

2019-20 Teaching Academy

Teaching Academy Series

July 16, 2019	NIH Inquiries: International Partnerships & Foreign Influences
Aug. 20, 2019	Cybersecurity in Healthcare
Sept. 17, 2019	Big Data
Oct. 15, 2019	Communication Excellence
Nov. 19, 2019	Viewing Patients as People; Treating the Whole Person & Cultural Elements
Dec. 17, 2019	Team Science
Jan. 21, 2020	How to leverage Strengths and weaknesses of a Team & Team Building
February 18, 2020	Persuasive Communication- POSTPONED
March 17, 2020 POSTPONED	Integrating the 4Ms of an Age-Friendly Health System in University Curriculum-
April 21, 2020 POSTPONED	Self-awareness and Social Awareness for Effective Problem Solving-
May 19, 2020 RESCHEDULED	Integrating the 4Ms of an Age-Friendly Health System in University Curriculum-
June 16, 2020	Building Financial Resilience Beyond the COVID Pandemic

NIH Inquiries: International Partnerships and Foreign Influences

**Research Compliance and Sponsored Program
Administration**

June 2019

IT'S HOW MEDICINE SHOULD BE®

Background

- In the past year, the National Institutes of Health (“**NIH**”) has partnered with the Federal Bureau of Investigation (“**FBI**”) to investigate possible foreign interference with the integrity of federally-funded biomedical research.
 - NIH Director’s Advisory Committee has reviewed the situation and made recommendations to NIH.
 - Committee’s report includes actionable suggestions for institutions.
 - NIH has sent letters to specific institutional grant recipients inquiring into possible failures to disclose investigators’ foreign affiliations, foreign research support, and foreign components.
 - All NIH inquiries to date have, to our knowledge, **focused on support from Chinese governmental, academic, and foundation entities**, and have not yet expanded to possible failures to disclose funding originating from other foreign countries.

NIH Letter- Foreign Influence Letter to Grantees



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

National Institutes of Health
Bethesda, Maryland 20892

August 20, 2018

Dear Colleagues:

For many decades, the National Institutes of Health (NIH) and institutions like yours have participated in productive partnerships that greatly advance biomedical science. Scientists at universities and academic medical centers, supported by NIH, have made seminal biomedical discoveries that have led to dramatic improvements in human health. The scientists whose work NIH is proud to help support come from all over this country and the world, bringing rich, diverse perspectives and backgrounds to the biomedical research enterprise.

The NIH-funded biomedical enterprise depends on a competitive system, which, to be successful, must be fair, transparent, and trustworthy.

Unfortunately, threats to the integrity of U.S. biomedical research exist. NIH is aware that some foreign entities have mounted systematic programs to influence NIH researchers and peer reviewers and to take advantage of the long tradition of trust, fairness, and excellence of NIH-supported research activities. This kind of inappropriate influence is not limited to biomedical research; it has been a significant issue for defense and energy research for some time. Three areas of concern have emerged:

1. Diversion of intellectual property (IP) in grant applications or produced by NIH-supported biomedical research to other entities, including other countries;
2. Sharing of confidential information on grant applications by NIH peer reviewers with others, including foreign entities, or otherwise attempting to influence funding decisions; and
3. Failure by some researchers working at NIH-funded institutions in the U.S. to disclose substantial resources from other organizations, including foreign governments, which threatens to distort decisions about the appropriate use of NIH funds.

NIH is working with other government agencies and the broader biomedical research community, including NIH-funded institutions and U.S. university professional organizations, to identify steps that can help mitigate these unacceptable breaches of trust and confidentiality that undermine the integrity of U.S. biomedical research.

These efforts will be supported by a working group of the Advisory Committee to the (NIH) Director that will tap experts in academic research and security to develop robust methods to:

1. Improve accurate reporting of all sources of research support, financial interests, and relevant affiliations;

Concurrent with these efforts, we are using this opportunity to reach out to you for your help. We recently reminded the community¹ that applicants and awardees must disclose all forms of other support and financial interests, including support coming from foreign governments or other foreign entities. We therefore expect you to work with your faculty and with your administrative staff to make sure that, in accordance with the NIH Grants Policy Statement,² all applications and progress reports include all sources of research support, financial interests, and relevant affiliations.

In addition, in the weeks and months ahead you may be hearing from our Office of Extramural Research (OER) regarding grant administration or oversight questions or requests about specific applications, progress reports, policies, or personnel from, or affecting, your institution. We also expect and encourage your institution to notify us immediately upon identifying new information that affects your institution's applications or awards. Lastly, we encourage you to reach out to an FBI field office to schedule a briefing on this matter. We greatly appreciate your willingness to work closely with OER to address these ongoing concerns.

We thank you in advance for working with us on this serious matter. Should you have questions, please send them to grantsinfo@od.nih.gov.

