	99	53	75	149	202	152
Family Medicine & Community Health	694	1,015	321	543	1,087	1,408	1,056
Laboratory Medicine & Pathology	3,756	3,418	(339)	1,682	3,364	3,025	2,269
Medicine	7,658	8,323	664	4,839	9,678	10,342	7,756
Neurology	834	797	(37)	401	802	765	574
Neurosurgery	31	38	7	27	53	60	45
Obstetrics, Gynecology & Women's Health	103	64	(39)	44	87	48	36
Ophthalmology	583	468	(115)	312	625	510	382
Orthopaedic Surgery	110	73	(37)	109	219	182	136
Otolaryngology	492	450	(42)	228	456	414	310
Pediatrics	5,078	4,591	(488)	2,270	4,539	4,051	3,039
Physical Medicine & Rehabilitation	25	25	0	15	30	30	22
Psychiatry	1,994	1,859	(135)	977	1,954	1,819	1,364
Radiology	1,892	2,481	589	1,127	2,255	2,844	2,133
Surgery	3,696	3,352	(343)	1,485	2,970	2,627	1,970
Therapeutic Radiology	363	299	(64)	157	313	249	187
Urologic Surgery	159	166	7	160	320	327	245
Clinical Sciences Total	\$27,597	\$27,571	(\$26)	\$14,530	\$29,060	\$29,033	\$21,775
Reserve for non-formulaic allocations							
Medical School Total	\$37,672	\$37,916	\$244	\$20,047	\$40,094	\$40,338	\$30,253

Dean's Allocation Methodology
University of Minnesota Medical School
FY11 Allocation

This is a modeled allocation developed to illustrate the impact of the new allocation methodology. FY11 allocation calculations using updated data will be available by February 1.

UME Course Direction: *Attachment A*

Allocation to basic science course directors: We estimated that an effective course director spends 60% of their time on course related activities over the duration of the course. Taking into account the length of the course, Attachment A provides details of the allocation to each course director based on a salary plus fringe rate of \$249,455.

Allocation to clinical course directors and clerkship directors: The Years 1 and 2 Essentials of Clinical Medicine (ECM) course directors' role was valued in the same way as basic science course directors, based on student contact hours and length of the course. Years 3 and 4 clerkship directors were assumed to contribute 20% effort over the year since clerkships are repeated throughout the year. This is based on a salary plus fringe rate of \$249,455.

UME Faculty Advisors: *Attachment B*

This is a new role in the curriculum which replaces the current advising process which relies on >200 separate faculty who are chosen by students at the end of Year 2 and assist with choosing clerkships and residencies in Years 3 and 4 only. Funding for these advisors is currently not a line item on any budgets. Faculty advisors are supported at 20% time, based on a salary plus fringe rate of \$249,455. **Attachment B shows departments that were used for modeling purposes; allocations will be adjusted when advisors have been selected through an application and review process.**

UME Faculty Teaching Effort: *Attachments C & D*

Medical students pay tuition as a fixed cost of degree rather than on a per credit basis. The credit hour concept used across campus does not fit this cost of degree model; however, campus does attribute tuition to medical school courses based on credit hours. We see no straightforward way to consistently and accurately allocate tuition to courses or departments using the campus attributions as a base. Attachments C and D detail the relative student contact time for faculty in each course and use that as a basis for distribution of tuition to the respective courses.

Attachment C – Years 1 and 2: Units for tuition allocation reflect student contact time in a particular course relative to total student contact time for the semester. Year 1 is based on 38 weeks of class (which excludes exam weeks) and 7 half days of contact time per week. Year 2 is based on 26 weeks of class (which excludes exam weeks) and 7 half days of contact time per week.

Attachment D – Years 3 and 4: For the required clerkships, faculty effort is affected by the number of students. Student Clerkship Weeks were calculated as the number of weeks of the clerkship times the typical number of students enrolled in the

Dean's Allocation Methodology
University of Minnesota Medical School
FY11 Allocation

clerkship. Each year the Office for Medical Education in consultation with the course and clerkship directors will determine what percentage of the tuition allocated to a course/clerkship should be distributed to the departments whose faculty participate in that course/clerkship.

For Surgery, Family Medicine, and the Primary Care Selectives, the number of students is smaller since about 40 students meet this requirement through RPAP clerkships. About 20 students do Ob/Gyn, Pediatrics, and the Surgical Selective through RPAP. Tuition for RPAP is allocated directly to the program.

