

Geisel School of Medicine at Dartmouth

Lessons Learned Following an Institutional Reorganization

AAMC Group on Business Affairs - Webinar
November 16, 2018

Agenda

1 Background (20 Minutes)

2 Vision & Implementation (10 Minutes)

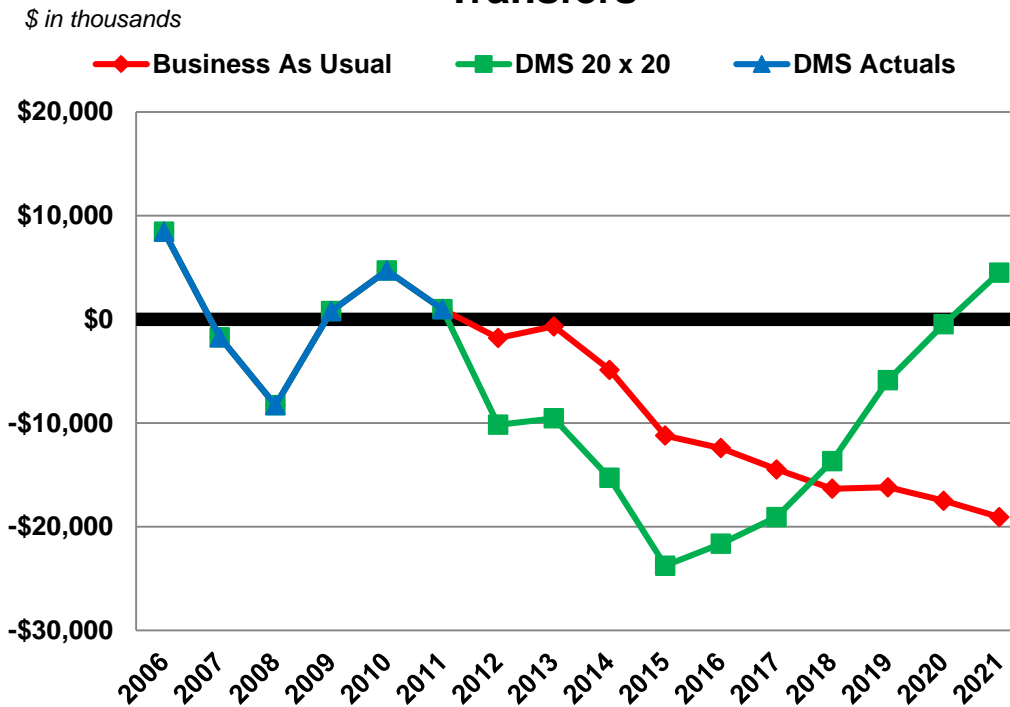
3 Tools Utilized (10 Minutes)

4 Lessons Learned & Questions (10 Minutes)

DMS 20x20: WHERE IT WILL TAKE US

(slides from circa 2011)

