21st Century Health Care Leadership: Confronting Modern Challenges with a Modern Curriculum

Results of a survey of CEOs, Heads of HR of Health Care organizations, and participants from Academia; content analysis for 26 schools of health care administration

October, 2012

Approach and Method

CEOs and HR

- The study began with interviews of 60 CEOs of companies in all sub-segments of health care across the globe – Providers, Payors, Venture Capitalists, Health IT, Pharmaceuticals, Diagnostics, Information Specialists, Medical Devices, Consulting and Research. These 40-60 min interviews revealed, among other things, a few concrete factors that business leaders tended to consider in recruiting or training talent in their respective firms *(see Appendix -1 for Interview Guide and List of Organizations interviewed)*.
- We collected these factors and presented them in the form of a quantitative survey using "forced choice" among pairs of factors to understand relative importance of these choice drivers. These brief surveys were presented in two parts – one for the CEO to address and another for the Head of HR. This document analyses 37 responses from CEOs and 26 of their HR heads .

Approach and Method

CONFERENCE PARTICIPANTS

- With the assistance of the conference steering committee, we built a comprehensive list of nearly 50 factors that could potentially impede the design of a modern curriculum for 21st century health care.
- We also compared CEO responses and participant responses to the same set of factors
- Responses were analyzed in the following four groups :
  - Executive education
  - MBA
  - MD/MBA
  - MPH/MHA

CONTENT ANALYSIS

- We analyzed key words that describe health care related courses currently offered by U.S . universities in the following groups :

  -Business Schools

  -Schools for Public Health and Health Care Administration

Agenda

1. CEO Responses

- Care Providers vs. Others
- U.S. vs. Rest of the World
- HR vs. CEO

2. Content Analysis

- All Schools
- Business Schools
- SPH/MHA

3. Participant Analysis

- Business vs. Academia
- Impediments

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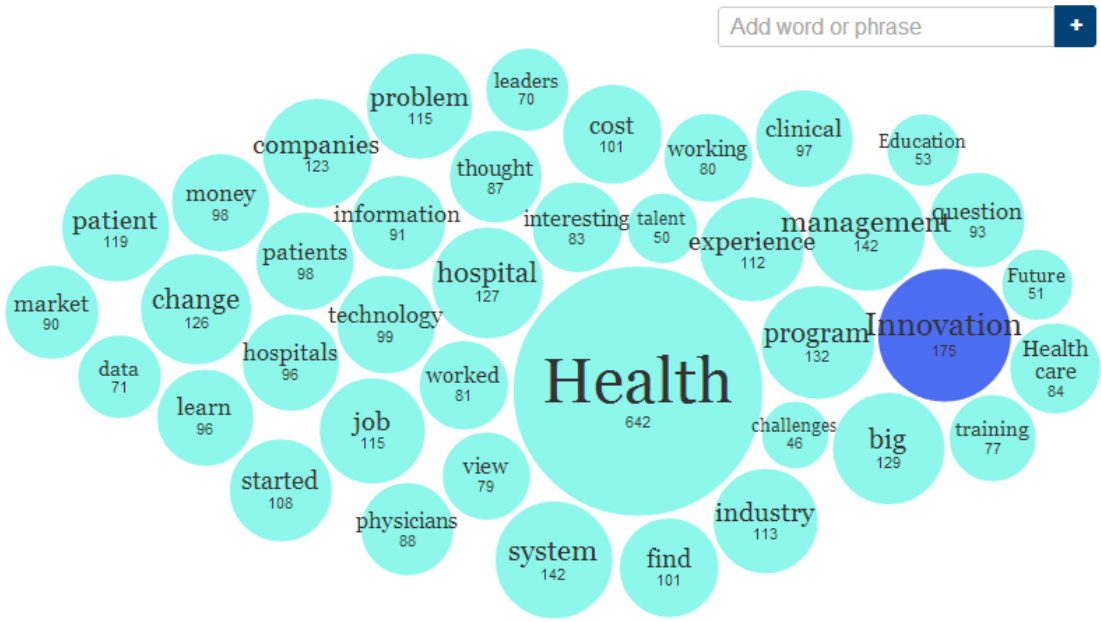
SHAPING TALENT FOR CHALLENGES IN MODERN HEALTH CARE – A CEO PERSPECTIVE

Scriplogix interviewed 60 CEOs identified as the world's most innovative leaders in health care by the Harvard Business School. We asked the CEOs to outline the biggest challenges facing their industry in the coming decade. We also sought their views on the skills needed to meet these challenges and the ways in which universities could foster them. Based on our analysis of transcripts, here is a look at some of the key words CEOs used in during these interviews



A sampling of mentions of "Innovation" in the interviews

Click on a highlighted word or bubble to show related excerpts.

CARE DELIVERY
USA, 30000 employees

We've got, for example, a program called—which is through our women's initiative—called Women Leading Change. They're all **innovation** projects, all run by women.

DISTRIBUTOR
USA, 37700 employees

One of them focuses on **innovation**; one of them focuses on running more effective teams; and one of them focuses on the practice of managing revenue, not just

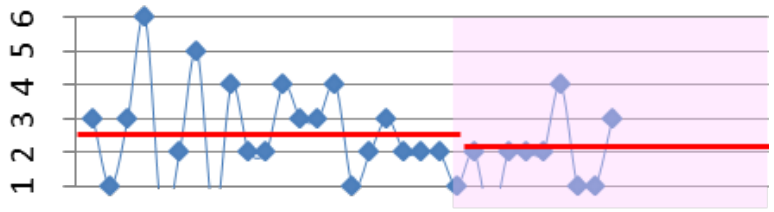
PHARMACEUTICALS
Denmark, 32700 employees

Yes, whereas the real **innovation** is only marginal and there's very few people in fact that would call that that have a completely different mind.

To access interactive website and explore other words/ phrases please click on this link
http://www.perceptograms.com/BubblesNew/?proj=hbs

U.S. CEOs
Providers vs. Others: How Do We Score?

Appropriateness of academic curriculum in health care management needs to be addressed



Current academic curricula for managing health care businesses are effective and help manage real life situations in care

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- Pretty well, but lower among providers and high variance overall

Implications for academia? Are they being polite?

CEO's responded to the following factor pairings

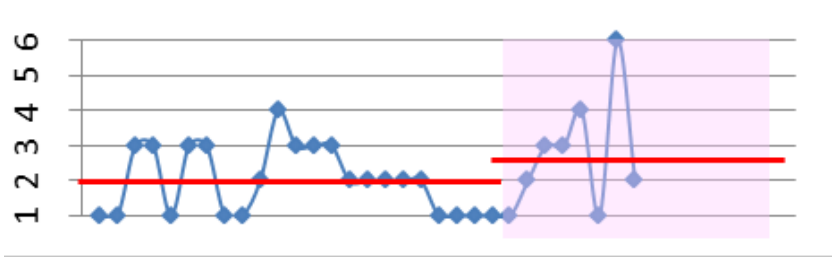
Factor A	Scores						Factor B
	1	2	3	4	5	6	
Modern health care demands more innovation in business process, business models and incentivizing appropriate health behavior in patients and physicians	Scores indicating more agreement with Factor A than Factor B			Scores indicating more agreement with Factor B than Factor A			Modern health care requires more innovation in medicine, medical technology and new therapies for emerging health problems
Future innovation in health care should focus on delivering current health outcomes at significantly reduced costs							Future innovation in health care should focus on improved health outcomes at all costs
Innovation is born from a creative urge and academic training cannot improve or facilitate the pace of innovation in health care							Innovation is the result of structured and disciplined processes that will gain significantly from academic training and rigor
Talent that comes with strong peer networks built in good schools or elsewhere is critical for innovation in health care. The challenge is to identify networked talent							Academia needs to take in more students that have managed health care businesses to generate meaningful classroom experiences to foster innovative solutions
Current academic curricula focus on isolated training in finance, ethics, medicine etc. rather than a holistic curriculum that mimics real life situations							Current academic curricula for managing health care businesses are effective and help manage real life situations in care
The case method of teaching in some business schools is very effective and it can help in the continuing training of our managers							Academia needs to emphasize field work and provide students feedback from exposure to real life situations in health care businesses

CEO's responded to the following factor pairings

Factor A	Scores						Factor B
	1	2	3	4	5	6	
I would like to see academia focus more on the study of failure than solely on cases that characterize success	Scores indicating more agreement with Factor A than Factor B			Scores indicating more agreement with Factor B than Factor A			I think people can learn the most form in-depth studies of successful entrepreneurial ventures
Students will benefit from fieldwork including structured mentorship programs that allow extended periods of interaction with health care industry beyond short internships							Structured mentorship is not cost effective for us and/or as a part of a student's academic curriculum
Courses in understanding patient and physician behavior and design of incentives for appropriate health behaviors are critical							Courses in deep analytics, metrics, measuring and reporting outcomes and impact on performance are critical

U.S. CEOs
Providers vs. Others: Process vs. Product Innovation?

Modern health care requires more innovation in medicine, medical technology and new therapies for emerging health problems



Modern health care demands more innovation in business process, business models and incentivizing appropriate health behavior in patients and physicians

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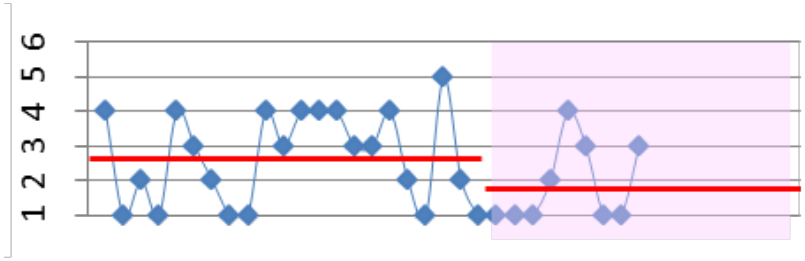
- U.S. providers believe that future innovation should focus on processes rather than products. Non-provider respondents (Payors, Investors, Health IT, Pharma, Diagnostics etc.) feel so even more strongly.
- Respondents would like to see academia focus on innovative business models that can incentivize desired behaviors among patients and physicians

Implications for academia? Focus on process innovation; aligning incentives.

U.S. CEOs
Providers vs. Others: Purpose of Innovation?