Allocations for clinical electives were based on the minimum number of required hands on electives. We used a five year history of student enrollment in determining the allocations.

Allocation for course management: Effective course management decreases some of the faculty preparation time. For departmentally managed courses, a portion of the tuition dollars allocated per Attachments C and D must go to course management/administrative support. For courses not related to a particular department (INMD courses), course management and administrative support expenses are covered through the Office for Medical Education tuition allocation.

Undergraduate, other professional and graduate teaching: *Attachments E & F*

Allocations reflect 80% of calendar 2008 actuals. The FY11 allocation will be based on actuals for Spring FY09 and Summer and Fall of FY10.

Research Units: *Attachments G & H*

The allocation of research units in the basic science departments is based on February 2009 headcounts of tenured and tenure-track Medical School appointees. Modifications will be made to reflect actual FY11 headcount.

173 research units were allocated among the clinical science departments in proportion to their FY09 sponsored faculty salary recovery. FY11 allocations will be based on a three year average of FY07-FY09. A long-term goal is to have sufficient research units, gifts and endowments to provide an equivalent foundation of support for all research intensive faculty, whether in basic or clinical departments.

Phase-in Support

In the first year, approximately \$5.6M will be used to smooth the transition for departments whose allocations will decline under the new methodology. These funds will be used to restore about 50% of the reductions. They are not guaranteed and will be confirmed on a department by department basis.

Dean's Allocation Methodology
University of Minnesota Medical School
FY11 Allocation

A \$1.3M discretionary pool is not yet allocated in these modeled results. Allocations from this pool will be based on discussions with departments during the budget process, with funding targeted at those situations where the formula fails to accommodate high priority exceptions.

Provost support and MnCare:

Model reflects FY10 allocations, which will be updated for FY11.

ICR

Modeled ICR matches the FY10 budget calculation. There will be no change in the usual calculations for FY11: first six months of FY10 doubled plus a reconciliation of the FY09 allocation to the final actual ICR.

Administration and Cost Pools

Model includes actual FY10 department head administrative augments and fringes plus an allowance of \$6M to support administration and cost pools. Forty percent of these funds support faculty administrative service; it is allocated among departments using weights of 1:1 for tuition and research units. Sixty percent of the funds is allocated using a weight of 1 for tuition and 10 for research units to reflect the higher expense of research.

Graduate Student Stipends

Modeled first year graduate student support is 70% of the FY10 actual allocation, with the other 30% returned to the departments through the graduate student tuition formula. The FY11 allocation by department will be adjusted to reflect 70% of the amount actually allocated by the Provost with the allocation of funded slots across departments based on a five-year rolling average of the number of graduate students per program.

MEDICAL STUDENT TUITION ALLOCATION

Total tuition allocation	\$7,077,609	33% of Medical Student tuition revenue
Less amount to Course/Clerkship Dirs.	\$1,176,277	
Less amount to Advisors/Assessment Dev	\$399,128	
Remainder	\$5,502,204	
35% for Yrs 1 and 2	\$1,925,771	
65% for Yrs 3 and 4	\$3,576,433	
Years 1 and 2	\$1,925,771	
55% to Year 1	\$1,059,174	
45% to Year 2	\$866,597	

Medical School Course Director Support

Scientific Foundation Courses

Course	Duration	Days for course at 60% effort (Bx5x.6)	Annual % effort = days x 8 hrs/day / 2080 hours per year	Salary plus fringe (1FTE=\$249,455) Determine value of NIH cap plus fringes, place in F2	
					\$249,455
Immersion: Human Structure & Function	19 weeks	57	21.92%	\$54,688	IBP
Immersion: Science of Medical Practice	19 weeks	57	21.92%	\$54,688	BMBB
Physiology	16 weeks	48	18.46%	\$46,053	IBP
Neuroscience	16 weeks	48	18.46%	\$46,053	Neuroscience
Microbiology & Immunology	16 weeks	48	18.46%	\$46,053	Microbiology
Human Disease 2	10 weeks	30	11.54%	\$28,783	Neurology
Human Disease 3	8 weeks	24	9.23%	\$23,027	Medicine
Principles of Pathology	7 weeks	21	8.08%	\$20,148	LMP
Principles of Pharmacology	7 weeks	21	8.08%	\$20,148	Pharmacology
Human Disease 1	6 weeks	18	6.92%	\$17,270	LMP
Human Disease 4	6 weeks	18	6.92%	\$17,270	Pharmacology
Integration Leader, Year 2	NA	15	5.77%	\$14,392	Pharmacology
Integration Leader, Year 2	NA	15	5.77%	\$14,392	Pathology
Integration Leader, Years 1 and 2 (ID)	NA	15	5.77%	\$14,392	Medicine
Human Behavior	4 weeks	12	4.62%	\$11,513	Psychiatry
Human Sexuality	4 weeks	12	4.62%	\$11,513	FMCH
					\$440,384