DMS Net Operating Surplus/(Deficit) Before Transfers

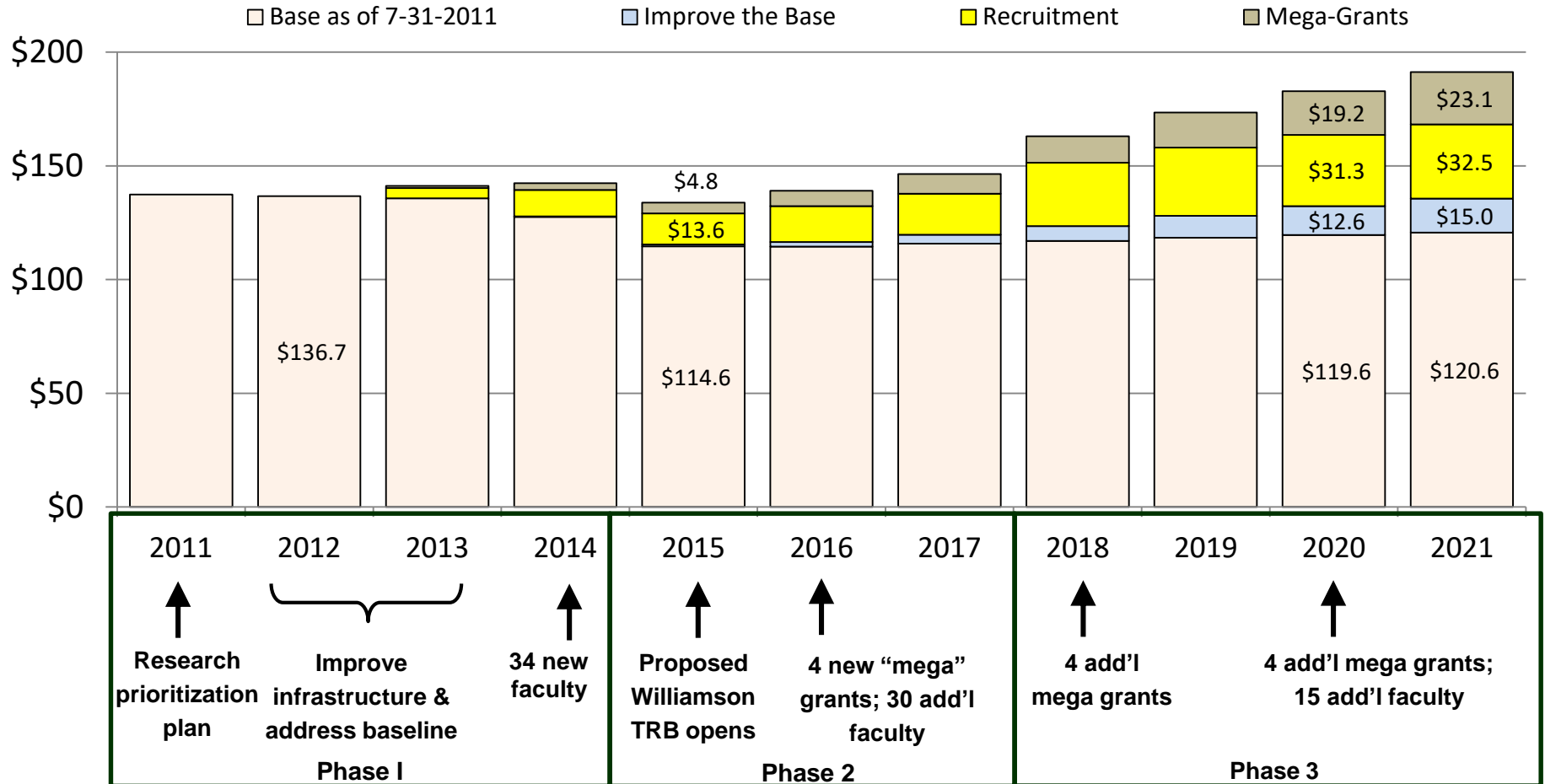


- ◆ Business as usual not an option – downward spiral
- ◆ DMS transformed 20x20 creates sustainable future with ongoing excellence

20x20 Research Investment Return Projections

(slides from circa 2011)

Grant Spending & Indirect Cost Recovery (in millions)

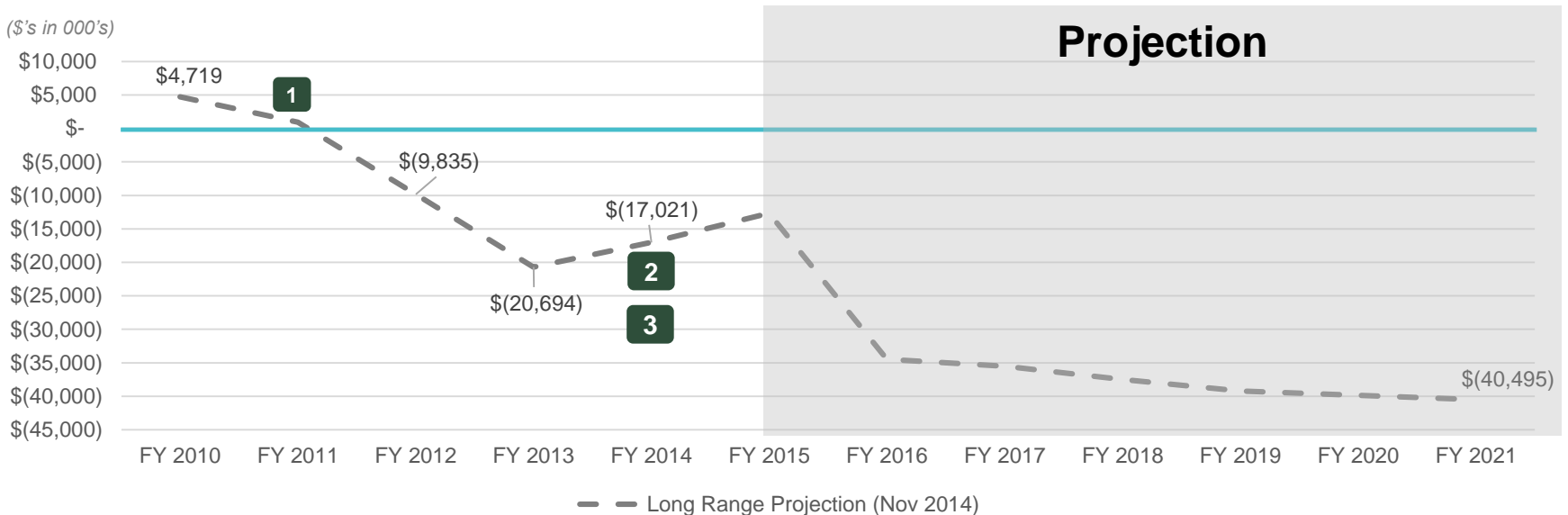


Model predicts research funding will exceed \$180M in 2020

The Trajectory Revisited

(November 2014)