Sincerely yours,



Francis S. Collins, M.D., Ph.D.
Director, NIH

- Inappropriate influence by foreign entities
- Taking advantage of NIH's long tradition of trust and fairness
- Work with faculty to include all sources of support, financial interests and relevant affiliations

Important Reminder from Dr. Collins

- “disclose all forms of other support and financial interests, including support coming from foreign governments or other foreign entities...in accordance with the NIH Grants Policy Statement, [on] **all applications and progress reports**”
- NIH will be providing additional info in the future

Advisory Committee Report on Foreign Influences on Research Integrity – December 13, 2018

Foreign Influences on Research Integrity

117th Meeting of the Advisory Committee to the Director

December 13, 2018



Lawrence A. Tabak, DDS, PhD
Principal Deputy Director, NIH

M. Roy Wilson, MD, MS
President, Wayne State University



1

Working Group Charge:

- Identify approaches for NIH and applicant/grantee organizations to partner to ensure that research support, affiliations and financial interests are reported accurately
- Propose approaches to facilitate collaborations across the globe, while safeguarding IP developed with support of U.S. funds/government
- Propose steps to protect integrity of peer review process
- Emphasize the value of foreign nationals in the American scientific enterprise

Advisory Committee Report on Foreign Influences on Research Integrity – December 13, 2018

Talents Recruitment



RECRUITMENT
PROGRAM OF GLOBAL EXPERTS

“CHINESE TALENT PROGRAM”

Tens of thousands of recruits¹, including at least 6,000 top-tier recruits²

Key qualification:
Access to intellectual property

Most recruits receive federal funding (NIH and other agencies)

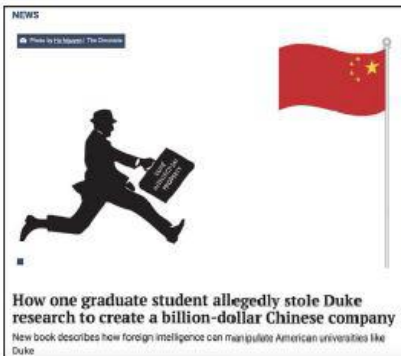
1. 1000 Talents website: <http://www.1000plan.org/en/history.html>
2. China's Plan to Recruit Talented Researchers, Nature, 2018: <https://www.nature.com/articles/d41586-018-00538-z>

7

Advisory Committee Identifies:

- China's Talents Program, for which there have been tens of thousands of recruits, many of whom also receive U.S. federal funding
- Also mentions that while the current focus of concern is on China, the issue is not unique to China.

The Talents Program



Education or espionage? A Chinese student takes his homework home to China

Ruopeng Liu believes his work at a Duke lab was simply "fundamental research" that he brought back to China. His former professor thinks otherwise.

by Cynthia McFadden, Aliza Nadi and Courtney McGee / Jul. 24, 2018 / 7:49 AM EDT

Nature – December 13, 2018

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International journal of science

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NEWS • 13 DECEMBER 2018 • UPDATE 17 DECEMBER 2018

NIH considers restrictions to counter foreign influence in research

An agency working group advises stronger security measures, but raises concerns about stigmatizing foreign researchers in the United States.

Classified information provided to the agency by the FBI about such breaches “forced all of us who wanted not to believe this to have to take it seriously”, says Collins.

He adds that the NIH is currently investigating more than ten institutions that have failed to comply with disclosure rules. Collins hopes that the working group’s recommendations will help to prevent mistakes, although he acknowledges that the proposed measures won’t deter a determined government or criminal from stealing intellectual property.

Sara Reardon

NIH Response to Judiciary Committee Chairman Charles Grassley –December 21, 2018

What enforcement mechanisms are available to NIH to protect NIH-funded intellectual property and punish foreign agents for violating NIH policies and rules? Does NIH require additional authorities to effectively punish and deter wrongdoers? If so, what are they?

...Depending on the severity and duration of the noncompliance, NIH may decide to take one or more actions, which are also described in the NIH GPS, Section 8.5, Specific Award Conditions and Remedies for Noncompliance, including **imposing specific award conditions, disallowing costs, withholding future awards for the project or program, suspending the award activities, making a referral for suspension or debarment, terminating the award, or revoking or taking title to the inventions** made with the Federal support and pursuing patent protection or licensing the invention itself. . .

The New York Times – January 6, 2019

U.S. Officials Warn Health Researchers: China May Be Trying to Steal Your Data



In other cases, scientists who received grants from the N.I.H. had shadow laboratories in China, which also received funds from the Chinese government. The foreign funding and affiliations were, in some cases, unknown to the National Institutes of Health and even to the American universities where the scientists worked.

n

Not Just an NIH Concern:



RESEARCH
AND ENGINEERING

THE UNDER SECRETARY OF DEFENSE

3030 DEFENSE PENTAGON
WASHINGTON, DC 20301-3030

MAR 20 2019

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND
SUSTAINMENT

ASSISTANT SECRETARY OF DEFENSE FOR ACQUISIT
SERVICE ACQUISITION EXECUTIVES
SPECIAL OPERATIONS COMMAND

SUBJECT: Actions for the Protection of Intellectual Property, Controlled Information
Personnel and Critical Technologies

The National Defense Authorization Act (NDAA) for FY 2019, Section 1286, 1
445, directs the Secretary of Defense to establish an initiative to work with academic in
who perform defense research and engineering activities:

1. To support protection of intellectual property, controlled information, key p
and information about critical technologies relevant to national security; an

Purpose:

1. To support protection of IP and information about
critical technologies relevant to national security and
2. To limit undue influence, including through foreign
talent programs

Requirements:

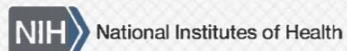
1. List of all current projects and
future support (regardless of
source)
2. Title and objective of the other
projects
3. Percentage per year to be
devoted to other projects
4. Total amount of support if
other proposals are awarded
5. Name and address of agencies
associated with other support
6. Period of performance for
other projects



NIH GRANTS POLICY STATEMENT

US DEPARTMENT OF HEALTH AND HUMAN SERVICES

NATIONAL INSTITUTES OF HEALTH



NIH Grants Policy Statement - Foreign Component

- "The performance of any **significant** scientific element or segment of a project outside of the United States, either by the recipient or by a researcher employed by a foreign organization, whether or not grant funds are expended."