Clinical Courses

Course	Duration	Days for course at 60% effort	Annual % effort = days x 8 hrs/day / 2080 hours per year	Salary plus fringe	
Essentials of Clinical Medicine (Years 1 and 2)	62 weeks	189	75.00%	\$187,091	
Increase to 75% due to scheduling complexity for clerkship component (from 71.54%)					2/3 to FMCH 1/3 to Medicine

Medical School Course Director Support

Clerkship	Clerkship Weeks (weeks X # for rotations)	% effort per Clerkship Week	Annual % effort	Salary plus fringe for each clerkship	Total salary plus fringe
Required clerkships (total of 11)	48	20%	20.00%	\$49,891	\$548,801

Years 3 and 4 Current Required Courses	% of clerkship to dept.		Total salary+fringe	
Medicine 1	100%	Medicine	\$49,891	Medicine
Medicine 2	100%	Medicine	\$49,891	Medicine
Psychiatry	100%	Psychiatry	\$49,891	Psychiatry
Ob/Gyn	100%	Ob/Gyn	\$49,891	Ob/Gyn
Pediatrics	100%	Pediatrics	\$49,891	Pediatrics
Surgery	100%	Surgery	\$49,891	Surgery
Neurology	100%	Neurology	\$49,891	Neurology
Emergency Medicine	100%	Emergency Medicine	\$49,891	Emergency Medicine
Family Medicine	100%	Family Medicine	\$49,891	Family Medicine
Surgical Selective*	25%	Orthopaedics	\$12,473	Orthopaedics
Surgical Selective*	25%	Urology	\$12,473	Urology
Surgical Selective*	25%	Otolaryngology	\$12,473	Otolaryngology
Surgical Selective*	25%	Neurosurgery	\$12,473	Neurosurgery
Primary Care Selective*	25%	Medicine	\$12,473	Medicine
Primary Care Selective*	25%	Pediatrics	\$12,473	Pediatrics
Primary Care Selective*	25%	Family Medicine	\$12,473	Family Medicine
Primary Care Selective*	25%	Med/Peds	\$12,473	Med/Peds (pd. in Peds)
				\$548,801

*Review distribution annually with the group of clerkship directors for that selective

Total \$1,176,277

Medical School Faculty Advisor Support

Faculty Advisors	\$399,128	\$249,455	Salary plus fringe rate:\$249,455. Determine value of NIH cap plus fringes, place in C1
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The following departments were used for modeling purposes, allocations will be adjusted when advisors have been selected through an application and review process.

Advisors

Name	Dept.	\$ allocation
TBD	Medicine	\$49,891
TBD	Medicine	\$49,891
TBD	Pediatrics	\$49,891
TBD	Pediatrics	\$49,891
TBD	Family Medicine	\$49,891
TBD	Family Medicine	\$49,891
TBD	Surgery	\$49,891
TBD	Pathology	\$49,891
		\$399,128

Total tuition allocation	\$7,077,609	33% of Medical Student tuition revenue
Less amount to Course/Clerkship Dirs.	\$1,176,277	
Less amount to Advisors	\$399,128	
Remainder	\$5,502,204	
35% for Yrs 1 and 2	\$1,925,771	
65% for Yrs 3 and 4	\$3,576,433	
Years 1 and 2	\$1,925,771	
55% to Year 1	\$1,059,174	
45% to Year 2	\$866,597	