The “20x20 Plan” was launched in 2011 with Trustee and College endorsement; highlights include adding 75 new faculty and construction of a new research building, expectation of new philanthropic support



- 1 Construction on new building began in 2014, completion in 2016. Philanthropy support for <20% of total construction cost
- 2 Approximately ½ the new faculty contemplated added through fiscal 2014
- 3 Research and philanthropic revenues failed to grow at levels contemplated in the 20x20

With new debt service, increased operating costs and flat revenues, the 5-year projected operating deficits ballooned to ~\$40M (on an overall budget of ~\$250M)

Geisel Academic Organization (2014)

As one of three professional schools at Dartmouth College, Geisel, in affiliation with two primary clinical partners¹, consisted of 23 departments and centers in 2014

Basic Science Departments*:

- » Anatomy
- » Biochemistry
- » Genetics
- » Microbiology & Immunology
- » Pharmacology & Toxicology
- » Physiology & Neurobiology
- » Epidemiology
- » Biomedical Data Science

Interdepartmental Centers:

- » iQBS (Quantitative Biological Sciences)
- » Norris Cotton Cancer Center
- » Synergy (CTSA)
- » The Dartmouth Institute for Health Policy and Clinical Practice (TDI)

Clinical Science Departments:

- » Anesthesiology
- » Community & Family Medicine
- » Medicine
- » Neurology
- » Ob/Gyn
- » Orthopedics
- » Pathology
- » Pediatrics
- » Psychiatry
- » Radiology
- » Surgery

*** Geisel's department structure originated and emulated the content of the pre-clinical medical education curriculum (e.g. Biochemistry faculty taught biochemistry courses)**

- » Geisel/Dartmouth provides all academic appointments (regardless of paymaster). Tenure only provided to Dartmouth College-employed faculty.
- » D-H, through the Dartmouth-Hitchcock Clinic (D-HC) was/is the primary employer of the clinical faculty/professional staff and the primary clinical home for Geisel's clinical departments, with the exception of the Department of Psychiatry (which was a Dartmouth-based department).
- » Geisel provided support for nearly all sponsored research programs (basic and clinical), including federally-funded clinical trials (industry clinical trials ran through D-H).
- » In the years leading up to 2014, D-H provided a modest level of inter-entity support (~\$6M/year, negotiated annually)...not a "Dean's tax"... equivalent to roughly 0.4% of total D-H net patient service revenues.

¹Dartmouth-Hitchcock (D-H) and the White River Junction VAMC (VA)

Core Mission View (2014)

Challenges Identified

With mounting losses, a new financial reporting tool was implemented to aid in understanding performance across the school's "core missions"

(\$'s in 000's)

	MD Program	Graduate Programs	TDI	Research	Clinical and Lab Services	Other Inst. Activity	Advance- ment	Plant Overhead	Education Admin.	Dept Admin.	General Overhead	Other	Grand Total
Tuition & Fees	\$ 18,908	\$ 4,983	\$ 4,311	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28,202
Sponsored Research	-	-	25,422	102,879	7,980	333	-	-	-	-	-	-	136,614
Clinic & Hospital Support	-	-	963	-	-	-	-	-	-	-	-	6,500	7,463
Endowment & Gift Income	4,835	135	1,037	3,848	463	198	1,782	-	243	84	-	13,080	25,705
Other Revenue	199	221	7,988	14,432	16,369	3,939	2,564	294	-	7,760	1,705	-	55,472
Total Revenues	23,941	5,339	39,722	121,159	24,812	4,470	4,346	294	243	7,844	1,705	19,580	253,456
Compensation Related Expense	4,990	1,039	17,573	62,755	21,741	5,337	3,500	778	1,015	12,401	6,644	-	137,772
Non-Compensation Expenses	10,011	4,517	21,160	54,292	3,480	2,190	1,482	1,601	262	6,950	9,887	-	115,831
Total Expenses	15,000	5,555	38,732	117,047	25,220	7,528	4,983	2,379	1,277	19,351	16,530	-	253,603
Contribution Margin	8,941	(216)	989	4,112	(408)	(3,057)	(637)	(2,085)	(1,034)	(11,507)	(14,825)	19,580	(147)
Allocated Plant & Overhead	(3,710)	(743)	(2,523)	(34,690)	(2,843)	(1,472)	(344)	2,085	1,034	11,507	14,825	-	(16,874)
Estimated Total Margin	5,231	(960)	(1,534)	(30,578)	(3,251)	(4,529)	(980)	0	0	0	0	19,580	(17,021)
<i>Total Margin Percentage</i>	22%	-18%	-4%	-25%	-13%	-101%	-23%	0%					-7%

- » 2014 reflected significant investments (deficits) in Research, Clinical Services and Other Institutional Activity
- » Research investment includes support for clinical research enterprise
- » Undergraduate Medical Education (UME) tuition and unrestricted revenues from endowment / D-H operating support (*Other* column) not sufficient to sustain the current level of activity at Geisel

Core Mission View (2014)

Challenges Identified (cont.)