Future innovation in health care should focus on delivering current health outcomes at significantly reduced costs



Future innovation in health care should focus on improved health outcomes at all costs

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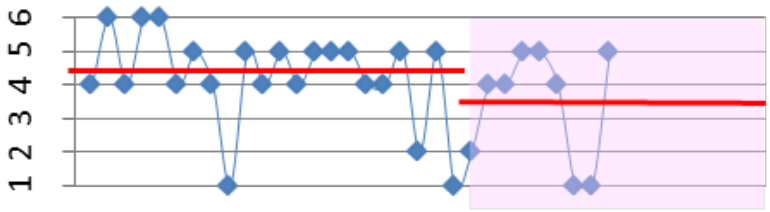
- While both respondent groups emphasize the importance of innovation for that cost-reduction, provider CEOs are more emphatic about it than others.
- Academic courses that focus on process innovation including case studies that outline businesses attempting 'frugal innovation' will be of interest to respondents.

Implications for academia? Teach innovation with a cost focus, even for med tech.

U.S. CEOs
Providers vs. Others: Innovators –Born or Bred?

Innovation is born from a creative urge and academic training cannot improve or facilitate the pace of innovation in health care



Innovation is the result of structured and disciplined processes that will gain significantly from academic training and rigor

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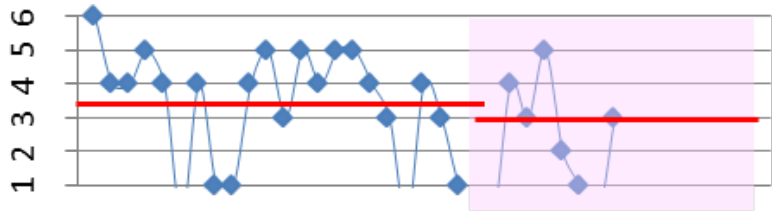
- A majority of the respondents believe that academic training cannot influence the pace of innovation in health care as it is driven by an innate creative urge.
- However, a fifth of the respondents in this analysis believe that innovation is a result of structured and disciplined processes more than innate abilities. Academia should focus on building the foundations of such structured discipline in students.

Implications for academia? Focus on the skills needed to manage innovation rather than on to create it.

U.S. CEOs
Providers vs. Others: Candidates with Peer Networks vs. Those with Meaningful Experience

Talent that comes with strong peer networks built in good schools or elsewhere is critical for innovation in health care. The challenge is to identify networked talent



Academia needs to take in more students that have managed health care businesses to generate meaningful classroom experiences to foster innovative solutions

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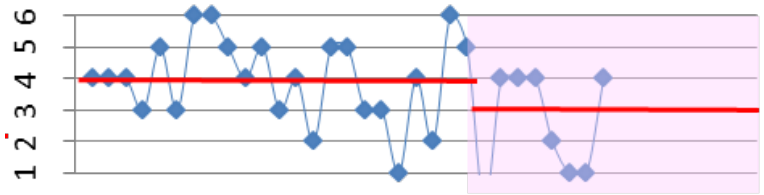
- Providers advocate recruiting candidates with backgrounds in health care into academic courses along with students from other industry segments. They believe this would make for more meaningful academic training.
- However, all respondents believe in the value of peer group networks that students build while in colleges and networked talent delivers business value.

Implications for academia? Cross registration among SPH, MD, business, science and engineering.

U.S. CEOs
Providers vs. Others: Case Method vs. Field Work

The case method of teaching in some business schools is very effective and it can help in the continuing training of our managers



Academia needs to emphasize field work and provide students feedback from exposure to real life situations in health care businesses

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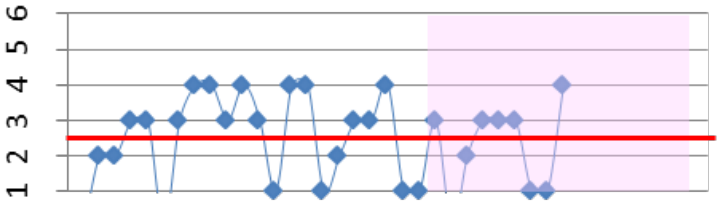
- Respondents value the case method of instruction more than field work.
- However, providers seem to value fieldwork more than they do the case method.

Implications for academia? Field work favored by providers over case-work and vice versa for others.

U.S. CEOs
Providers vs. Others: Study Failure vs. Success

I would like to see academia focus more on the study of failure than solely on cases that characterize success



I think people can learn the most from in-depth studies of successful entrepreneurial ventures

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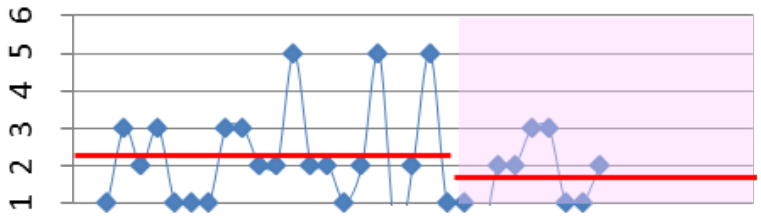
- While the study of failure was suggested by some CEOs as a focus for academic efforts in interviews, the larger group of respondents seems to indicate more of a balance between the study of success and the study of failures in health care. There is no significant difference in this balance between provider respondents and others.
- In the course of our interviews some CEOs volunteered to talk of their personal oversight of failures. Academia may explore opportunity for building case vignettes of such business decisions to address the mix of success and failures that some respondents seem to value in the case method.

Implications for academia? Study both pathology and anatomy.

U.S. CEOs
Providers vs. Others: Field Work vs. Structured Mentorship?

Students will benefit from fieldwork including structured mentorship programs that allow extended periods of interaction with health care industry beyond short internships



Structured mentorship is not cost effective for us and/or as a part of a student's academic curriculum

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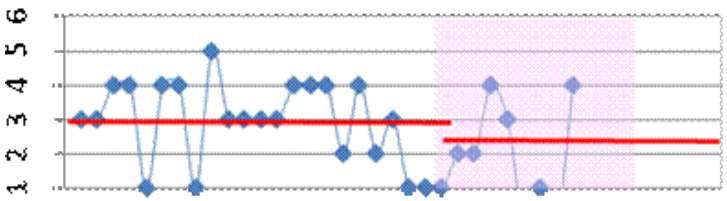
- Respondents believe that structured mentorship programs that extend beyond short internships in industry during pendency of academic programs are not pragmatic despite several interviewees supporting its value.

Implications for academia? Structured mentorship is not cost effective for us and/or as a part of a student's academic curriculum.

U.S. CEOs
Providers vs. Others: Analytics vs. Behavioral Courses

Courses in understanding patient and physician behavior and design of incentives for appropriate health behaviors are critical



Courses in deep analytics, metrics, measuring and reporting outcomes and impact on performance are critical

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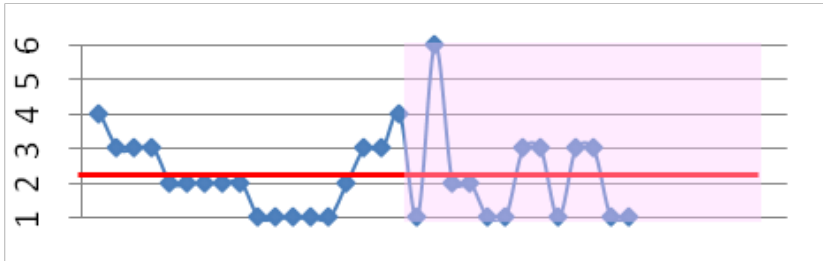
- All respondents see the need to balance the study of physician/patient behavior with courses in deep analytics in modern health care curricula. Providers seem to emphasize analytics a bit more than others. This aspect was emphasized in interviews, particularly by respondents from all segments in the US. We believe this is an opportunity area for academia to work with business in exploring new models and incentives for desired behavior/ outcomes in health care among patients and providers.

Implications for academia? Preference for analytic courses.

U.S. vs. Other Economies
Where They Agree: Process Innovation is Key

Modern health care requires more innovation in medicine, medical technology and new therapies for emerging health problems



Modern health care demands more innovation in business process, business models and incentivizing appropriate health behavior in patients and physicians

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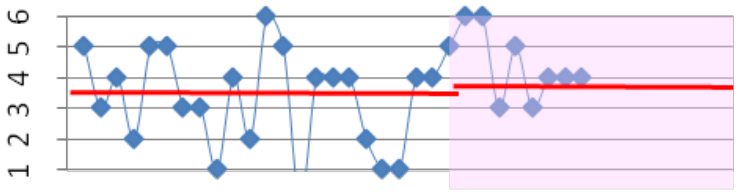
- Most respondents across the globe believe that innovation must focus on process, business models and incentive structures in the coming decade more than on technologies and products.
- This was mentioned by most respondents in the interviews and emphasized in the quantitative survey.

Implications for academia? Focus on process.

U.S. vs. Other Economies
Where They Agree

The case method of teaching in some business schools is very effective and it can help in the continuing training of our managers



Academia needs to emphasize field work and provide students feedback from exposure to real life situations in health care businesses

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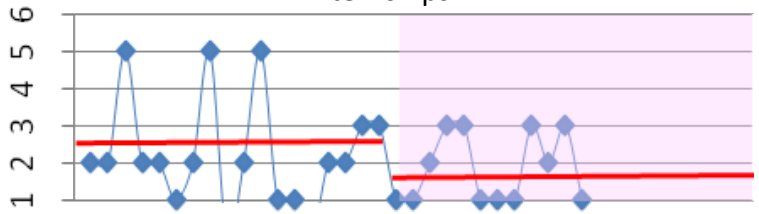
- No significant difference in perception of the value of the case method among those within or outside of the US.
- However, nearly a third of all respondents across the globe seem to emphasize field work and the need to provide students feedback from exposure to real life situations in health care businesses.
- When we probed this aspect in our interviews we found that respondents did not have clear suggestions as to how this may be done. They did agree that such academia-business partnerships were difficult to achieve, albeit extremely desirable.

Implications for academia? Field work is a challenge.