Medical School Years 1 and 2 Course Allocation

Units	Allocation	<u>Year 1 Courses in Revised Curriculum</u>	%	Dept.
10.6	\$305,920	Essentials of Clinical Medicine	50	Family Medicine
		Essentials of Clinical Medicine	33.5	Medicine
		Essentials of Clinical Medicine	16.5	Pediatrics
6.1	\$176,048	Immersion: Human Structure & Function	71	IBP
		Immersion: Human Structure & Function	29	GCD
4.1	\$118,327	Immersion: Science of Medical Practice*	67	BMBB
		Immersion: Science of Medical Practice*	28	Peds
4.4	\$126,985	Microbiology & Immunology	100	Microbiology
3.3	\$95,239	Neuroscience	100	Neuroscience
3.0	\$86,581	Physiology	100	IBP
1.6	\$46,177	Principles of Pathology	100	Lab Med & Path
1.6	\$46,177	Principles of Pharmacology	100	Pharmacology
0.7	\$20,202	Human Behavior	100	Psychiatry
0.7	\$20,202	Human Sexuality	100	Family Medicine
0.6	\$17,316	ID Thread	100	Medicine
36.7	\$1,059,174			

* Remainder (2 units) to MULTI (Pop Hlth, Bio Stats, Epi, Library) outside of allocation model.

Units	Allocation	<u>Year 2 Courses in Revised Curriculum</u>	%	Dept.
6.7	\$223,315	Essentials of Clinical Medicine	50	Family Medicine
		Essentials of Clinical Medicine	33.5	Medicine
		Essentials of Clinical Medicine	16.5	Pediatrics
3.6	\$119,990	Human Disease 1	50	Medicine
		Human Disease 1	25	Lab Med & Path
		Human Disease 1	25	Pharmacology
6.5	\$216,649	Human Disease 2	20	Neurology
		Human Disease 2	20	Pharmacology
		Human Disease 2	20	Lab Med & Path
		Human Disease 2	15	Psychiatry
		Human Disease 2	10	Orthopaedics
		Human Disease 2	5	Otolaryngology
		Human Disease 2	5	Ophthalmology
		Human Disease 2	5	Dermatology
5.0	\$166,653	Human Disease 3	50	Medicine
		Human Disease 3	25	Lab Med & Path
		Human Disease 3	25	Pharmacology
3.6	\$119,990	Human Disease 4	50	Medicine
		Human Disease 4	25	Lab Med & Path
		Human Disease 4	25	Pharmacology
0.6	\$19,998	ID Thread	100	Medicine
26.0	\$866,597	(Note PAP in 2010 instead of ECM)		

Medical School Years 3 and 4 Course Allocation

SCW/100	Allocation	Years 3 and 4 Current Required Courses	%	Dept.
13.8	\$356,610	Medicine 1	100	Medicine
13.8	\$356,610	Medicine 2	100	Medicine
13.8	\$356,610	Psychiatry	100	Psychiatry
12.6	\$325,600	Ob/Gyn*	100	Ob/Gyn
12.6	\$325,600	Pediatrics*	100	Pediatrics
11.4	\$294,591	Surgery*	100	Surgery
9.2	\$237,740	Neurology	100	Neurology
9.2	\$237,740	Emergency Medicine	100	Emergency Medicine
8.4	\$217,067	Family Medicine*	100	Family Medicine
7.6	\$196,394	Surgical Selective*	30	Orthopaedics
		Surgical Selective*	30	Urology
		Surgical Selective*	30	Otolaryngology
		Surgical Selective*	10	Neurosurgery
7.6	\$196,394	Primary Care Selective*	57	Medicine
		Primary Care Selective*	33	Pediatrics
		Primary Care Selective*	10	Family Medicine
18.4	\$475,479	Required hands on Clinical Electives	15	Medicine
		Required hands on Clinical Electives	15	Radiology
		Required hands on Clinical Electives	15	Derm
		Required hands on Clinical Electives	9	Peds
		Required hands on Clinical Electives	9	Anes
		Required hands on Clinical Electives	9	Surgery
		Required hands on Clinical Electives	7	Family Medicine
		Required hands on Clinical Electives	6	Neurology
		Required hands on Clinical Electives	5	Ophthalmology
		Required hands on Clinical Electives	5	Emerg Med
		Required hands on Clinical Electives	5	Psychiatry
138.4	\$3,576,433			

SCW = Student Clerkship Weeks (# of weeks X # of students)

*Student Clerkship Weeks assume 20 weeks on RPAP for 40 students – all get credit for FM, PCS, Surgery; 20 get Ob/Gyn, 20 get Peds, 20 get Surgical Selective for total of 880 SCW

Dean's Allocation Methodology
University of Minnesota Medical School
\$000s

Undergraduate and Other Professional Tuition (all non-T-Med academic plans)