Clinical (Department) Academics

- » A separate view generated for clinical academics (only) reflected a \$17M total investment: \$10M for clinical research, \$4M loss on clinical practice (Psychiatry) activities, and \$4M in support of medical education teaching costs
- » Net of D-H inter-entity payment, loss of \$11M on clinical academics. No increase in inter-entity payment was available to Geisel.

Other Research

- » Basic research and interdisciplinary research at Geisel required an additional \$20M investment
- » ~20% of the active investigators (60 of 289) generated 70% of total sponsored funding
- » ~15% of the active investigators (~40) generated sufficient facilities and administrative cost recoveries to support their research programs
- » The lower 2/3rd's of the actively support researchers (189) averaged less than \$50K in modified total direct costs (MTDC) and <\$17K in F&A recoveries, with many provided with full laboratory support
- » A number of tenured, tenure-track and non-tenure track faculty with Geisel/Dartmouth as their paymaster were failing to meet minimum expectations for securing qualified extramural support for their compensation (typically set at 50% for tenured/tenure-track)

Medical Education

- » Variability in teaching experience across the pre-clinical curriculum, lack of consistency and coordination across and within courses
- » Curriculum was largely organized within individual (discipline-specific) departments. Impeded curriculum improvements and coordination.
- » Inability to easily identify the total annual investment and operating margin of the UME program
- » Structural and programmatic impediments to increasing class size

Space (in 2014)

In 2014 the space available to support research was a combination of owned and leased space spread across two campuses in Hanover and Lebanon, NH (3 miles apart)

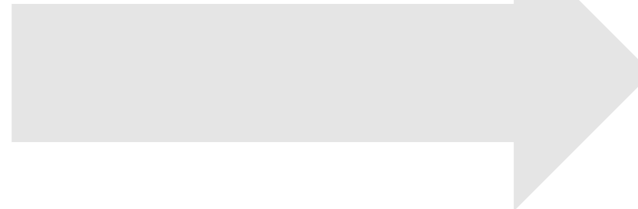
Research Space Available

New Building
~80,000

Leased
~130,000
NASF

Owned
~140,000
NASF

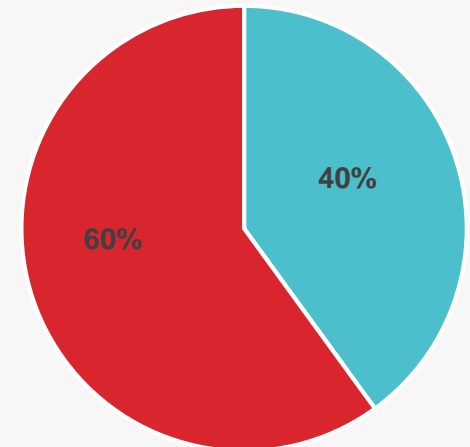
» Several benchmarks for wet, hybrid and dry-lab programs were utilized to assess the need vs. the availability of space



» Discounting to account for older buildings, the size of the research portfolio required ~210,000 NASF or 47% of the current footprint.

» Majority of leased space supported office-based research programs.

Space Needed



■ Needed

■ Excess Space

Prior to building the WTRB, Geisel already owned / leased more research space than was supported by benchmarks (~60,000 NASF)

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2 Vision & Implementation (10 Minutes)

3 Tools Utilized (10 Minutes)

4 Lessons Learned & Questions (10 Minutes)

The Vision (Fall 2014)

“Create a smaller, more nimble and focused medical school (model) that addresses the immediate financial challenges facing Geisel and which provides a more supportive environment/experience for Geisel’s students, faculty and staff”

Three faculty committees convened (Fall 2014):

- 1** Core Mission – provide recommendations to the Dean on current and future investments in academic missions of Geisel; help prioritize and assess value of existing/new programs
- 2** Fiscal Policy – work with the Dean’s office, Faculty Council and Dean’s Academic Board to implement and strengthen fiscal policies
- 3** Space/Use – work with the Dean’s office to program the new WTRB building, assess and provide input on other (programmatic) use of space