<https://grants.nih.gov/grants/glossary.htm#ForeignComponent>

Examples of Foreign Component

- Involvement of humans or vertebrate animals at a foreign site
- Extensive foreign travel by recipient project staff for the purpose of data collection, surveying, sampling, and similar activities
- Any activity of the recipient that may have an impact on U.S. foreign policy through involvement in the affairs or environment of a foreign country

Possible Examples of Foreign Component

- Collaborations with investigators at a foreign site that may result in co-authorship
- Use of facilities or instrumentation at a foreign site
- Receiving financial support or resources from a non-U.S. foreign entity

NIH Grants Policy Statement - Application

SF424 Application Form

RESEARCH & RELATED Other Project Information

6. Does this project involve activities outside of the United States or partnerships with international collaborators? Yes No

6.a. If yes, identify countries: If 6 is Yes, then a list of countries is required in 6a. Abbreviations can be used. Up to 55 characters.

6.b. Optional Explanation: Up to 55 characters.

- If you have checked “Yes” to Question 6, you must include a Foreign Justification attachment in Field 12, Other Attachments D
 - Describe special resources or characteristics of the research project (e.g., human subjects, animals, disease, equipment, and techniques)
 - In the body of the text, begin the section with a heading indicating “Foreign Justification” and name the file “Foreign Justification”

NIH Grants Policy Statement - Application

SF424 Biographical Sketch

B. Positions and Honors

Positions and Employment

1998-2000	Fellow, Division of Intramural Research, National Institute of Drug Abuse, Bethesda, MD
2000-2002	Lecturer, Department of Psychology, Middlebury College, Middlebury, VT
2001-	Consultant, Coastal Psychological Services, San Francisco, CA
2002-2005	Assistant Professor, Department of Psychology, Washington University, St. Louis, MO
2007-	Associate Professor, Department of Psychology, Washington University, St. Louis, MO

Other Experience and Professional Memberships

1995-	Member, American Psychological Association
1998-	Member, Gerontological Society of America
1998-	Member, American Geriatrics Society
2000-	Associate Editor, Psychology and Aging
2003-	Board of Advisors, Senior Services of Eastern Missouri
2003-05	NIH Peer Review Committee: Psychobiology of Aging, ad hoc reviewer
2007-11	NIH Risk, Adult Addictions Study Section, members

Honors

2003	Outstanding Young Faculty Award, Washington University, St. Louis, MO
2004	Excellence in Teaching, Washington University, St. Louis, MO
2009	Award for Best in Interdisciplinary Ethnography, International Ethnographic Society

Be sure to
include any
foreign
affiliation
appointments

NIH Grants Policy Statement - Other Support

Program Director/Principal Investigator:
(Last, first, middle)

**For New and Renewal Applications (PHS 398) – DO NOT SUBMIT UNLESS REQUESTED
For Non-competing Progress Reports (PHS 2590) – Submit only Active Support for Key Personnel**

PHS 398/2590 OTHER SUPPORT

Provide active support for all key personnel. **Other Support includes all financial resources, whether Federal, non-Federal, commercial or institutional, available in direct support of an individual's research endeavors, including but not limited to research grants, cooperative agreements, contracts, and/or institutional awards.** Training awards, prizes, or gifts do not need to be included.

There is no "form page" for other support. Information on other support should be provided in the *format* shown below, using only the information necessary. **Include the principal investigator's name at the top and number consecutively with the rest of the applications** intended to provide guidance regarding the type and extent of information requested.

For instructions and information pertaining to the use of and policy for other support, see Other Support in the PHS 398 Part III Definitions, and Other Information.

Note effort devoted to projects must now be measured using person months. Indicate calendar, academic, and/or summer months for each project.

Format

NAME OF INDIVIDUAL ACTIVE/PENDING

Project Number (Principal Investigator)
Source
Title of Project (or Subproject)

Dates of Approved/Proposed Project
Annual Direct Costs

The major goals of this project are...

OVERLAP (summarized for each individual)

Samples

Other Support includes all financial resource, whether Federal, non-Federal, commercial or institutional, available in direct support of an individual's research endeavors, including but not limited to...