Department	FY08/09 tuition and fees	alloc share	Modeled FY10 Alloc
<i><u>Basic Sciences</u></i>			
Biochemistry, Molecular Biology & Biophysics	\$ 323	0.8	\$ 258
Genetics, Cell Biology, and Development	137	0.8	110
Microbiology	915	0.8	732
Neuroscience	325	0.8	260
Pharmacology	380	0.8	304
Integrative Biology & Physiology	2,229	0.8	1,783
Basic Sciences Total	4,309		3,447
<i><u>Clinical Depts</u></i>			
Anesthesiology	1	0.8	1
Family Medicine	2	0.8	2
LMP	257	0.8	206
OB	1	0.8	1
Otolaryngology	4	0.8	3
Radiology	65	0.8	52
Surgery	14	0.8	11
	344		275
Grand Total	\$ 4,653		\$ 3,722

Dean's Allocation Methodology
University of Minnesota Medical School
\$000s
Graduate Student Tuition

Department	FY08/09 Tuition*	alloc share	Modeled FY10 Alloc
<i><u>Basic Sciences</u></i>			
Biochemistry, Molecular Biology & Biophysics	\$ 189	0.8	\$ 151
Genetics, Cell Biology, and Development	252	0.8	202
Microbiology	559	0.8	447
Neuroscience	582	0.8	466
Pharmacology	392	0.8	314
Physiology	35	0.8	28
Basic Sciences Total	2,009		1,607
Otolaryngology	73	0.8	58
Radiology	82	0.8	66
Surgery	124	0.8	99
	279		223
Grand Total	\$ 2,288		\$ 1,830

*FY08/09 tuition/fees equals
Spring 08 from FY08 tuition revenue
Summer and fall 08 from FY09 tuition revenue
Data from the tuition attribution tables

Dean's Allocation Methodology
 University of Minnesota Medical School
 \$000s
Basic Science Department Research Units

Department	Total Faculty¹ FTE	Research Units	FY10 Modeled Research Allocation
Biochemistry, Molecular Biology, and Biophysics	18.75	18.8	\$1,031
Genetics, Cell Biology, and Development	24.00	24.0	1,320
Microbiology	15.00	15.0	825
Neuroscience	27.50	27.5	1,513
Pharmacology	16.00	16.0	880
Integrative Biology and Physiology	5.00	5.0	275
TOTALS	<u>106.25</u>	<u>106.3</u>	<u>\$5,844</u>

¹ Feb 2009 counts

Dean's Allocation Methodology
University of Minnesota Medical School
Clinical Science Department Research Units

<u>Department</u>	<u>Allocated in proportion to Faculty Salary Recovery</u>			
	<u>FY09 Sponsored Faculty Salary Recovery</u>	<u>Research Faculty Lines</u>	<u>Allowance per Research Line</u>	<u>Estimated Allocation</u>
Anesthesiology	\$ 31,154	0	\$ 55,000	\$ -
Dermatology	98,294	1	55,000	55,000
Emergency Medicine	-	0	55,000	-
Family Practice and Community Health	1,263,755	9	55,000	495,000
Laboratory Medicine and Pathology	2,442,563	17	55,000	935,000
Medicine	8,231,718	57	55,000	3,135,000
Neurology	863,698	6	55,000	330,000
Neurosurgery	163,985	1	55,000	55,000
Obstetrics, Gynecology, and Women's Health	304,471	2	55,000	110,000
Ophthalmology	604,037	4	55,000	220,000
Orthopaedic Surgery	21,944	0	55,000	-
Otolaryngology	299,475	2	55,000	110,000
Pediatrics	4,481,047	31	55,000	1,705,000
Physical Medicine and Rehabilitation	46,626	0	55,000	-
Psychiatry	2,355,881	16	55,000	880,000
Radiology	1,914,714	13	55,000	715,000
Surgery	1,650,092	11	55,000	605,000
Therapeutic Radiology	451,702	3	55,000	165,000
Urologic Surgery	42,170	0	55,000	-
TOTALS	\$ 25,267,326	173		\$ 9,515,000

EXHIBIT SIX. Recommended Reserve and Investment Funds for the Medical School and its Departments