» **Other Committees (2014 – Present)**

- › Geisel Monthly – Joint meeting with Dartmouth College leadership (e.g. Provost, SVP Admin & Finance, President’s Office, VP Research); provide oversight and implementation support
- › Dartmouth College Trustees – Regular meetings with Academic Affairs & Finance Committees
- › D-H Academic Council – Organized between Dean/D-H Chief Academic Officer (CAO)
- › D-H – Geisel – Joint leadership meeting (Dean, CAO, CFO & Exec. Dean for Administration); focus on support for clinical academic enterprise
- › Sub-Committees (HR, Legal, Sponsored Research, Faculty Affairs, Controller’s Office) – with Geisel, College, and D-H functional area leaders organized to assess and support implementation

The Plan (Fall 2015)

“Create a smaller, more nimble and focused medical school (model) that addresses the immediate financial challenges facing Geisel and which provides a more supportive environment/ experience for Geisel’s students, faculty and staff”

1 Partner with Dartmouth-Hitchcock to migrate responsibility for clinical academic enterprise to D-H:

- › Change of employer for >300 faculty and staff
- › Migration of clinical enterprise for the Department of Psychiatry
- › Migration of clinical research programs (all departments) to D-H

2 Rationalization of support for basic and interdisciplinary research at Geisel (DC-based)

- › Reduction in numbers of non-tenured faculty
- › Retirement/transition agreements moving select tenured faculty off payroll
- › Examined multiple models that:
 - › Provided critical mass in research revenues/unit
 - › Better reflected areas of foundational research relevant to the missions of the medical school
- › Reorganization and standardization of support/positions for department administration

3 Reduce Geisel’s physical footprint and the associated costs supported by Dartmouth College

- › Exit or sublease commercially-leased space
- › Use benchmark data and F&A cost finding to maximize utilization and cost recovery for owned space

Implementation (2016 - Present)

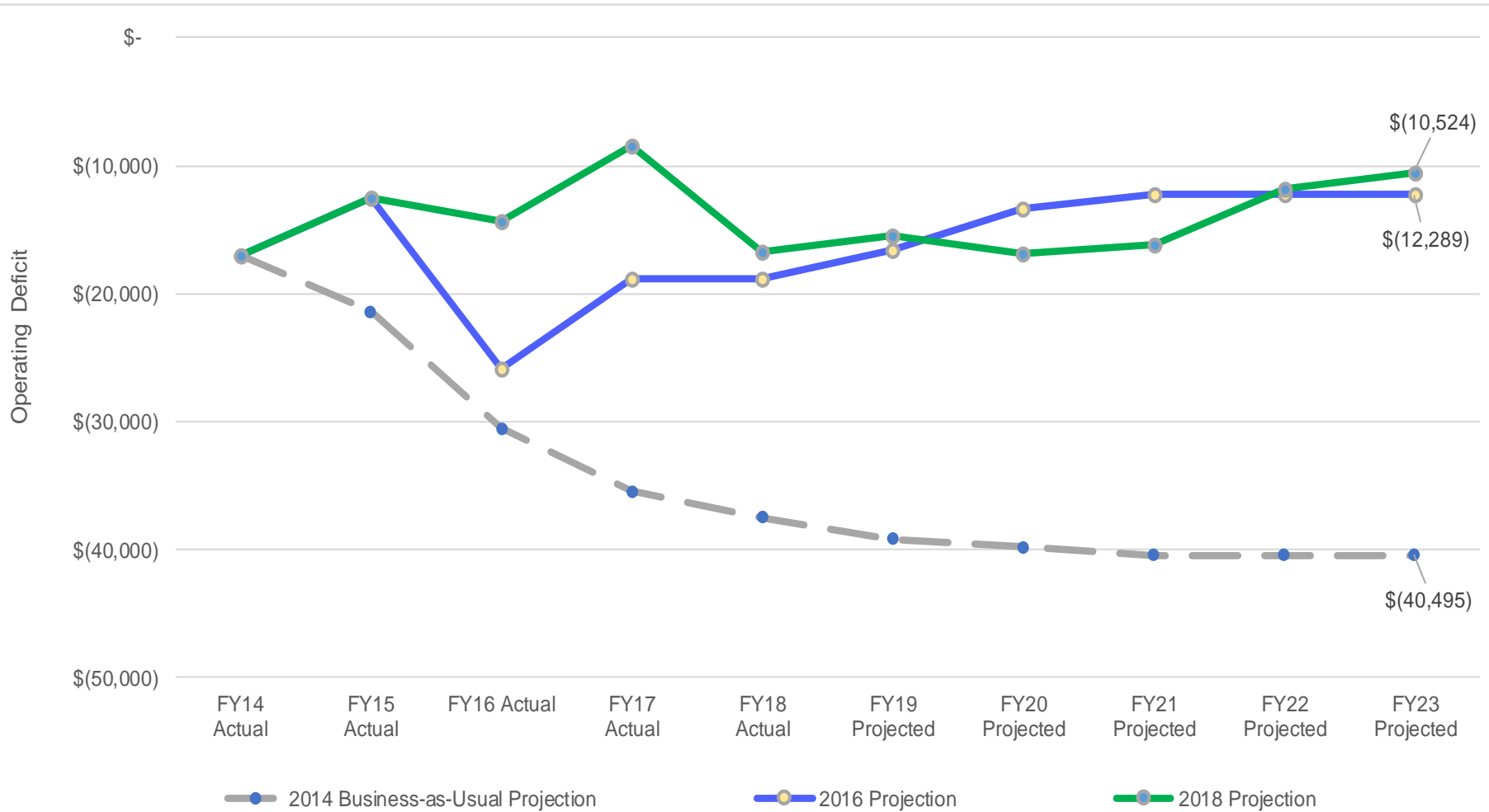
- » Coalesce/sunset existing basic science departments – strong challenge to a “4 center” model
 - › Loss of faculty identity...”Professor of *WHAT*”?
 - › Existing faculty in all departments felt unduly penalized
 - › Lack of clarity in terms of who/how with respect to UME teaching roles
- » Departmental reorganization revisited:
 - › Sunset 4 existing departments (Anatomy, Genetics, Pharm Tox and Phys-Neuro)
 - › Create 2 new departments of (1) Medical Education, and (2) Molecular & Systems Biology
- » Moved forward with migration of the clinical academic enterprise to D-H, largely as planned
 - › ~300 employees terminated 6/30/16, hired at D-H on 7/1/16
 - › Worker Adjustment & Retraining Notification (WARN) Act: 60-day notices
 - › Severance pay, pay in lieu of notice, grant funded employees
 - › Tenured faculty (4), clinical faculty considerations
 - › Eligibility for retirement from Dartmouth College, vesting considerations
 - › Grantee “status” / transition delayed until January 2019 (2+ years)
 - › Provision of \$20M in transition “relief” support provided to D-H across 2017-2018
- » Moved forward on space consolidation/rationalization
 - › Vacated ~80,000 NASF of leased space and a full floor (22,000 NASF) of bench space
 - › Sold ½ a floor in WTRB to Thayer School of Engineering
 - › Negotiated payment “in lieu of” rent for D-H occupation of Geisel (DC) “owned” space
 - › In addition, D-H assumed occupancy costs for 50,000 NASF of space previously supported by Geisel (DC)