U.S. vs. Other Economies
Where They Agree

Students will benefit from fieldwork including structured mentorship programs that allow extended periods of interaction with health care industry beyond short internships



Structured mentorship is not cost effective for us and/or as a part of a student's academic curriculum

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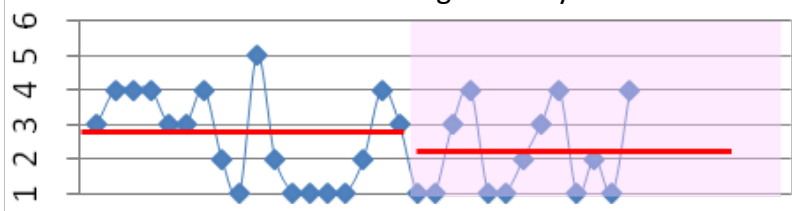
- CEOs generally agree on the value of case studies and the difficulty of field work.
- Respondents believe that structured mentorship programs that extend beyond short internships in industry during pendency of academic programs are not pragmatic despite several interviewees supporting its value.
- Even those respondents that believe it to be valuable cannot seem to find a way to structure such engagements to mutual advantage between academia and industry. This may present an opportunity for academia.
- Academia has a clear opportunity to innovate in mechanisms that present more effective field study experiences.

Implications for academia? Opportunity to develop more effective field study mechanisms.

U.S. vs. Other Economies
Where They Disagree

Future innovation in health care should focus on delivering current health outcomes at significantly reduced costs



Future innovation in health care should focus on improved health outcomes at all costs

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- Respondents outside the US seem to be relatively more emphatic about innovation leading to improved health outcomes at all costs. Given the context in developing markets and possibly influenced by single payer systems in European markets, CEOs in these economies seem to in a place the US was before recent attempts at health care reforms.

Implications for academia?

-Focus on product/service innovation, management of such innovation for health care in BRIC and other single payer markets

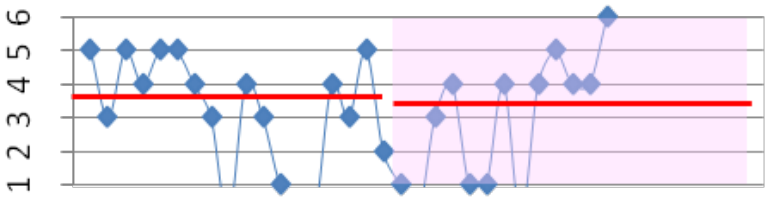
-Build graduate management programs that focus only on health care for markets abroad

-Building cost focus in academic content in the US including low-cost innovation ('frugal innovation') currently being attempted in developing economies

-Helping student explore the benefits of cross-border innovation in health care both for services and for products

U.S. vs. Other Economies
Where They Disagree

Talent that comes with strong peer networks built in good schools or elsewhere is critical for innovation in health care. The challenge is to identify networked talent



Academia needs to take in more students that have managed health care businesses to generate meaningful classroom experiences to foster innovative solutions

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- Respondents value the need for academia to recruit more students with proven backgrounds in health care into their programs. But they value the networks students build in academic institutions slightly more and seek to recruit for strong networks, probably because relatively fewer health professionals seek academic training once they begin careers in these countries.
- Implications for academia may include the value of exchange programs with local schools where relevant, multi-country management programs and creative modules that foster interaction with executive education programs to allow students from abroad to network with business executives in an academic setting.

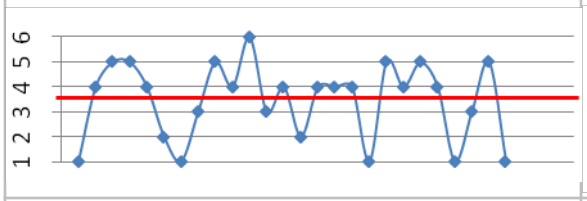
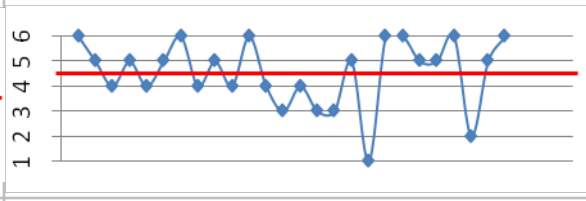
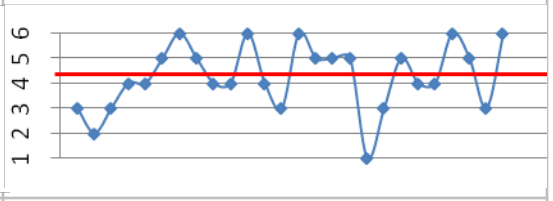
HR Response
Heads of HR responded to the following factor pairings

Factor A	Scores						Factor B
	1	2	3	4	5	6	
Understanding big picture trends in health care, public health and its impact on our business	Scores indicating more agreement with Factor A than Factor B			Scores indicating more agreement with Factor B than Factor A			Understanding the details of business operations that are specific to my organization
Ability to grasp health policy and regulatory climate in which we operate							Ability to initiate and manage change within the organization
Persistence and resoluteness							Adaptability and flexibility
Ability to solve problems and improve performance across a variety of business processes							Ability to generate new ideas and constantly challenge current thinking
Strong health care specific knowledge and management skills with the ability to "speak the language"							Ability to apply strong generic management skills acquired from other industries
Our business processes are unique to us and technical training in these is critical for our managers							We emphasize communication, team building and other soft skills in our training to help managers handle business processes
I support a strong, well structured mentorship program to sustain our talent pool							We look for and facilitate entrepreneurial talent that guide themselves through our business processes
We train for and reward individual excellence							We train for and reward team based performance
We rely on continuing education/ training in academic settings							Once we recruit talent all further training is done in-house

HR Response
Heads of HR responded to the following factor pairings

Factor A	Scores						Factor B
	1	2	3	4	5	6	
I find systematic training in operations research and quantitative skills necessary for our teams to solve business problems	Scores indicating more agreement with Factor A than Factor B			Scores indicating more agreement with Factor B than Factor A			Our talent pool is recruited with good quantitative skills and we focus our training programs on health care related technical processes
We attract outstanding talent from good schools but putting the right people in the right jobs is our bigger challenge							Academia does not produce the talent for our specific needs and we provide significant training before we match recruits with opportunities
Knowledge of public health is critical to our business and most of our managers need significant training inputs here							Getting our scientists, medical clinicians, and public health experts to understand business drivers is critical and often a bigger challenge
I believe in retraining in-house talent and relying on their institutional memory for new opportunities within the organization							I believe the changes in the health care landscape are rapid and often require new skills that are more effectively addressed through new recruits
I find recruits from the best of schools still have a challenge in converting information into useful insights							Modern business curriculum trains talent well to convert large amounts of information into sharp business decisions

HR seems more evenly split than CEOs in favoring education for big picture and strategic knowledge with people who are resolute about their vision

Understanding big picture trends in health care, public health and its impact on our business	Ability to grasp health policy and regulatory climate in which we operate	Persistence and resoluteness
		
Understanding the details of business operations that are specific to my organization	Ability to initiate and manage change within the organization	Adaptability and flexibility

Implications for academia?

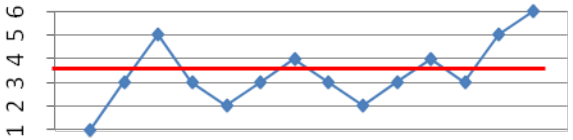
-Educate more comprehensively for the emerging health care environment.

-Some CEOs in interviews mentioned not having an 'end-to-end view of US health care and all its moving parts, even after several years of working in the area.

-There are clear opportunities for courses that provide such comprehensive views.

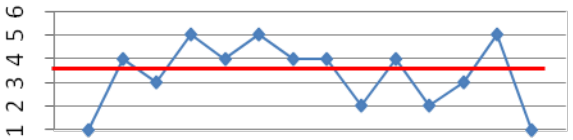
HR Heads emphasize technical training in processes specific to their business

Ability to solve problems and improve performance across a variety of business processes



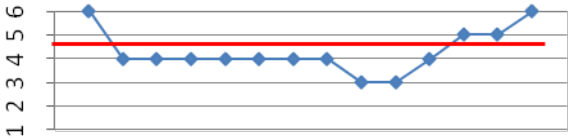
Ability to generate new ideas and constantly challenge current thinking

Strong health care specific knowledge and management skills with the ability to "speak the language"



Ability to apply strong generic management skills acquired from other industries

Our business processes are unique to us and technical training in these is critical for our managers



We emphasize communication, team building and other soft skills in our training to help managers handle business processes

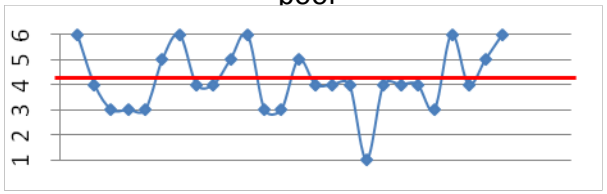
* A value of 6 represents a strong agreement with the statement at the top of the graph. A value of 1 represents a strong agreement with the statement below the graph. The red lines represent mean scores across all respondents; zero values represent the answer "I don't know".

- We think this offers academia opportunity for tailored, firm specific, management programs.

Implications for academia? Opportunity for tailored, firm specific, management programs.

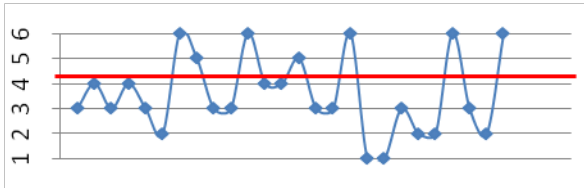
There is a surprising lack of agreement regarding the role for mentorship and team work

I support a strong, well structured mentorship program to sustain our talent pool



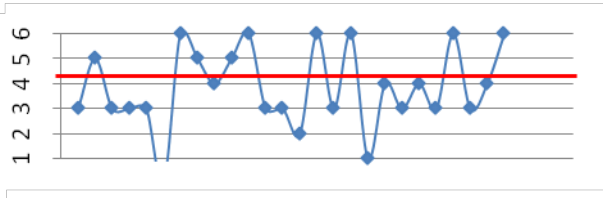
We look for and facilitate entrepreneurial talent that guide themselves through our business processes

We train for and reward individual excellence



We train for and reward team based performance

We rely on continuing education/ training in academic settings



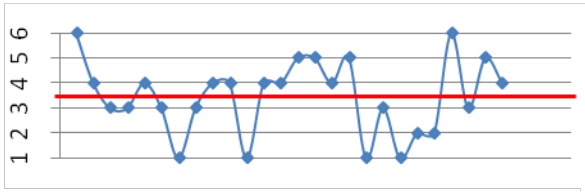
Once we recruit talent all further training is done in-house

* A value of 6 represents a strong agreement with the statement at the top of the graph. A value of 1 represents a strong agreement with the statement below the graph. The red lines represent mean scores across all respondents; zero values represent the answer "I don't know".