17. By signing this application, I certify (1) to the statements contained in the list of certifications* and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances* and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)

I agree

See the NIH Grants Policy Statement for more information: https://grants.nih.gov/grants/policy/nihgps/HTML5/section_4/4.1_public_policy_requirements_and_objectives.htm

*The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Potential Scenarios

- Faculty member receives funding from the **Foreign** government via a grant to **another** (e.g., foreign) institution
- Faculty member receives funding from **Foreign government** via a grant to the home (U.S.) institution
- Faculty member receives funding from **Foreign company** via a grant to the home (U.S.) institution
- Faculty member receives funding from **Foreign institution** (government/company) for visiting scholar or other scholarly/academic activity

NIH Grants Policy Statement - RPPR

G.9 Foreign Component

"Foreign component" is defined as significant scientific activity that requires the expenditure of grant funds were expended. The following grant-related activities are considered to have a foreign component:

- involvement of human subjects or research with live vertebrate animals;
- extensive foreign travel by grantee project staff to collect data, or conduct surveys or sampling activities; or
- any grantee activity that may have an impact on U.S. foreign policy.

Examples of other grant-related activities that *may* be significant are:

- collaborations with investigators at a foreign site anticipated to result in co-authorship;
- use of facilities or instrumentation at a foreign site; or
- receipt of financial support or resources from a foreign entity.

Foreign travel for consultation does not meet the definition of foreign component.

No foreign component

or provide the organization name, country, and description of each foreign component

Organization Name Country

Description of Foreign Component (Limit is 700 characters or approximately 1/4 of a page.)

Total remaining allowed limit is 700 characters.

FORM: G. Special Reporting Requirements
Question: G.9

...researcher employed by a foreign organization, whether or not

If your proposed research relies on resources that exist outside the U.S., whether they are research subjects, facilities and equipment, or collaborators, then your research has a foreign component

Publications

Community-Associated Methicillin-Resistant *Staphylococcus aureus* Colonization Burden in HIV-Infected Patients

[Kyle J. Popovich](#),^{1,2} [Bala Hota](#),^{1,2} [Alla Aroutcheva](#),^{1,2} [Lisa Kurien](#),¹ [Janki Patel](#),¹ [Rosie Lyles-Banks](#),² [Amanda E. Grasso](#),² [Andrej Spec](#),¹ [Kathleen G. Beavis](#),^{2,3} [Mary K. Hayden](#),¹ and [Robert A. Weinstein](#)^{1,2}

▸ [Author information](#) ▸ [Article notes](#) ▸ [Copyright and License information](#) [Disclaimer](#)


¹Rush, University Medical Center

²Stroger Hospital of Cook County

³University of Illinois at Chicago Medical Center, Chicago, Illinois

Review author information at top of page for foreign co-authors

Review Acknowledgments near bottom of the page for foreign grant support

Go to: 

Acknowledgments. We thank John Lough of Rush University Medical Center for his help with this study.

Disclaimer. The content is solely the responsibility of the authors and does not necessarily represent the views of the National Institute of Allergy and Infectious Diseases or the National Institutes of Health.

Financial support. This work was supported by the National Institute of Allergy and Infectious Diseases (grant number K23AI085029 to K. J. P.); and the Centers for Disease Control and Prevention (cooperative agreement number 1U54CK000161 to R. A. W.).

NIH Grants Policy Statement – Requesting Prior Approval

- Adding a foreign component under a grant to a domestic or foreign organization requires **NIH prior approval**
 - Prepare a letter to the NIH GMS
 - Attach foreign justification file describing special resources or characteristics of the research project, including the reasons why the facilities or other aspects of the proposed project are more appropriate than a domestic setting

https://grants.nih.gov/grants/policy/nihgps/html5/section_8/8.1.2_prior_approval_requirements.htm#Foreign

FCOI and Foreign Influence

https://grants.nih.gov/grants/policy/coi/index.htm

U.S. Department of Health & Human Services | National Institutes of Health

NIH National Institutes of Health
Office of Extramural Research

Grants & Funding
NIH's Central Resource for Grants and Funding Information

Entire Site | Search this Site

eRA | NIH Staff | Glossary & Acronyms | FAQs | Help

HOME | ABOUT GRANTS | FUNDING | **POLICY & COMPLIANCE** | NEWS & EVENTS | ABOUT OER

Home » Policy & Compliance » Financial Conflict of Interest

Policy & Compliance

- NIH Grants Policy Statement
- Notices of Policy Changes
- Compliance & Oversight
- Select Policy Topics

- Anti-Sexual Harassment +
- Animal Welfare
- Application Submission Policies

Clinical Trial Requirements

Clinical Trial Definition

Financial Conflict of Interest

The NIH is committed to preserving the public's trust that the research supported by us is conducted without bias and with the highest scientific and ethical standards. We believe that strengthening the existing regulations on managing financial conflicts of interest is key to assuring the public that NIH and the institutions we support are taking a rigorous approach to managing the essential relationships between the government, federally-funded research institutions, and the private sector.

"The public trust in what we do is just essential, and we cannot afford to take any chances with the integrity of the research process."

— Dr. Francis Collins, Director, NIH

2011 Revised Regulations:

[FAQs to 2011 Revised Regulation](#)

Questions?