Changes in Faculty Distribution with Reorganization

Fall 2014		Fall 2017		Change
Total academic personnel:	2,450	Total academic personnel:	2,329	(121)
Ladder faculty:	1,028	Ladder faculty:	962	(66)
<u>Foundational Science Departments</u>				
Total	119	Total	120	1
Dartmouth College-employed	102	Dartmouth College-employed	120	18
Other employers	17	Other employers	-	(17)
<u>Clinical Departments</u>				
Total	908	Total	842	(66)
Dartmouth College-employed	180	Dartmouth College-employed	38	(142)
Other employers	728	Other employers	804	76

Revised Projection

(February 2018)



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1 Background (20 Minutes)

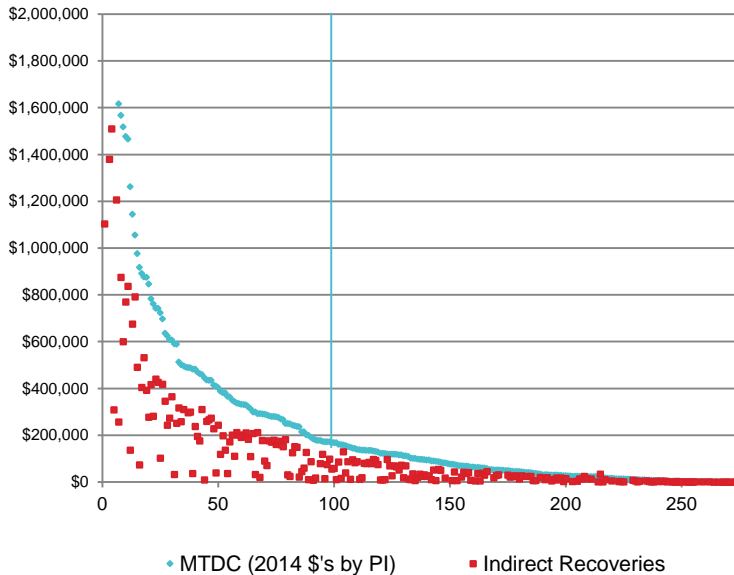
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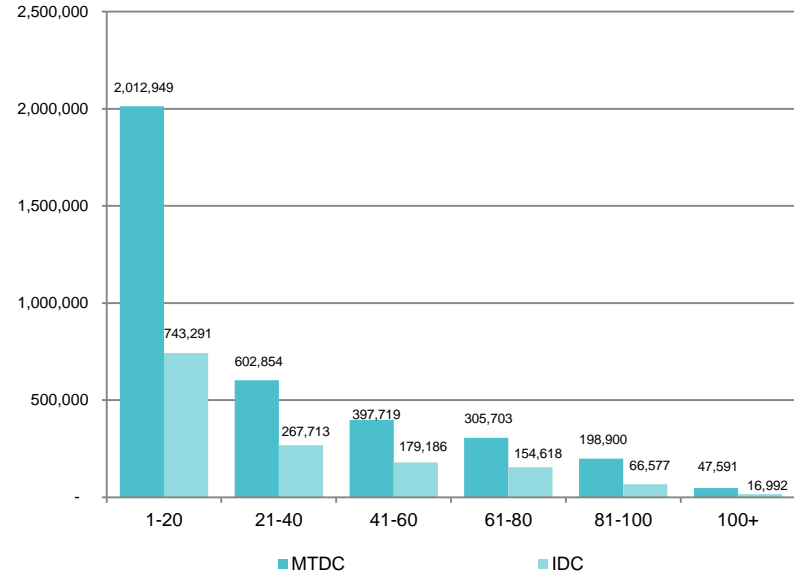
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Tools: PI Productivity