Implications for academia? Conventional opinion may be too conventional.

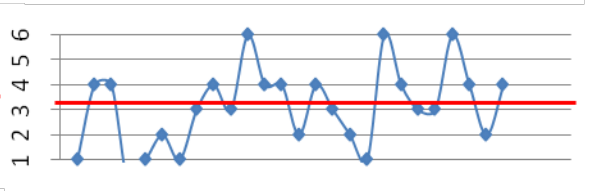
HR heads are less than complimentary about the role of academia in shaping talent adequately for health care

I find systematic training in operations research and quantitative skills necessary for our teams to solve business problems



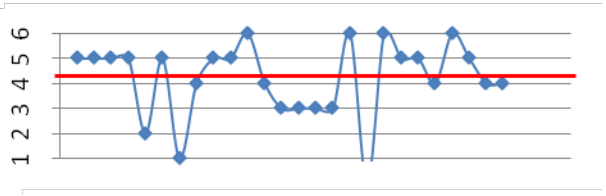
Our talent pool is recruited with good quantitative skills and we focus our training programs on health care related technical processes

We attract outstanding talent from good schools but putting the right people in the right jobs is our bigger challenge



Academia does not produce the talent for our specific needs and we provide significant training before we match recruits with opportunities

Knowledge of public health is critical to our business and most of our managers need significant training inputs here



Getting our scientists, medical clinicians, and public health experts to understand business drivers is critical and often a bigger challenge

* A value of 6 represents a strong agreement with the statement at the top of the graph. A value of 1 represents a strong agreement with the statement below the graph. The red lines represent mean scores across all respondents; zero values represent the answer "I don't know".

- This observation was also supported by CEOs in interviews when they felt their organizations had to provide substantial training before they absorbed new recruits to their process mainstream. We read this as a clarion call for academics

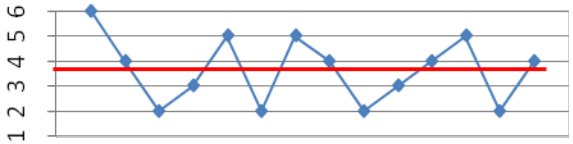
Implications for academia?

-Shaping talent for health care requires focused efforts in development.

-The extent of training that seems to take place within organizations seems to indicate opportunities for academia, particularly schools of business, for partnerships.

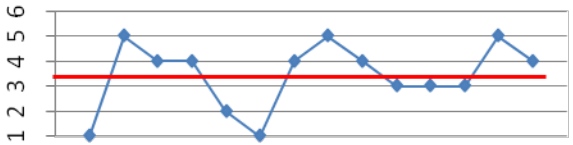
Responses from HR Heads

I believe in retraining in-house talent and relying on their institutional memory for new opportunities within the organization



I believe the changes in the health care landscape are rapid and often require new skills that are more effectively addressed through new recruits

I find recruits from the best of schools still have a challenge in converting information into useful insights



Modern business curriculum trains talent well to convert large amounts of information into sharp business decisions

- A value of 6 represents a strong agreement with the statement at the top of the graph. A value of 1 represents a strong agreement with the statement below the graph. The red lines represent mean scores across all respondents; zero values represent the answer "I don't know".

- Believe in in- house training
- Split on whether to retrain or hire

Comparing feedback for degree of alignment

BUSINESS VS. ACADEMIA

Comparing feedback from Business and Academia

- We analyzed responses from 98 participants in the proposed conference with that from CEOs/ HR heads to examine how closely aligned academia is with the 'customer'.
- Key areas of close alignment are in the direction of Innovation in health care and appropriateness of academic curriculum in health care.
- Areas where there is misalignment to varying degrees are :
  - Participants believe that the 'discipline' of innovation can be learned through academic training to a greater extent than Business Academia believes, more than Business, that education in the following is important – 'big picture', health care specific knowledge, continuing education in academic settings
  - Businesses believe they train talent better for converting information into focused business decisions than does academia
- We have calibrated responses from Business (denoted by C) alongside responses from Academia (denoted by A) for comparison against each of the factors surveyed. This must be interpreted with caution given that the number of Business respondents is small (35 CEOs and 26 HR heads) in comparison with Academicians (98).

Implications for academia?

-Need to focus more on business skills and equally, a missed opportunity in organization-specific training

-Businesses believe they train talent better for converting information into focused business decisions than does academia

Where Innovation in health care is headed

Factor A	Scores						Factor B
	1	2	3	4	5	6	
Modern health care demands more innovation in business process, business models and incentivizing appropriate health behavior in patients and physicians		C A					Modern health care requires more innovation in medicine, medical technology and new therapies for emerging health problems
Future innovation in health care should focus on delivering current health outcomes at significantly reduced costs		C A					Future innovation in health care should focus on improved health outcomes at all costs
Innovation is born from a creative urge and academic training cannot improve or facilitate the pace of innovation in health care				C A			Innovation is the result of structured and disciplined processes that will gain significantly from academic training and rigor
Talent that comes with strong peer networks built in good schools or elsewhere is critical for innovation in health care. The challenge is to identify networked talent			C A				Academia needs to take in more students that have managed health care businesses to generate meaningful classroom experiences to foster innovative solutions

Appropriateness of academic curriculum in health care management

Factor A	Scores						Factor B
	1	2	3	4	5	6	
Current academic focus on isolated training in finance, ethics, medicine etc. rather than a holistic curriculum that mimics real life situations		C A					Current academic curricula for managing health care businesses are effective and help manage real life situations in care
The case method of teaching in some business schools is very effective and it can help in the continuing training of our managers			C A				Academia needs to emphasize field work and provide students feedback from exposure to real life situations in health care businesses
I would like to see academia focus more on the study of failure than solely on cases that characterize success			C A				I think people can learn th emost form indepth studies of successful entrepreneurial ventures
Students will benefit from fieldwork including structured mentorship programs that allow extended periods of interaction with health care industry beyond short internships		C A					Strucutred mentorship is not cost effecitve for us and/or as a part of a student's academic curriculum
Courses in understanding patient and physician behavior and design of incentives for appropriate health behaviors are critical		A	C				Courses in deep analytics, metrics, measuring and reporting outcomes and impact on performance are critical

Success factors for early and mid-level entrants

Factor A	Scores						Factor B
	1	2	3	4	5	6	
Understanding big picture trends in health care, public health and its impact on our business			A	C			Understanding the details of business operations that are specific to the organization
Ability to grasp health policy and regulatory climate in which we operate				A	C		Ability to initiate and manage change within the organization
Persistence and resoluteness				A	C		Adaptability and flexibility
Ability to solve problems and improve performance across a variety of business processes			A C				Ability to generate new ideas and constantly challenge current thinking
Strong health care specific knowledge and management skills with the ability to “speak the language”			A	C			Ability to apply strong generic management skills acquired from other industries

Appropriate training and talent management strategies

Factor A	Scores						Factor B
	1	2	3	4	5	6	
Organizational processes are unique and technical training in these is critical for managers				C A			Organizations should emphasize communication, team building and other soft skills in training to help managers handle business processes
Organizations should support a strong, well structured mentorship program to sustain our talent pool			C A				Organizations should look for and facilitate entrepreneurial talent that guide themselves through our business processes
Organizations should train for and reward individual excellence				C A			Organizations should train for and reward team based performance
Organizations should rely on continuing education/ training in academic settings			A	C			Once organizations recruit talent all further training should be done in-house
Organizations should provide systematic training in operations research and quantitative skills necessary for our teams to solve business problems			C A				Organizations should recruit a talent pool with good quantitative skills and focus our training programs on health care related technical processes

Organizational challenges in managing and nurturing talent

Factor A	Scores						Factor B
	1	2	3	4	5	6	
Organizations should attract outstanding talent from good schools; putting the right people in the right jobs is their bigger challenge		A		C			Academia does not produce the talent for our specific needs and we provide significant training before we match recruits with opportunities
Knowledge of public health is critical and most managers need significant training inputs here				A	C		Getting our scientists, medical clinicians, and public health experts to understand business drivers is critical and often a bigger challenge
Organizations should retrain in-house talent and rely on their institutional memory for new opportunities within the organization			A	C			The changes in the health care landscape are rapid and often require new skills that are more effectively addressed through new recruits
Organizations find that recruits from the best of schools still have a challenge in converting information into useful insights		A		C			Modern business curriculum trains talent well to convert large amounts of information into sharp business decisions

Agenda

1. CEO Responses

- Care Providers vs. Others
- U.S. vs. Rest of the World
- HR vs. CEO

2. Content Analysis

- All Schools
- Business Schools
- SPH/MHA

3. Participant Analysis

- Business vs. Academia
- Impediments

Content Analysis for Schools with Health Care Administration Programs: Schools Reviewed

Schools reviewed:	
Columbia Business School	Virginia Commonwealth University - School of Allied Health Professions
Dartmouth College- Tuck School of Business	University of California - Berkeley
Duke University- Fuqua School of Business	University of Michigan - School of Public Health
Duke University- Global Health Institute	University of Minnesota - School of Public Health
Harvard Business School	University of North Carolina - Gillings School of Global Public Health
MIT- Sloan School of Management	University of Pennsylvania - School of Public Health
Northwestern University- Kellogg School of Management	University of Pennsylvania - Wharton
Northwestern University- School of Public Health	University of Texas - School of Public Health
NYU- Stern School of Business	University of Virginia- Darden School of Business
NYU- Wagner Graduate School of Public Service	University of Washington- School of Public Health
Rush University- Medical Center	University of Wisconsin - School of Medicine and Public Health
Stanford Graduate School of Business	Yale University - School of Management
Vanderbilt University - School of Medicine	Yale University - School of Public Health

Content Analysis for Schools with Health Care Administration Programs: % of Word Mentioned

Top Business School Terms (11 schools, 90 courses)