FCOI Training



Printable PDF

FCOI Regulation Web-based Tutorial
(Updated 11/30/2018)

NOT-OD-18-160 COI Reminder

Key Dates

Release Date: March 30, 2018

Related Announcements

None

Issued by

National Institutes of Health (NIH)

Purpose

The purpose of this Guide Notice is to remind the NIH extramural research community that the requirements of 42 CFR Part 50, Subpart F, Objectivity of Research, apply to each institution, domestic and foreign, that applies for or receives NIH research funding in the form of grants or cooperative agreements. The regulation, also known as the Financial Conflict of Interest (FCOI) regulation, applies to both prime and subrecipient institutions, domestic or foreign, and through implementation, to each Investigator who is planning to participate in, or is participating in, such research. These regulations do not, however, apply to Phase I Small Business Innovative Research and Small Business Technology Transfer applications or awards.

The purpose of the regulation is to promote objectivity in research by establishing standards that provide a reasonable expectation that the design, conduct, and reporting of NIH-funded research is free from bias resulting from Investigator financial conflicts of interest. Therefore, it is critical that there is a clear understanding of the applicability of these regulatory requirements. Equally important is that the regulation is a term and condition of all NIH grant and cooperative agreement awards, which means that compliance with the requirements is a condition of funding.

One such area of the ~~FCOI regulation requiring clarity is Investigator disclosures with respect to foreign financial interests~~. The regulation refers to exclusions of Institutions of higher education as defined in 20 U.S.C. 1001(a) or a federal, state or local government agency when disclosing financial interests. However, these references refer to a U.S. Institution of higher education or a federal, state, or local government agency within the U.S. Therefore, Investigators, including subrecipient Investigators, must disclose all financial interests received from a foreign Institution of higher education or the government of another country (which includes local, provincial, or equivalent governments of another country).

For further information about the Financial Conflict of Interest regulations, please see NIH's [Financial Conflict of Interest](#) website, which includes links to the full regulation and extensive FAQs as well as other resources.

Clarification:
**Disclose all financial interests
received from a foreign institution of
higher education or the government
of another country**

NIH Required Financial Disclosures

- Disclose all remunerations/financial interests that appear to be related to your institutional responsibilities within 30 days of acquiring the interest
- Travel* paid for or reimbursed by an outside entity

* applicable only to PHS funded investigators

Financial Disclosures - Travel

- Sponsored or reimbursed travel* from an entity in the previous 12 months, such as:
 - Travel for which the individual is reimbursed for by an outside entity
 - Travel paid for on the individual's behalf by an outside entity
 - Includes any registration fees, accommodations, meals, transportation costs, etc.

*applicable only to PHS funded investigators only

Financial Disclosures - Travel

- Dollar amount is not required for disclosure
- Excludes travel paid for by:
 - Rush (regardless of whether Rush is reimbursed for the travel by a third party),
 - U.S. federal, state, or local government agencies,
 - Other U.S. institutions of higher education, academic teaching hospitals, medical centers, or research institutes affiliated with an institution of higher education

COI Survey- New for FY19

Foreign Financial Interest and Foreign Component

Question:

1. Have you received any compensation from a foreign Institution of higher education or the government of another country (which includes local, provincial or equivalent government of another country)? This includes, but is not limited to stipends, grants, living expenses, paid in cash or otherwise received by you.

If Yes-

- Name of country
- Name of foreign institution
- Type of compensation
- Activity associated with compensation
- Scope and purpose associated with the activities

Financial Disclosure Scenarios

- Remuneration includes honorariums, wages, stipends and living allowances
 - e.g. compensation/living allowance for “consulting” to be PI on a grant for a foreign entity
- For disclosure, a foreign entity includes foreign companies, foreign universities/institutions of higher learning, foreign non-profit organization/association, or any level of foreign government
 - Rules are different for U.S. entities
- Includes personal activities during time-off/away from Rush

Visiting Scholar Agreement/MOU

- When individuals are visiting Rush and involved in research projects; not receiving compensation from Rush
 - Especially important if they will be collaborating on a project funded by a government grant or industry – to ensure adherence to funding agency's requirements
- Contact Legal

Visiting Scholar, cont.

- Establishes requirements to adhere to Rush policies and protections for:
 - ***Intellectual Property*** – Visitor subject to policy
 - ***Confidential Information*** – not transmitted by Visitor to any third party included Visitor's home institution unless agreed upon
 - ***Research Materials*** – what materials visitor brings to Rush and permission to use in Rush research
 - ***Export Controls*** – Compliance with US export laws and regulations and screening requirements
 - ***Publications and Scholarly Work*** – assigns copyrightable material related to Rush research

Summary of Concerns:

NIH Concerns are broader than disclosure failures:

- Diversion of intellectual property to foreign entities
 - Operating undisclosed “shadow labs” in foreign countries
- Disclosing confidential grant application information by NIH Peer Reviewer to third parties
 - Resulting in theft of biomedical IP
- Failure of researchers to disclose research resources and support provided by other organizations, including foreign governments

Institutional Obligations: Rush responsible for obligations under federal funding requirements and continued funding is at risk

Next Steps

- PIs should review all pending proposals and active awards to ensure that all foreign components have been disclosed.
 - If a PI identifies an omission or error in a previously submitted proposal or progress report, the PI should contact Sponsored Programs Administration ([SPA](#)) at ORA_Grants@rush.edu
- We expect NIH and other Federal Agencies to issue additional guidance soon
- SPA and ORC will continue to monitor the issue

**Excellence is
just the beginning.**

Cybersecurity @ Rush

Teaching Excellence Lecture Series

August 20, 2019

What are the biggest risks for
privacy and security?