MTDC and F&A (2014 \$'s)
Plotted in Descending Order by PI



PI-Cohort MTDC/IDC
2014 Sponsored Expenditures



Cohort Tools (graphs and detailed reports)

- Used to evaluate robustness of research portfolios at School and principal investigator (PI) level
- Cross-walked sponsored MTDC and F&A funding by PI with the assigned research space (NASF) and the actual cost of space to determine how well (or not) PI's were using space, and if their programs supported the underlying space costs
- Compared to 2009 data to see how Geisel's portfolio had evolved over time
- Used comparative funding, utilization and coverage data to highlight faculty/research programs not meeting expectations

Tools: Salary Coverage

Primary Appointment Dept	Managing Dept	Tenure Status	Current Rank	Date to Rank	Grace Period End Date	Above Cap	Review Needed	Current FTE	External Coverage Expectation	Actual FY17	Actual FY18	Current Quarter	1 Year Rolling Average	Special indicator	Dean's Office Review Notes	Action	Dept Meeting Notes
Microbiology and Immunology	Microbiology and Immunology	Tenure Track	Associate Professor	07/01/10				1.00	50%	76%	74%	50%	68%		Funded: R21 (ends 5/31/19 - 26K direct cost balance); R03(ends 4/30/20). Pending: R21 (10/1 start) pending council review (should be funded - above payline).		Current appointment runs through 2020.
Microbiology and Immunology	Microbiology and Immunology	Tenure Track	Professor	01/01/18	12/31/2021			1.00	25%	0%	25%	25%	25%		Funded: R01 (ends 4/30/22). Pending: none.		25% external coverage expectation through 12/31/2021.
Microbiology and Immunology	Microbiology and Immunology	Tenured	Professor	07/01/02				1.00	50%	10%	50%	50%	50%		Funded: R21 (ends 11/30/18); R21s (2) (end 11/30/19). Pending: Univ Kentucky sub (12/1 start).		Dept to issue letter regarding finances.

Faculty Salary Coverage Reporting:

- Dean's Office meets and reviews quarterly with chairs of all faculty on Dartmouth's payroll to review salary coverage, expectations for extramural support, and to agree upon and develop plans for faculty not meeting expectations.
- Tool identifies the percentage of their salary that each faculty member is expected to cover from qualifying sources; tracks actual percentage over time.
- Definition of qualifying source: in most cases defined as extramural funding sources that bring in new revenues to Geisel (includes teaching at other schools at Dartmouth).
- New (typically junior) faculty afforded grace period as outlined in offer letters.
- Faculty initially evaluated faculty on a rolling three-year average; later changed to one-year.
- Revised Geisel Academic Appointments, Titles and Promotions (APT) document (faculty handbook) that incorporated these expectations (and included many others), what happens when a faculty member is in "shortfall", and criteria by which the faculty member may return to "good standing". This continues to be a "living document"—important to include flexibility in getting approval (Dean's Academic Board and Faculty Council).