Word	Total	%
biomedical; biotechnology; diagnostic; drug; medical device; pharmaceutical; technology	40	4.0%
entrepreneur; entrepreneurial; entrepreneurship; innovation	24	2.4%
finance; financial; investment; valuation	22	2.2%
analysis; analytic; analytical; decision	21	2.1%
organization	21	2.1%
policy	21	2.1%
system	21	2.1%
market	18	1.8%
global; international	15	1.5%
cost	14	1.4%

Top Public Health School Terms (15 schools, 234 courses)

Word	Total:	%
analysis; analytic; analytical; decision	105	3.0%
organization	102	2.9%
policy	84	2.4%
system	73	2.1%
finance; financial; investment; valuation	45	1.3%
cost	37	1.1%
leadership; leading	31	0.9%
market	28	0.8%
quality	28	0.8%
ethic	26	0.7%

All Business and Public Health Schools (26 schools, 324 courses)

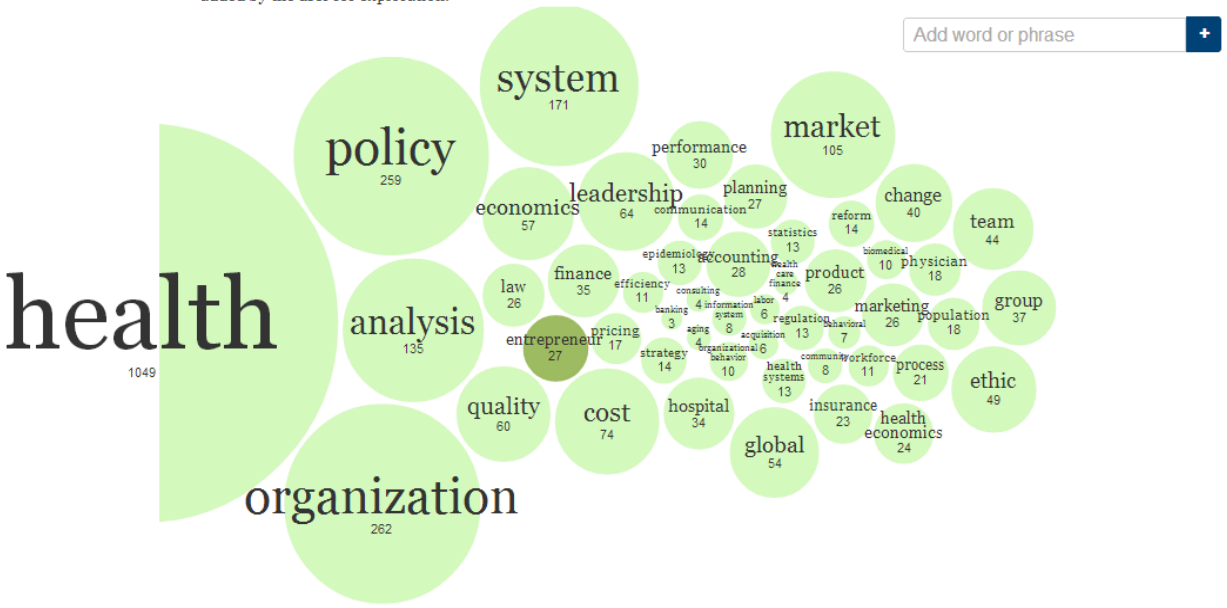
Word	Total:	%
analysis; analytic; analytical; decision	126	1.5%
organization	123	1.5%
policy	105	1.2%
system	94	1.1%
health care finance	70	0.8%
finance; financial; investment; valuation	67	0.8%
biomedical; biotechnology; diagnostic; drug; medical device; pharmaceutical; technology	59	0.7%
cost	51	0.6%
market	46	0.5%
leadership; leading	41	0.5%

HARVARD | BUSINESS | SCHOOL

scriplogix

COURSES RELATED TO HEALTH CARE -
A key-word analysis of course descriptors provided by colleges in the US

We analyzed short descriptions of academic courses in a variety of health care related areas offered by schools across the United States. The interactive visual below presents key words used by schools to describe the course offerings. The descriptions of the courses in full are presented below the visual with the name of the school offering the course. Word combinations not shown can be added by the user for exploration.



All courses using the word "entrepreneur" in the description

Click on a highlighted word or bubble to show related excerpts.

STANFORD GRADUATE SCHOOL OF BUSINESS

OIT 333/334: **Entrepreneur**ial Design for Extreme Affordability
This is a project-based course jointly offered by School of Engineering and the GSB. Students apply engineering and business skills to design product prototypes, distribution systems, and business plans for **entrepreneur**ial ventures in developing countries for challenges faced by the world's poor (the course does not have an exclusive healthcare focus, but in most years the challenges identified and solved are related to health and health care). Topics include user empathy, appropriate technology design, rapid prototype engineering and

HARVARD BUSINESS SCHOOL

Entrepreneurship and Venture Capital in Healthcare
This course examines a wide range of healthcare ventures and examines licensing, joint venturing, and financing agreements that form the basis of these ventures. The course is intended primarily for students who have a career interest in either leading or investing in healthcare ventures (biotechnology, medical devices, and healthcare services). It will also be of interest to students who plan to work in Business Development functions either in or outside the healthcare sector.

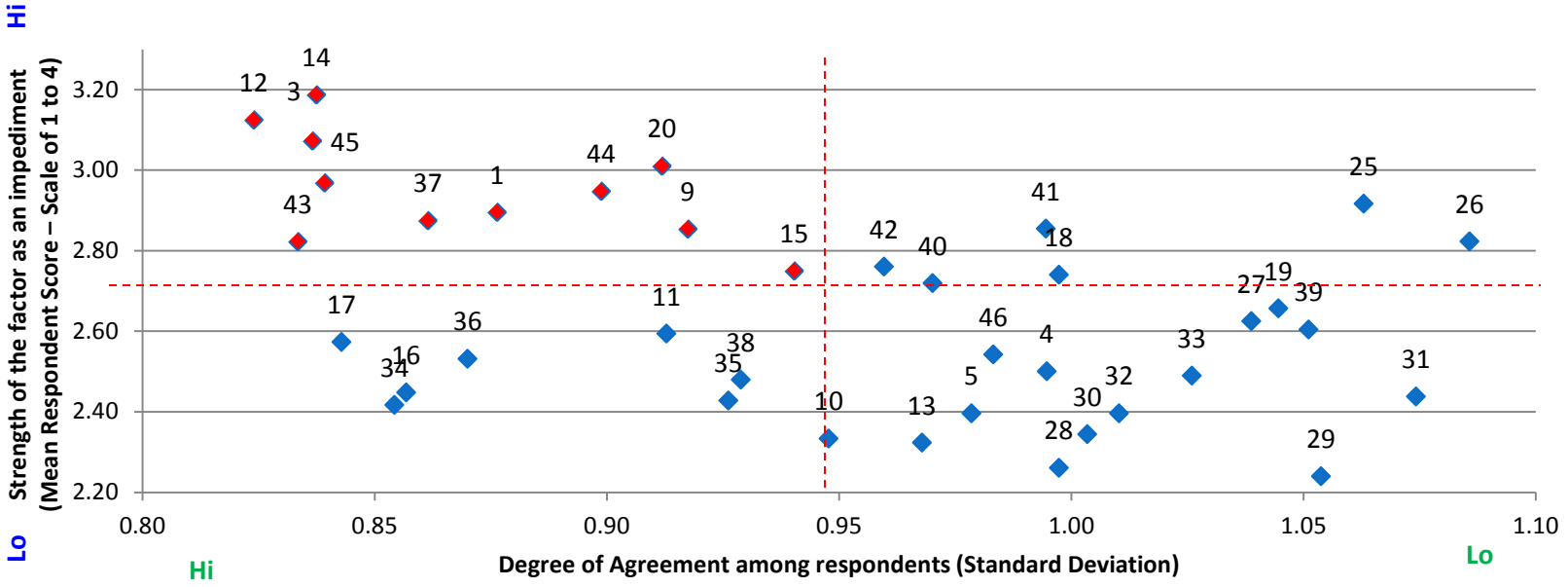
To access interactive website and explore other words/ phrases please click on this link http://www.perceptograms.com/BubblesNew/?proj=course

Impediments to redefining curriculum for 21st century health care

PARTICIPANTS' PERSPECTIVE

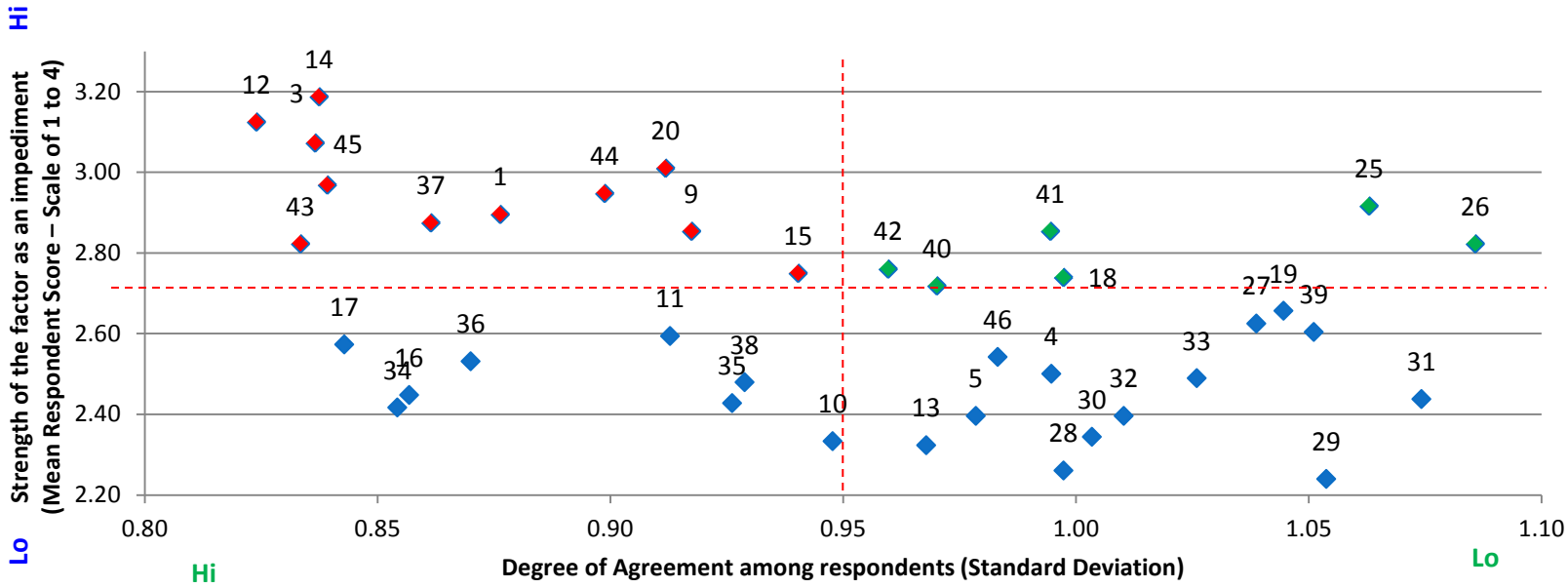
See Appendix 2 for factors

Impediments that are perceived strong and show high concurrence among respondents