Purpose	Department	Departmental priority rank	Medical School	Medical School priority rank
Bridge fund	0.5% total sponsored revenues	2	1.5% total sponsored revenues	1
Investment fund	10% of nonsponsored revenues	3	10% of nonsponsored revenues	2
General reserves	15% of nonsponsored revenues	1	15% of nonsponsored revenues	4
Space bank and renovation			\$1-2 Million	3
Notes: These reserves are in addition to UMP-mandated CSU reserves				

EXHIBIT SEVEN. Reserve Fund Requirements (if fully funded)

	Bridge Fund		Investment Fund		General Reserves		Total UM Reserves	UMP Reserves		Total Reserves
	Spons. Rev.	Target (1.5/5%)	Nonsp. Rev.	Target (10/10%)	Nonsp. Rev.	Target (15/15%)		Op. Rev.	60 Days	
Medical School		\$ 2,575,800		\$ 23,884,489		\$ 35,826,733	\$ 62,287,022	\$ -	\$ -	\$ 62,287,022
Dean's Office	3,903,000	-	22,611,000	2,261,100	22,611,000	3,391,650	5,652,750	-	-	5,652,750
Duluth Campus	2,211,000	11,055	11,837,000	1,183,700	11,837,000	1,775,550	2,970,305	-	-	2,970,305
BMBB	8,319,000	41,595	3,559,000	355,900	3,559,000	533,850	931,345	-	-	931,345
GCD	5,872,000	29,360	2,644,000	264,400	2,644,000	396,600	690,360	-	-	690,360
Microbiology	8,599,000	42,995	3,178,000	317,800	3,178,000	476,700	837,495	-	-	837,495
Neuroscience	9,682,000	48,410	5,323,000	532,300	5,323,000	798,450	1,379,160	-	-	1,379,160
Pharmacology	6,997,000	34,985	2,657,000	265,700	2,657,000	398,550	699,235	-	-	699,235
Int. Biology	2,552,000	12,760	2,524,000	252,400	2,524,000	378,600	643,760	-	-	643,760
IEM	298,000	1,490	1,845,000	184,500	1,845,000	276,750	462,740	-	-	462,740
Anesthesiology	94,000	470	2,669,000	266,900	2,669,000	400,350	667,720	7,410,000	1,235,000	1,902,720
Dermatology	356,000	1,780	2,781,000	278,100	2,781,000	417,150	697,030	3,897,000	649,500	1,346,530
Family Medicine	4,885,000	24,425	23,093,000	2,309,300	23,093,000	3,463,950	5,797,675	20,651,000	3,441,833	9,239,508
LMP	14,171,000	70,855	11,484,000	1,148,400	11,484,000	1,722,600	2,941,855	18,445,000	3,074,167	6,016,022
Medicine	35,333,000	176,665	33,306,000	3,330,600	33,306,000	4,995,900	8,503,165	42,126,000	7,021,000	15,524,165
Neurology	3,357,000	16,785	5,691,000	569,100	5,691,000	853,650	1,439,535	4,118,000	686,333	2,125,868
Neurosurgery	331,000	1,655	3,178,000	317,800	3,178,000	476,700	796,155	5,014,000	835,667	1,631,822
Ob/Gyn	349,000	1,745	6,457,886	645,789	6,457,886	968,683	1,616,217	13,579,000	2,263,167	3,879,383
Ophthalmology	1,660,000	8,300	7,461,000	746,100	7,461,000	1,119,150	1,873,550	7,285,000	1,214,167	3,087,717
Ortho Surgery	612,000	3,060	6,595,000	659,500	6,595,000	989,250	1,651,810	16,841,000	2,806,833	4,458,643
ENT	2,004,000	10,020	3,226,000	322,600	3,226,000	483,900	816,520	5,220,000	870,000	1,686,520
Pediatrics	20,477,000	102,385	23,586,000	2,358,600	23,586,000	3,537,900	5,998,885	27,544,000	4,590,667	10,589,552
PM&R	1,545,000	7,725	4,783,000	478,300	4,783,000	717,450	1,203,475	2,402,000	400,333	1,603,808
Psychiatry	9,297,000	46,485	8,234,000	823,400	8,234,000	1,235,100	2,104,985	4,262,000	710,333	2,815,318
Radiology	8,061,000	40,305	13,069,000	1,306,900	13,069,000	1,960,350	3,307,555	20,826,000	3,471,000	6,778,555
Surgery	19,135,000	95,675	22,160,000	2,216,000	22,160,000	3,324,000	5,635,675	26,057,000	4,342,833	9,978,508
Ther. Rad.	955,000	4,775	2,489,000	248,900	2,489,000	373,350	627,025	6,477,000	1,079,500	1,706,525
Urology	665,000	3,325	2,404,000	240,400	2,404,000	360,600	604,325	7,077,000	1,179,500	1,783,825
Totals	\$ 171,720,000	\$ 3,414,885	\$ 238,844,886	\$ 47,768,977	\$ 238,844,886	\$ 71,653,466	\$ 122,837,328	\$ 239,231,000	\$ 39,871,833	\$ 162,709,161