Tools: Space Utilization

	Prim. Loc.	Active	NASF	2016 MTDC	2017 MTDC	2018 MTDC	2016 MTDC/SF	2017 MTDC/SF	2018 MTDC/SF	2016 IDC	2017 IDC	2018 IDC	2016 IDC/SF	2017 IDC/SF	2018 IDC/SF	MTDC CAGR	IDC CAGR
Professor	46 CTR	Y	2,019	1,234,827	1,885,873	2,054,752	612	934	1,018	778,737	1,201,869	1,365,370	386	595	676	29.0%	32.4%
Professor	46 CTR	Y	608	435,384	317,125	310,286	716	521	510	298,460	200,805	189,398	491	330	311	-15.6%	-20.3%
Professor (Research)	46 CTR	Y	-	15,429	55,027	43,470	-	-	-	9,566	34,117	24,362	-	-	-	67.8%	59.6%
Associate Professor	46 CTR	Y	551	427,341	443,509	33,378	776	805	61	264,951	287,791	7,742	481	523	14	-72.1%	-82.9%
Assistant Professor (Research)	46 CTR	Y	360	294,286	161,426	250,528	818	449	697	174,241	100,084	155,327	484	278	432	-7.7%	-5.6%
Instructor		Y	-	-	149,471	143,600	-	-	-	-	91,975	88,012	-	-	-	-3.9%	-4.3%
			-	-	-	-	-	-	-	-	-	-	-	-	-		
Training Grants			-	284,845	309,309	275,694				22,768	24,638	22,056				-1.6%	-1.6%
Sub-Total: Assigned Faculty Space			3,538	2,692,112	3,321,741	3,111,707	761	939	880	1,548,724	1,941,278	1,852,266	438	549	524	7.5%	9.4%
Dept-Shared Research Support			-	-	-	-	-	-	-	-	-	-	-	-	-		
Dept-Shared Lab			-	-	-	-	-	-	-	-	-	-	-	-	-		
Sub-Total: Other Research Support			-	-	-	-	-	-	-	-	-	-	-	-	-		
Sub-Total: Dedicated Research Space			3,538	2,692,112	3,321,741	3,111,707	761	939	880	1,548,724	1,941,278	1,852,266	438	549	524	7.5%	9.4%
Dept-Administration	WTRB/46CTR		282	-	-	-	-	-	-	-	-	-	-	-	-		
Dept-Conference Room	WTRB/46CTR		1,082	-	-	-	-	-	-	-	-	-	-	-	-		
Dept-Shared Other	WTRB/46CTR		548	-	-	-	-	-	-	-	-	-	-	-	-		
Sub-Total: Other Dept Space			1,913	-	-	-	-	-	-	-	-	-	-	-	-		
Total Assigned Space			5,451	\$ 2,692,112	\$ 3,321,741	\$ 3,111,707	\$ 494	\$ 609	\$ 571	\$ 1,548,724	\$ 1,941,278	\$ 1,852,266	\$ 284	\$ 356	\$ 340	7.5%	9.4%

Faculty Salary Coverage Reporting (annual):

- Modified total direct costs / Net assignable square feet (MTDC/NASF)
- Calculated at PI and department level; PI calculation includes dedicated lab space and research offices
- Department calculation separates dedicated research space, support and admin space
- Benchmarks we use: \$300/NASF for Bench; \$600/NASF for Office; 15% increment departmental administrative space
- *Known issues:* Attribution on multi-project grants & multi-PI awards, team science, post-FRO & emeritus faculty

n.b. - We do not micro-manage space allocated to individual departments, or take action based individual PI density – hold the Department and Chair to benchmarks, rely on them to police space issues

A More Supportive Environment: (By the Numbers)

Within the parameters set by the Trustees and since the reorganization, Geisel has made significant investments aimed at supporting and strengthening our research and education missions:

\$44.6M

**Total new investment
since 2016¹.**



Facilities Projects:

- **\$17.5M** in capital projects
- **8** Projects



Investments in Existing Faculty:

- **\$0.6M** in equity adjustments
- **\$2.2M** increase in hard money salary support
- **42** Faculty members



New Faculty Recruits:

- **\$24.2M** in start-up funds and new salary lines
- **11** New recruits (landed)
- **27** Additional slots committed since July 2016

¹ Includes funds committed and/or spent over the time period of FY17-FY22. Does not include any future contemplated faculty recruits or capital projects.

A More Supportive Environment

- Significant re-investment in UME program
 - Increased UME teaching support for faculty
 - Increased UME program staffing support, including new dean and support staff positions
 - Renovations for UME student support services and classroom/instructional facilities
- Upgrade and expansion of student learning facilities (all educational programs)
- Professionalization of grants administration function
- Increased “hard money” support for faculty
- Enhanced ability for creating faculty discretionary reserves (FRIA)
- Staff compensation
- In progress – Faculty Research Incentive Program (FRIP)

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Lessons Learned

- » This was really hard, and still is!
- » Make sure your policies are accurate and up to date before any actions undertaken
- » Support by Dartmouth College and D-H leadership, inclusive of the Trustees, was...and continues to be...essential
- » External advisors very helpful with the initial “vision”
- » Support from Dartmouth College and D-H administrative offices (HR, Legal, Sponsored Research, Procurement, Communications, Controller’s Office, etc.) was critical to success
- » Document everything – what did we do, what didn’t we do, and why
- » Be willing to adapt as implementation unfolds
 - › The models
 - › Leaders change
- » Expect legal challenges, do appropriate risk assessment
- » Continue regular assessments of performance with academic leadership
- » On-going need to continue to manage expectations
 - › Classic “loss theory” – people focus on what has been lost, not on the gains