Cybersecurity, Why?

- Describe security challenges facing healthcare organizations today.
- Recognize potential areas of risk in and outside of the hospital environment.
- Determine appropriate actions to take when presented with a potential risk.

cy·ber·crime

'sībər,krīm/

criminal activity (such as fraud or theft)
committed using a computer especially to gain
illegally access, transmit, or manipulate data

13M patient records exposed
in 2018

365 healthcare breaches in 2018

2X the number of attacks
as other industries.

Average cost for ONE electronic health record on the black market?

- A. \$1
- B. \$25
- C. \$50

\$355 average cost of a data
breach **PER RECORD**

- Federal Fines - \$100 - \$50,000 per violation
- Federal Penalties - \$1.5 million - \$5.5 million
- Federal Trade Commission fines - \$16,000
- State penalties, criminal penalties, class action lawsuits, lost revenue

How do incidents happen?



Cyber criminals often find it easier to attack users than attack software.

- Phishing and spear phishing attacks
- Password attacks
- Risky security behaviors
- Human error

RECOGNIZING POTENTIAL AREAS OF RISK



- Review the sender name
- Check for spelling mistakes and bad grammar
- Analyze the salutation – is your name missing?
- Look for urgency





SAFE PRACTICES

- Protect your password
- Access email securely
- Lock your computer
- Be an email skeptic
- Consider the potential risks

Questions

Andy Reeder

AVP HIPAA Privacy and Security

Andrew_Reeder@rush.edu

Carrie Ryan

Cybersecurity Education

Carrie_I_ryan@rush.edu

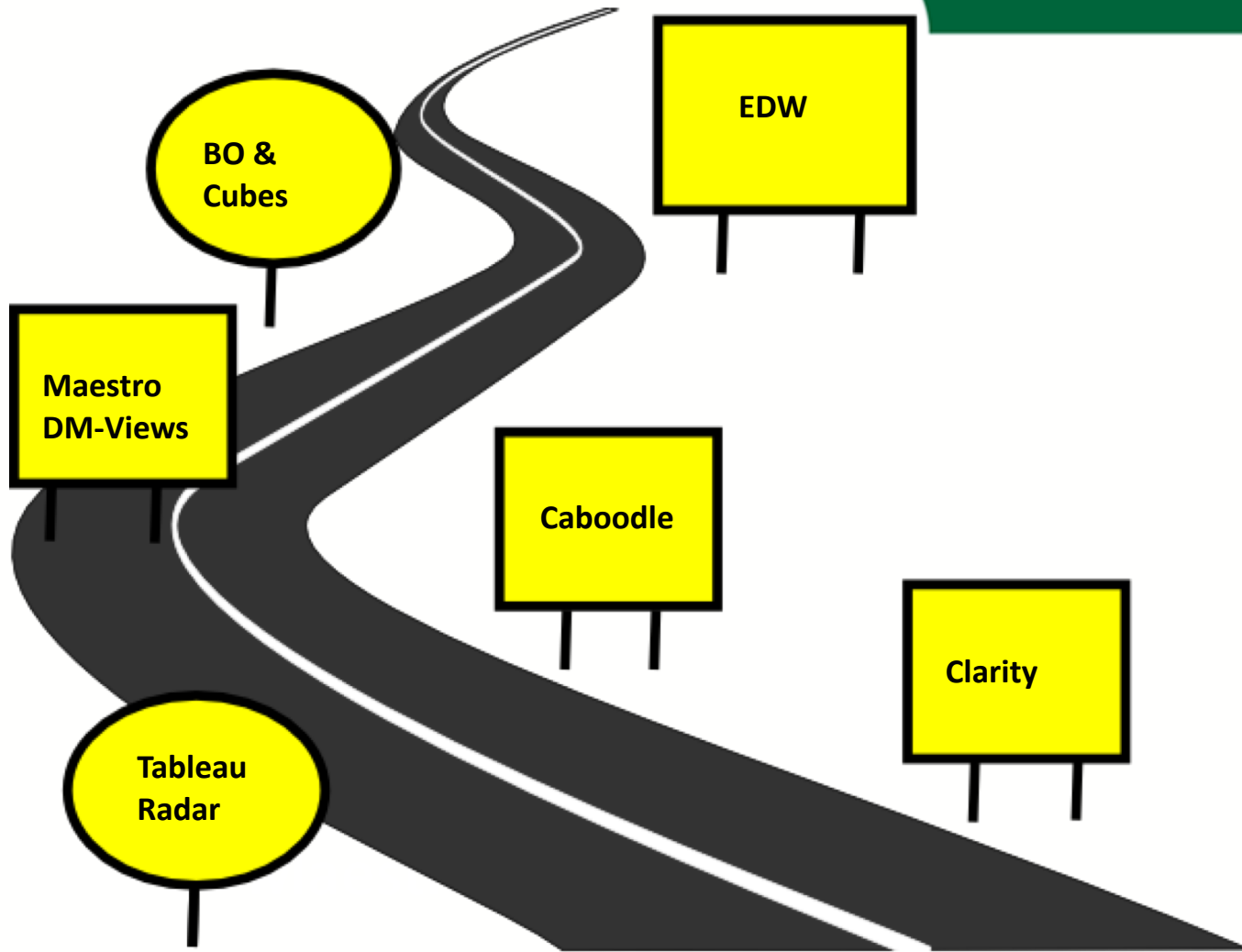
Big Data in Healthcare

The Rush Journey



Provide business insights using BI and advanced analytics platforms to all partners leading to better, faster, and more relevant decisions