EXHIBIT EIGHT. Institutional Support of Research

Given the research-intensive nature of the Medical School, an examination of financial models must consider whether institutional support of research is appropriate. This short white paper attempts to quantify the gap between available institutional resources and those required to support current research. It quantifies this gap at \$6M annually. Data limitations make this no better than a general ballpark estimate, but it suggests that inadequate sources of institutional research support account for a significant fraction of the Medical School's \$12M structural deficit.

Institutional research support is required for two general categories of expense, as outlined below.

Unrecovered Costs Incidental to Sponsored Research: \$70M

The general rule of thumb is that medical schools must support \$0.15 - \$0.25 for every \$1.00 of sponsored direct cost support. This rule of thumb was supported in a recent study by Dorsey (*Academic Medicine*, Vol. 84, No. 1, 28). Institutional subsidies are required for capped and unallowable direct costs, ISO costs that exceed charges, and faculty research effort in excess of sponsored recovery. Applying a 20% ratio to the Medical School's \$136M of sponsored direct costs produces a need for \$27M of institutional direct cost support per year.

Medical schools must also support the gap between actual indirect costs and indirect cost recovery from sponsors. A University of Minnesota analysis using FY06 data indicated that actual indirect costs are 63% of MTDC while recoveries average 30%. Applying these same percentages to the Medical School suggests that actual indirect costs are \$82M and recoveries are \$39M – a gap of \$43M to be funded internally.

In total, the Medical School must cover \$70M of direct and indirect costs left uncovered by sponsors who provide \$175M. This equates to \$0.40 for every \$1.00 of sponsored direct and indirect costs.

Institutional Costs Outside of Sponsored Periods: \$38M

Medical schools must support the cost to recruit and ramp-up new research faculty, to bridge faculty between funded cycles, to retain faculty, and to ramp-down unfundable investigators. These costs are rarely born by sponsors and are not included in the calculations above.

These costs are not tracked centrally and had to be estimated using the following assumptions:

- The number of research faculty is 440: equal to the number of tenured and tenure track faculty. This number is 10% less than the number of faculty with research space plus those with research grants but without research space.
 - 62% of the 440 research faculty are laboratory investigators; 38% are clinical/dry investigators. (Data extrapolated from the Research Space Utilization Committee (RUSC) Report, Feb-08)
 - The number of faculty in ramp-up phase equals the number of "N" track appointees: 28% of the 440.
-

- The number of faculty in ramp-down phase is 22% of the 440, extrapolated from RUSC report data.
- Ramp-up cost: 28% of the 440 research faculty
 - for laboratory based investigators is \$1.5M over 6 years. 33% of this cost is associated with unrecovered protected time, 33% for unrecovered indirect costs and 33% for startup and renovations.
 - for clinical/dry investigators is \$0.5M over 4 years: 40% unrecovered protected time, 40% unrecovered indirect costs and 20% startup.
- Ramp-down cost: 22% of the 440 research faculty
 - for laboratory based investigators is \$0.8M over 6 years: 50% unrecovered protected time, 10% other direct cost support, and 40% unrecovered indirect costs.
 - for clinical/dry investigators is \$0.2M over 2 years: 60% unrecovered protected time, 40% unrecovered indirect costs.
- Active research faculty: 50% of the 440 research faculty
 - At any given time, 10% of the active research faculty are assumed to require bridging or retention at cost of \$50K per investigator: equal to 25% of the average annual cost of those ramping up.

These assumptions produce an average annual cost for ramp-up, bridging, retention and ramp-down of \$38 million.

Total Institutional Support Requirements: \$108M

Adding this \$38M to the \$70M of institutional match required for sponsored funds produces a total annual requirement of \$108M to support research at the Medical School, equal to institutional support of \$0.62 for every \$1.00 of sponsored support. Previous analysis by Beth Nunnally concluded that the institutional support required for net new faculty positions over an 18 year period was a match of ~100% on grant revenues: high because it captured the cost of new space and a heavier than normal proportion of ramp-up costs.