14	Shortage of faculty who are knowledgeable in Entrepreneurial solutions for global health problems is an impediment
12	Shortage of faculty who are knowledgeable in Health IT is an impediment
3	Shortage of faculty with relevant managerial skill sets in schools of Public Health / Health Administration
20	Absence of holistic perspectives and knowledge of global markets and how they impact health care in any economy
45	Scarce access to strategic data from real life organizations (not benchmarks)
44	More ideology than evidence behind policy issues
1	Finding written material for these students that is written by business school faculty who understand health care and can integrate material from business school curriculum. The standard books are very public health oriented.
37	Balance of standardized curriculum vs. innovation / leading-edge curriculum
9	Excessive number of tenured faculty who are unwilling to change their curriculum
43	Difficulty translating "health" way of thinking into "management" and vice-versa
15	Shortage of faculty who are knowledgeable in Health care Delivery is an impediment

Impediments that are perceived strong but show lesser concurrence among respondents

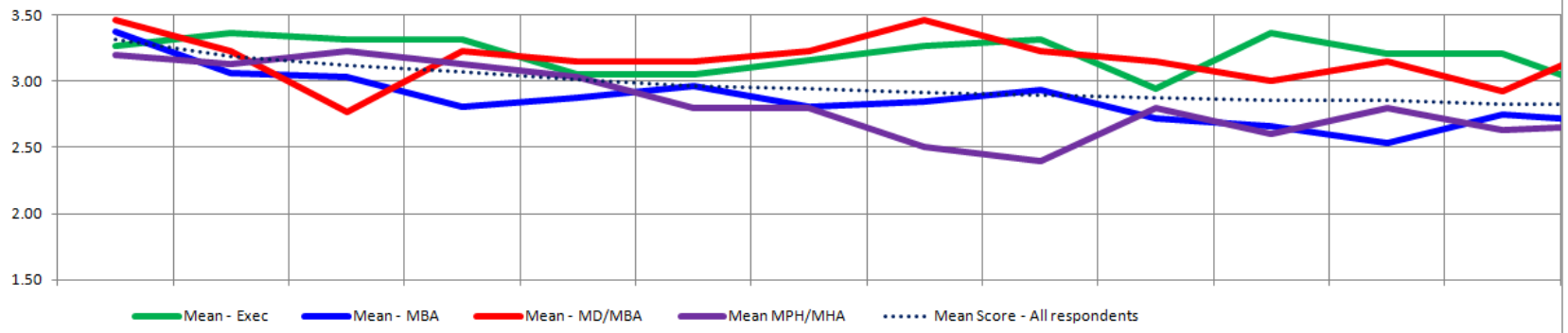


25	Cross registration – we do not currently require physicians or aspiring health professionals in Schools of Medicine or Public Health to include Business courses in their mix
41	Limited framework to determine value (VBP based on indicators not market assessment of value)
26	Uncoordinated class schedules
42	Confused and conflicting payment systems largely based on undifferentiated volume
18	Shortage of faculty who are knowledgeable in Health insurance is an impediment
40	Lack of experience with market based risk (risk is assumed to derive from government payment not product acceptance)

Pls. refer Appendix for full list of possible impediments queried

There are significant differences in the impediments faced by schools attempting to modernize health care curriculum depending on their current focus areas. Cross registration and teaching material are examples.

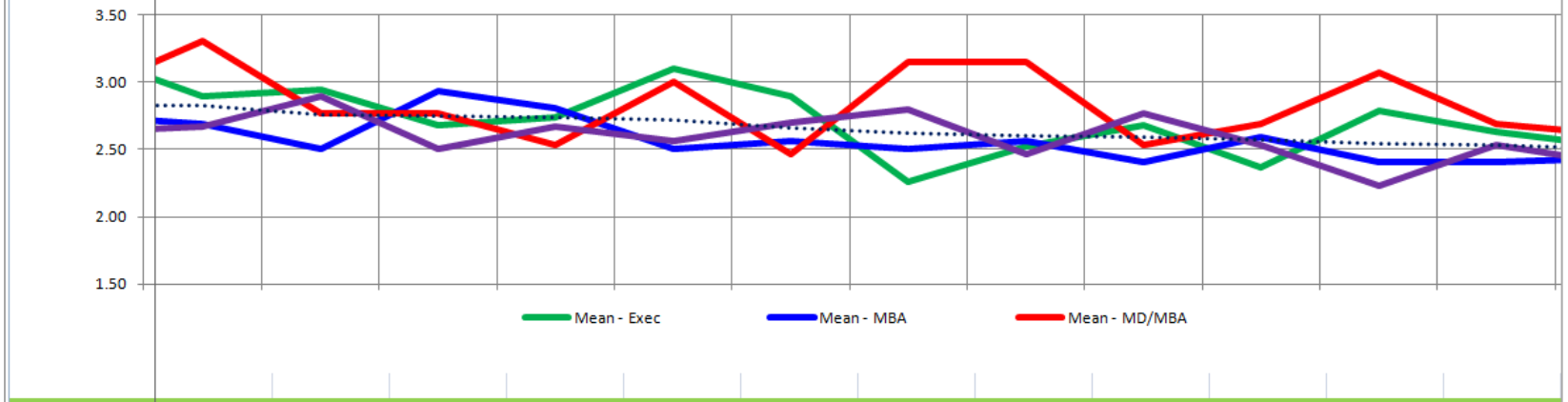
Program	Shortage of faculty with relevant health care knowledge in schools of Business Administration	Faculty shortage in Entrepreneurial solutions for global health problems	Faculty shortage in Health IT	Shortage of faculty with relevant managerial skill sets in schools of Public Health / Health Administration	Absence of holistic perspectives and knowledge of global markets and how they impact health care in any economy	Scarce access to strategic data from real life organizations (not benchmarks)	More ideology than evidence behind policy issues	Cross registration – we do not currently require physicians or aspiring health professionals in Schools of Medicine or Public Health to include Business courses in	Finding written material for these students that is written by business school faculty who understand health care and can integrate material from business school	Balance of standardized curriculum vs. innovation / leading-edge curriculum	Excessive number of tenured faculty who are unwilling to change their curriculum	Limited framework to determine value (VBP based on indicators not market assessment of value)	Difficulty translating "health" way of thinking into "management" and vice-versa
Factor #	2	14	12	3	20	45	44	25	1	37	9	41	43
Mean Score	3.31	3.19	3.13	3.07	3.01	2.97	2.95	2.92	2.90	2.88	2.85	2.85	2.82
Standard Deviation	0.69	0.84	0.82	0.84	0.91	0.84	0.90	1.06	0.88	0.86	0.92	0.99	0.83



Mean - Exec	3.26	3.37	3.32	3.32	3.05	3.05	3.16	3.26	3.32	2.95	3.37	3.21	3.21
Mean - MBA	3.38	3.06	3.03	2.81	2.88	2.97	2.81	2.84	2.94	2.72	2.66	2.53	2.75
Mean - MD/MBA	3.46	3.23	2.77	3.23	3.15	3.15	3.23	3.46	3.23	3.15	3.00	3.15	2.92
Mean MPH/MHA	3.20	3.13	3.23	3.13	3.03	2.80	2.80	2.50	2.40	2.80	2.60	2.80	2.63

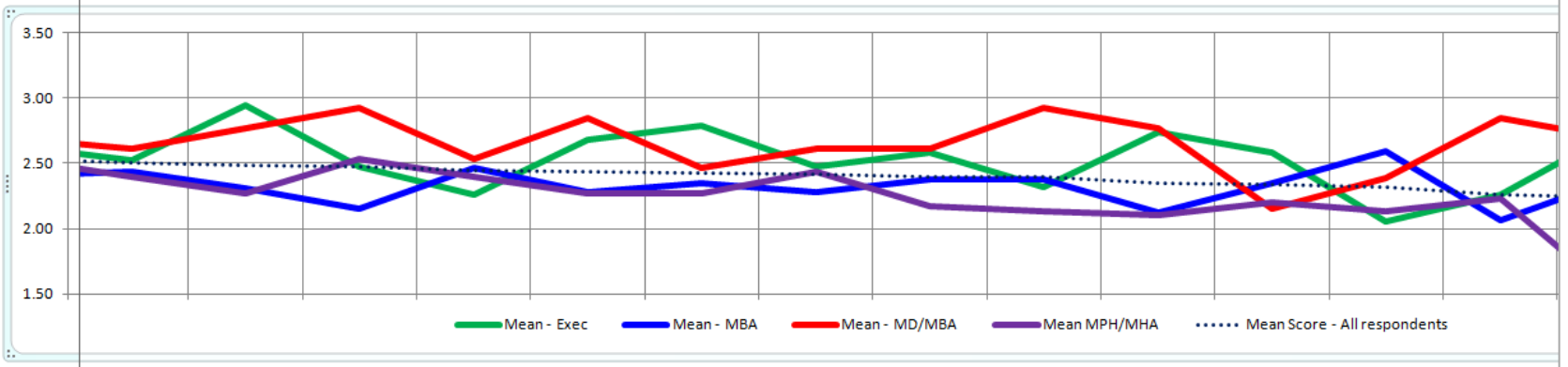
Executive programs and schools with MD/MBA programs face impediments in coordinating class and dealing with policy uncertainties in health care more than other schools…