Starting point



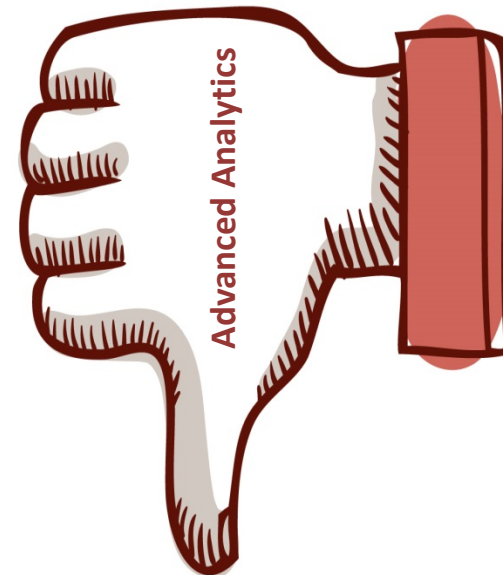
What works and what doesn't?

Self-service



Good BI framework for
Descriptive reporting

Silos

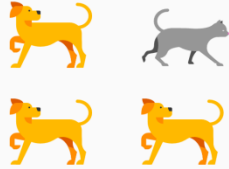


(Near) Real-time

Big Data Analytics

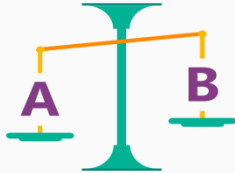
Is this weird?

Anomaly detection algorithms



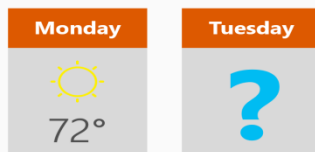
Is this A or B?

Classification algorithms



How much? How many?

Regression algorithms



How is this organized?

Clustering Algorithms



Free the data!

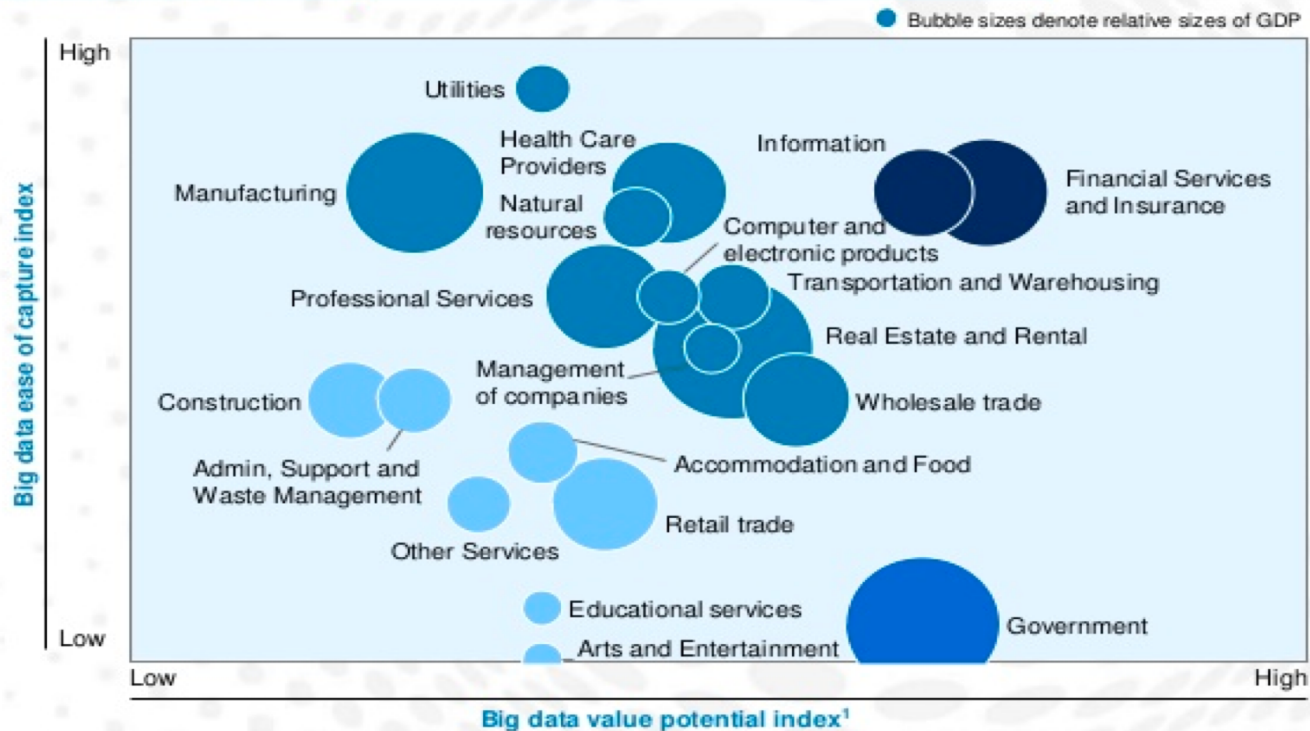
External integrated source of truth

Standardize platform

NLP

Data Science / Machine Learning

Value potential of Big Data affects virtually every part of the economy



¹ Determined by industry average of transaction intensity, amount of data per firm, variability in performance, customer & supplier intensity, and turbulence