Institutional Funds Available to Support Research: \$102M

Institutional research support comes from a variety of sources: University, AHC, Medical School dean and departments. These sources aggregate to ~\$102M:

- University and AHC support for research cores that benefit Medical School PIs is estimated at \$5M/year
- The Dean's support for research is estimated at \$59M per year including the research components of recurring department allocations, Dean's commitments, university cost pools paid by the Dean, and Medical School administration.
- Department support for research (exclusive of the funding above) is estimated at 75% of department-controlled gifts and other revenue, or \$38M/year. UMP academic transfers are assumed to support GME faculty effort, GME administrative costs and costs for academic salary, offices and administration associated with clinicians, but not born directly by the CSU's.

Conclusions:

These calculations are built on many assumptions and have an error range that exceeds the \$6M gap between requirements and support available. Nonetheless, it is likely that under-funding of institutional research costs accounts for a substantial fraction of the School's estimated \$12M structural deficit. These under-funded costs are difficult to eliminate because they are largely faculty compensation and overhead costs.

These calculations generally assume that the Medical School's need for institutional research support is typical of any medical school with our level of external support and our population of investigators. Previous work by a Medical School Research Task Force Subcommittee (Oct-2007) concluded that external funding levels per faculty member are low, particularly in the clinical departments. This suggests that we might be able to reduce the required level of institutional support if investments were focused on a smaller cadre of faculty who could generate the same level of external support. Such focus could reduce the estimated \$38M annual cost for ramp-up, bridging, retention and ramp-down. The \$70M of unrecovered costs incidental to sponsored awards would not be affected.

Other opportunities to reduce the institutional cost of research include shortening the ramp-up and ramp-down periods, setting higher salary recovery expectations and reducing turnover. More generous bridge support and seed funding for high-potential investigators could also have an attractive return on investment.

EXHIBIT NINE. Medical School Space Bank

PROBLEM STATEMENT:

There is a need for departments to give up space they cannot use productively. However, department heads have been discouraged by their inability to find “buyers” for excess space. Improving the school’s overall space utilization requires the Dean’s Office to act as an intermediary in buying and repurposing excess space. Departments have come forward with proposals to give up ~15,000 asf. This is probably a low estimate. Additional excess lab space will be created as faculty relocate to the Biomedical Discovery District and, while we do not currently have metrics for utilization of office and conference space, there is a sense that greater efficiencies are possible.

PLAN:

1. The Dean’s Office will act as a space bank. It will need budgetary resources to cover the cost of space it has acquired, but not yet reassigned. \$150,000-250,000 recurring for at least the next 3-5 years would give the Medical School the capacity to bank 6,000-10,000 asf. Transfer of financial responsibility for space assumed by the Dean’s Office will be phased in to reduce the initial burden on the Dean’s Office. The releasing department will continue to bear costs for at least six months or until the space is re-leased, whichever comes sooner.
 2. Departments will be given a window of time each fall to offer space for buy-back. Buy-back decisions will be made based on criteria (e.g., amount and location of space that is useful for high priority programs, reasonable quality, validation that the space is not required by the current department for the foreseeable future, etc.). The Dean’s Office would not buy all space offered. Buy-back decisions will be made early in the annual budget process.
 3. The AHC facilities planning group and SOS data base will be instrumental in developing tools and information the departments can use to assess their space utilization.
 4. Departments will be responsible for the cost of moving out of space they sell back to the Dean’s Office and removing all materials, including chemicals.
 5. To repurpose space, particularly to develop additional high quality office space, the Medical School must secure ~\$2 million for capital improvements. This capital investment has a positive net present value of \$1M assuming a \$2M initial outlay to avoid 15 years of rent payments for non-University office space at a rate of \$250K/10,000 asf plus 3% inflation and a 5% discount rate.
 6. A subset of the space departments would like to shed is usable only as storage and would not be a priority for renovation. If spaces are deemed to be unusable, they should be removed from the inventory used to allocate cost pools. This could be done internal to the Medical School if the AHC and University do not agree to reduce the official inventory. This approach would spread the cost of unusable space over all occupants rather than leaving it as a permanent responsibility of the Dean’s Office.
-