Program	Uncoordinated class schedules	Confused and conflicting payment systems largely based on undifferentiated volume	Faculty shortage in Health care delivery	Faculty shortage in Health insurance	Lack of experience with market based risk (risk is assumed to derive from government payment not product acceptance)	Faculty shortage in Entrepreneurialism /venture capital	Limits on cross registration	High level of flux and confusion within American healthcare for next few years - evolving policy and politics, education models, care delivery models, and care delivery	Shortage of faculty who will use case method of instruction	Faculty shortage in Medical devices	Understanding the object / focus of health care administration	Defining competencies vs. capabilities originating within multiple disciplines
Factor #	26	42	15	18	40	19	27	39	11	17	46	36
Mean Score	2.82	2.76	2.75	2.74	2.72	2.66	2.63	2.60	2.59	2.57	2.54	2.53
Standard Deviation	1.09	0.96	0.94	1.00	0.97	1.04	1.04	1.05	0.91	0.84	0.98	0.87
Mean - Exec	2.89	2.95	2.68	2.74	3.11	2.89	2.26	2.53	2.68	2.37	2.79	2.63
Mean - MBA	2.69	2.50	2.94	2.81	2.50	2.56	2.50	2.56	2.41	2.59	2.41	2.41
Mean - MD/MBA	3.31	2.77	2.77	2.54	3.00	2.46	3.15	3.15	2.54	2.69	3.08	2.69
Mean MPH/MHA	2.67	2.90	2.50	2.67	2.57	2.70	2.80	2.47	2.77	2.53	2.23	2.53



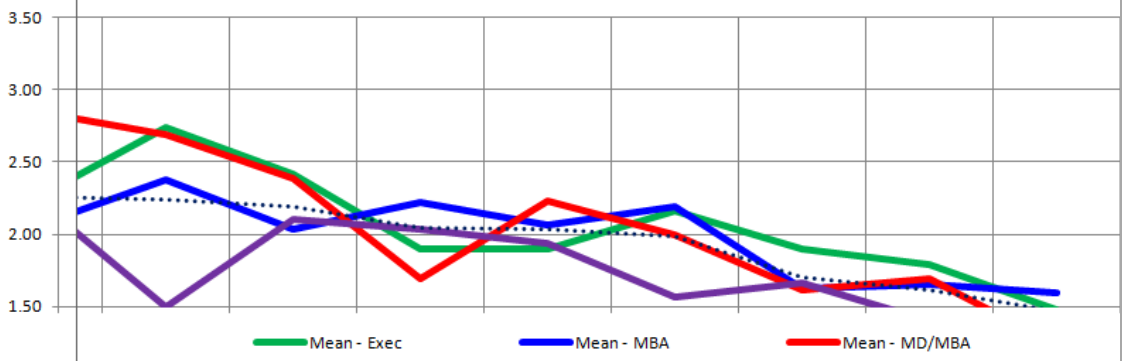
…as they do with adapting contemporary technology for content delivery, prior requirements for enrollment and getting inputs from successful health care CEOs.

Program	Over investment in Finance	Disagreement about the best location for a health care administration program, e.g., business school, school of public health, etc.	Utilization of evolving contemporary technology delivery tools that provides meaningful long term adult comprehensio n of content	Faculty shortage in Bio/Pharma	A deep rooted culture of "not for profit" / government as the only agents of change makes it difficult to introduce courses in entrepreneurs hip and business administration	Clarifying leadership vs. management within multiple disciplines	Disagreement about minimum skills needed by graduates	Over investment in Consulting	Obtaining meaningful input from successful health care CEO's about the highest priorities (skills) needed by graduates	We collectively lack working experience of growth economies which inhibits our understanding of local business models of health care (for producing talent for	Excessive number of adjunct faculty who can teach only a limited number of subjects	Faculty shortage in Public health policy	Unrealistic prior requirements for enrollment
Factor #	4	33	38	16	31	35	34	5	32	30	10	13	28
Mean Score	2.50	2.49	2.48	2.45	2.44	2.43	2.42	2.40	2.40	2.34	2.33	2.32	2.26
Standard Deviation	0.99	1.03	0.93	0.86	1.07	0.93	0.85	0.98	1.01	1.00	0.95	0.97	1.00
Mean - Exec	2.53	2.95	2.47	2.26	2.68	2.79	2.47	2.58	2.32	2.74	2.58	2.05	2.26
Mean - MBA	2.44	2.31	2.16	2.47	2.28	2.34	2.28	2.38	2.38	2.13	2.34	2.59	2.06
Mean - MD/MBA	2.62	2.77	2.92	2.54	2.85	2.46	2.62	2.62	2.92	2.77	2.15	2.38	2.85
Mean MPH/MHA	2.40	2.27	2.53	2.40	2.27	2.27	2.43	2.17	2.13	2.10	2.20	2.13	2.23



These are some of the factors that are not seen as impediments by almost all respondents with one exception in willingness to invest in health care with long gestation times for visible impact

Program	Our school is so strongly associated with other sectors (Finance, Consulting etc.) that its leadership is unwilling to invest in health care programs that will need long lead times to impact health care markets	Over investment in IT	Over investment in Decision Sciences	Over investment in Analytic techniques	Our students lack a health care background	Our students are not interested in developing entrepreneurial skills	Our students cannot master business skills	Our students are too young to learn business skills
Factor #	29	8	7	6	22	24	21	23
Mean Score	2.24	2.19	2.04	2.03	1.99	1.70	1.61	1.47
Standard Deviation	1.05	0.97	0.89	0.83	0.96	0.81	0.86	0.65
Mean - Exec	2.74	2.42	1.89	1.89	2.16	1.89	1.79	1.47
Mean - MBA	2.38	2.03	2.22	2.06	2.19	1.63	1.66	1.59
Mean - MD/MBA	2.69	2.38	1.69	2.23	2.00	1.62	1.69	1.23
Mean MPH/MHA	1.50	2.10	2.03	1.93	1.57	1.67	1.40	1.40



Respondents believe that absence of appropriate faculty profile is the largest impediment to redefining academic curriculum for 21st century health care

	Finding written material for these students written by business school faculty who understand health care and can integrate material from business school curriculum	Shortage of faculty with relevant health care knowledge in schools of Business Administration	Shortage of faculty with relevant managerial skill sets in schools of Public Health / Health Administration	Over investment in these fields has led to lack of resources needed to develop field based courses				
				Finance	Consulting	IT	Decision Sciences	Analytic techniques
Mean	2.90	3.31	3.07	2.50	2.40	2.19	2.04	2.03
Median	3.00	3.00	3.00	3.00	2.00	2.00	2.00	2.00
Mode	3.00	4.00	3.00	3.00	3.00	2.00	2.00	2.00
SD	0.88	0.69	0.84	0.99	0.98	0.97	0.89	0.83

The perceived absence of entrepreneurial solutions for global health problems is seen as an equally daunting challenge.

	Excessive number of tenured faculty who are unwilling to change their curriculum	Excessive number of adjunct faculty who can teach only a limited number of subjects	Shortage of faculty who will use case method of instruction	Entrepreneurial solutions for global health problems	Shortage of faculty who are knowledgeable about the following areas is an impediment						
					Health IT	Health care delivery	Health insurance	Entrepreneurialism / venture capital	Medical devices	Bio /Pharma	Public health policy
Mean	2.85	2.33	2.59	3.19	3.13	2.75	2.74	2.66	2.57	2.45	2.32
Median	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00	2.00
Mode	3.00	2.00	3.00	4.00	4.00	3.00	2.00	3.00	2.00	2.00	2.00
SD	0.92	0.95	0.91	0.84	0.82	0.94	1.00	1.04	0.84	0.86	0.97

•There was significant convergence (SD < 1.0) in the view that there was a shortage of faculty with adequate knowledge of health IT, health care delivery, and health insurance that constrained refining curriculum in health care.

Absence of holistic perspectives and knowledge of global markets and how they impact health care in any economy was also seen as a major impediment

	Absence of holistic perspectives and knowledge of global markets and how they impact health care in any economy	Our students cannot master business skills	Our students lack a health care background	Our students are too young to learn business skills	Our students are not interested in developing entrepreneurial skills	Cross registration – we do not currently require physicians or aspiring health professionals in Schools of Medicine or Public Health to include Business courses in their mix	Uncoordinated class schedules	Limits on cross registration	Unrealistic prior requirements for enrollment	Our school is so strongly associated with other sectors (Finance, Consulting etc.) that its leadership is unwilling to invest in health care programs that will need long lead times to impact the health care markets
Mean	3.01	1.61	1.99	1.47	1.70	2.92	2.82	2.63	2.26	2.24
Median	3.00	1.00	2.00	1.00	1.50	3.00	3.00	3.00	2.00	2.00
Mode	3.00	1.00	1.00	1.00	1.00	4.00	4.00	2.00	2.00	1.00
SD	0.91	0.86	0.96	0.65	0.81	1.06	1.09	1.04	1.00	1.05

•There was significant divergence (SD > 1.0) of views on the entire area of cross-registration among participants, which, interestingly, was seen as an important requirement by business leaders.

Balancing a standardized curriculum vs. one that is leading edge was seen as a major challenge.

	We collectively lack working experience of growth economies which inhibits our understanding of local business models of health care (for producing talent for global health care only)	A deep rooted culture of "not for profit" / government as the only agents of change makes it difficult to introduce courses in entrepreneurship and business administration	Obtaining meaningful input from successful health care CEO's about the highest priorities (skills) needed by graduates	Disagreement about the best location for a health care administration program, e.g., business school, school of public health, etc.	Disagreement about minimum skills needed by graduates	Clarifying leadership vs. management within multiple disciplines	Defining competencies vs. capabilities originating within multiple disciplines	Balance of standardized curriculum vs. innovation / leading-edge curriculum	Utilization of evolving contemporary technology delivery tools that provides meaningful long term adult comprehension of content	High level of flux and confusion within American healthcare for next few years - evolving policy and politics, education models, care delivery models, and care delivery systems
Mean	2.34	2.44	2.40	2.49	2.42	2.43	2.53	2.88	2.48	2.60
Median	2.00	2.00	2.00	2.00	2.00	2.00	2.00	3.00	3.00	3.00
Mode	3.00	2.00	2.00	2.00	3.00	3.00	2.00	3.00	3.00	3.00
SD	1.00	1.07	1.01	1.03	0.85	0.93	0.87	0.86	0.93	1.05

- It is worth pointing out that there was a strong convergence of opinion on this observation.

Scarce access to strategic data from real life organizations is seen as a challenge by most respondents

	Lack of experience with market based risk (risk is assumed to derive from government payment not product acceptance)	Limited framework to determine value (VBP based on indicators not market assessment of value)	Confused and conflicting payment systems largely based on undifferentiated volume	Difficulty translating "health" way of thinking into "management" and vice-versa	More ideology than evidence behind policy issues	Scarce access to strategic data from real life organizations (not benchmarks)	Understanding the object / focus of health care administration
Mean	2.72	2.85	2.76	2.82	2.95	2.97	2.54
Median	3.00	3.00	3.00	3.00	3.00	3.00	2.50
Mode	3.00	3.00	3.00	3.00	3.00	3.00	2.00
SD	0.97	0.99	0.96	0.83	0.90	0.84	0.98

•There seems to be a shared degree of skepticism that policy issues are not backed by evidence. Together with the perceived difficulty in translating a “health’ way of thinking into a “management” way of thinking, these factors drew the most agreement among respondents.

Appendix 1

Understanding success factors in the development of leaders of innovative health care companies– a study for the Harvard Business School …

Description of the Study

The object of this study is to understand success factors in the development of leaders of innovative health care companies in the emerging landscape of global health care, and how academia can address these success factors to help foster innovative leadership in health care in the 21st Century. Prof. Regina Herzlinger of the Harvard Business School, the sponsor of this study, is organizing an upcoming global conference on 21st Century Health Care Leadership: Confronting Modern Challenges with a Modern Curriculum. The objectives of this conference are to develop a curriculum which reflects the needs of 21st century health care organizations worldwide and encourages greater use of field–based studies in teaching diverse aspects of the many areas that fall under what is called health care management.

Introduction - Background

We are conducting a series of in-depth interviews (IDIs) with several CEOs of the most innovative health care organizations across the globe. Our findings will inform the academics attending the conference of how these CEOs became entrepreneurial leaders of companies that can transform the health care sector. This view of the success factors that play a role in propelling individuals into the top positions, will help the conference participants to begin the process of transforming the way health care innovation and entrepreneurship are taught. The elements of the transformation may include modernizing the curriculum with new courses, integrating pedagogic methods such as field studies and case studies, developing programs with mentors and alumni networks, and potentially influencing the admissions process.

The IDIs will cover the following key themes:

1. Capturing the Success Factors that enabled the CEOs to become leaders of innovative health care companies.
2. Defining Innovation in the emerging landscape of global health care and the long term vision of the CEO.
3. Enabling talent and leadership in that milieu, including best Practices and Next Practices – Mentorship, Educational experience, Work experience, Training, and Support.
4. Observations on Academia – the impact it can have in meeting the challenges of modern health care.

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Understanding success factors in the development of leaders of innovative health care companies– a study for the Harvard Business School …

Part One: Success Factors of Leaders and Innovators (10 minutes)

1. Let me begin with your story – what was your path to becoming the leader of what HBS sees as one of the most innovative firms in global healthcare? Explore Mentorship, Advisors, Educational experience (Graduate program, Case studies, Field studies), Work experience (Consulting, Operational), Professional training

2. As you look out a decade or two into the future, what are some of the key shifts or challenges you foresee in the health care landscape in general? What are some of these as relevant to your industry segment? (Pharma, biotech, devices, care delivery etc.) Seek 3-4 specific trends that affect the respondent firm's area. Try to explore likelihood of the shift happening – (rate 1(low) to 5(high)), and impact on the respondent firm (rate 1-5). These are devices that will lead to the question on Vision for the company.

3. What vision do you paint for your company as its leader? Will this require leadership and talent that are different from what you currently have in your team? What skills would be imperative in the future you just defined? Seek 2-3 specific skill sets – e.g. 'intensely analytical', 'ability to relate to emerging markets in practical ways' etc.

Part Two: Leadership-Building Strategy and Plan (10 mins)

We are interested in how you develop leaders within your organization. We'd like to discuss these in the context of what you consider are the success factors for you personally as well as other leaders in your industry.

4. As you think of leadership-building strategies within your firm, are there some success factors that you try to implement? For example, these may include mentorship, an educational experience that emphasizes field and case studies, work experience that includes consultative or operational roles, professional training etc. Can we talk about some of these examples to get an idea of how they stack up in relative importance? Probe Knowledge, Skills, Abilities, Experiences, specific elements of educational background in some detail. Once the respondent has described the critical success factors, request rating them for relative importance of the five groups of factors probed on a 1 (not at all) to 5 (significantly) scale.

Understanding success factors in the development of leaders of innovative health care companies– a study for the Harvard Business School …

5. Do you see similar patterns across innovative leaders in your segment of industry or does this differ widely? (For example, you mentioned that work experience that included significant operating experience is a critical factor for success. Is that unique to your firm, industry segment or more broadly for all of emerging healthcare?)

Part Three: Current Hiring and Training Practices (10 mins)

In addition to training leadership from within, we are interested in finding out how you hire health care managers of the future. We know that your strategies may include hiring college graduates, to graduates of professional or advanced degree programs, to recruiting experienced managers from other industries. We would like to understand better who you target for hire, and how you help them to become leading managers.

6. Let us talk about Innovation. How would you define innovation in your industry? As someone that has been identified as being among the most innovative leaders in global healthcare, what would your short list of innovative firms from healthcare look like and what criteria would you use to build that list?

7. How does all this influence your current recruiting strategy? How do you build a pipeline of future leaders?

8. Do you train employees internally or sponsor them for continuing professional education programs with the proviso that they return to work for you? If yes, why do you select this strategy and in which schools do you support such professional education? If not, why not?

Part Four: Reflections and Best Practices (5 mins)

9. Do you have some best practices in recruiting that have been effective for you and you can talk about? Are there similar ones in training that you can share?

10. Would you be interested in providing the graduate you employ continuing education in managerial skills through their careers? If yes, what are the areas you would focus on for mid-level managers and senior managers?

Appendix 1

… Understanding success factors in the development of leaders of innovative health care companies– a study for the Harvard Business School

Part Five: Observations on academia and Wrap-up (10 mins)

11. Notwithstanding the fact that this study is sponsored by HBS, a premier academic institution, do you believe that academic institutions can have a significant impact in creating future leaders in your firm and in healthcare in general?

12. Imagine you were in an influential leadership position in a major academic institution that seeks to incubate in its campus the talent that will grow into future leaders in global healthcare. What changes would you make in the educational system today to get the managers that 21st Century health care needs?

Are there any questions you may have for me before I wrap up?

Thank you immensely for your valuable time and courtesies in talking with me today.

Appendix 2

Factors queried for assessing force of impediment – A reference list …

1	Finding written material for these students that is written by business school faculty who understand health care and can integrate material from business school curriculum. The standard books are very public health oriented.
2	Shortage of faculty with relevant health care knowledge in schools of Business Administration
3	Shortage of faculty with relevant managerial skill sets in schools of Public Health / Health Administration
4	Over investment in Finance has led to lack of resources needed to develop field based courses
5	Over investment in Consulting has led to lack of resources needed to develop field based courses
6	Over investment in Analytic Techniques has led to lack of resources needed to develop field based courses
7	Over investment in Decision Sciences has led to lack of resources needed to develop field based courses
8	Over investment in IT has led to lack of resources needed to develop field based courses
9	Excessive number of tenured faculty who are unwilling to change their curriculum
10	Excessive number of adjunct faculty who can teach only a limited number of subjects
11	Shortage of faculty who will use case method of instruction
12	Shortage of faculty who are knowledgeable in Health IT is an impediment
13	Shortage of faculty who are knowledgeable in Public health policy is an impediment
14	Shortage of faculty who are knowledgeable in Entrepreneurial solutions for global health problems is an impediment
15	Shortage of faculty who are knowledgeable in Health care Delivery is an impediment
16	Shortage of faculty who are knowledgeable in Bio/Pharma is an impediment
17	Shortage of faculty who are knowledgeable in Medical devices is an impediment
18	Shortage of faculty who are knowledgeable in Health insurance is an impediment
19	Shortage of faculty who are knowledgeable in Entrepreneurialism /venture capital is an impediment
20	Absence of holistic perspectives and knowledge of global markets and how they impact health care in any economy
21	Our students cannot master business skills
22	Our students lack a health care background
23	Our students are too young to learn business skills

Appendix 2

… Factors queried for assessing force of impediment – A reference list

24	Our students are not interested in developing entrepreneurial skills
25	Cross registration – we do not currently require physicians or aspiring health professionals in Schools of Medicine or Public Health to include Business courses in their mix
26	Uncoordinated class schedules
27	Limits on cross registration
28	Unrealistic prior requirements for enrollment
29	Our school is so strongly associated with other sectors (Finance, Consulting etc.) that its leadership is unwilling to invest in health care programs that will need long lead times to impact the health care markets
30	We collectively lack working experience of growth economies which inhibits our understanding of local business models of health care (for producing talent for global health care only)
31	A deep rooted culture of "not for profit" / government as the only agents of change makes it difficult to introduce courses in entrepreneurship and business administration
32	Obtaining meaningful input from successful health care CEO's about the highest priorities (skills) needed by graduates
33	Disagreement about the best location for a health care administration program, e.g., business school, school of public health, etc.
34	Disagreement about minimum skills needed by graduates
35	Clarifying leadership vs. management within multiple disciplines
36	Defining competencies vs. capabilities originating within multiple disciplines
37	Balance of standardized curriculum vs. innovation / leading-edge curriculum
38	Utilization of evolving contemporary technology delivery tools that provides meaningful long term adult comprehension of content
39	High level of flux and confusion within American healthcare for next few years - evolving policy and politics, education models, care delivery models, and care delivery systems
40	Lack of experience with market based risk (risk is assumed to derive from government payment not product acceptance)
41	Limited framework to determine value (VBP based on indicators not market assessment of value)
42	Confused and conflicting payment systems largely based on undifferentiated volume
43	Difficulty translating "health" way of thinking into "management" and vice-versa
44	More ideology than evidence behind policy issues
45	Scarce access to strategic data from real life organizations (not benchmarks)
46	Understanding the object / focus of health care administration