2015- \$122 billion

2019 – \$187 billion

40% or growth is attributed to Healthcare

Olavsrud, T (2016) - "Big Data and Analytics spending"

Kayyali, B., Knott, D., and Van Kuiken, S. (2013) "The Big Data Revolution in US Healthcare"

- Business and Regulatory requirements – macro (nation/state) and micro (individual organization/department)
- EHR
- Consumer Healthcare
- Technology enablers
- Value based care drives data driven analytics

- Wellness, patient engagement, and education
- Predicting and avoiding care gaps – outside hospital walls
- Disease surveillance and management
- Precision medicine
- Clinical Trial Management
- Medication adherence
- Financial forecasting and planning

Volume

Velocity

Variety

Value

Veracity



Data & Analytics Governance

Executive Steering Committee

Data Curation Workgroup

Platform

Curation

Metrics

Access

Integrated Development Environment

Business Objects

Tableau

Superusers

Use Case
CRM

Use Case
Institutes
(Cancer
Center)

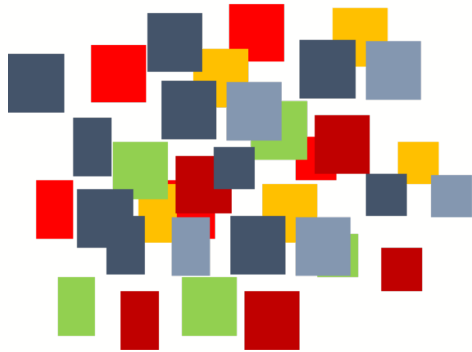
Use Case
Financial
Reporting

Use Case
Executive
Dashboard

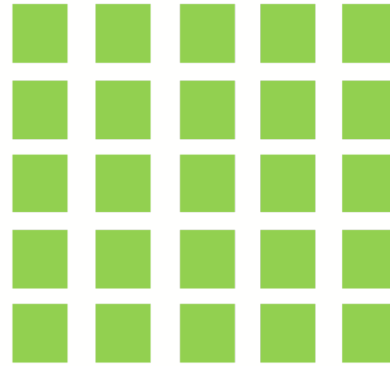


Why Hadoop?

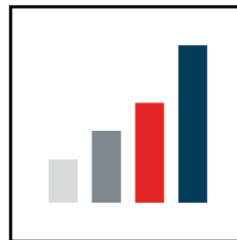
Unstructured Data



Structured Data

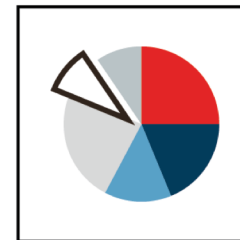


The 3 V's of Unstructured Data



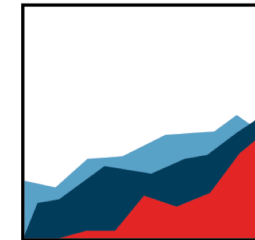
VOLUME

The huge amount and growth of unstructured data can overtake traditional storage solutions.



VARIETY

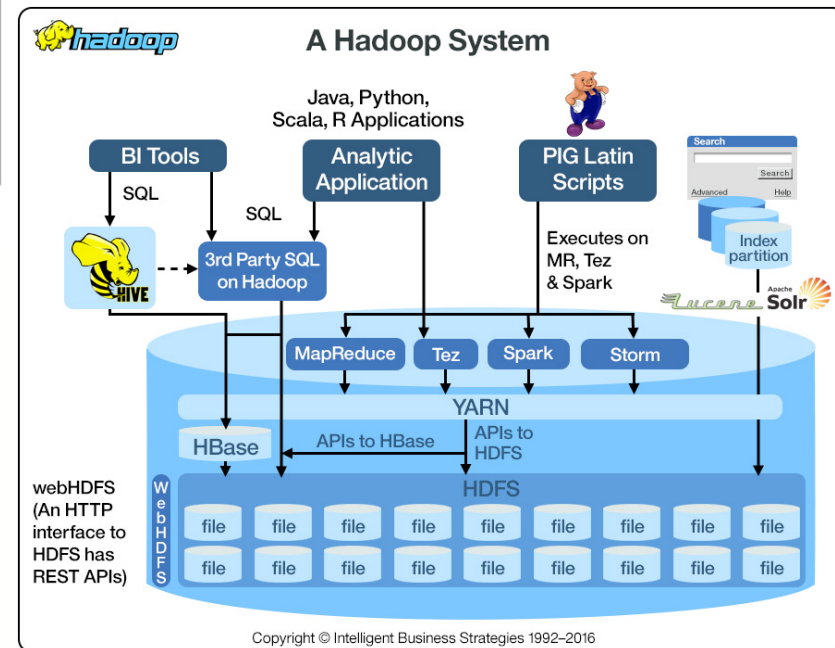
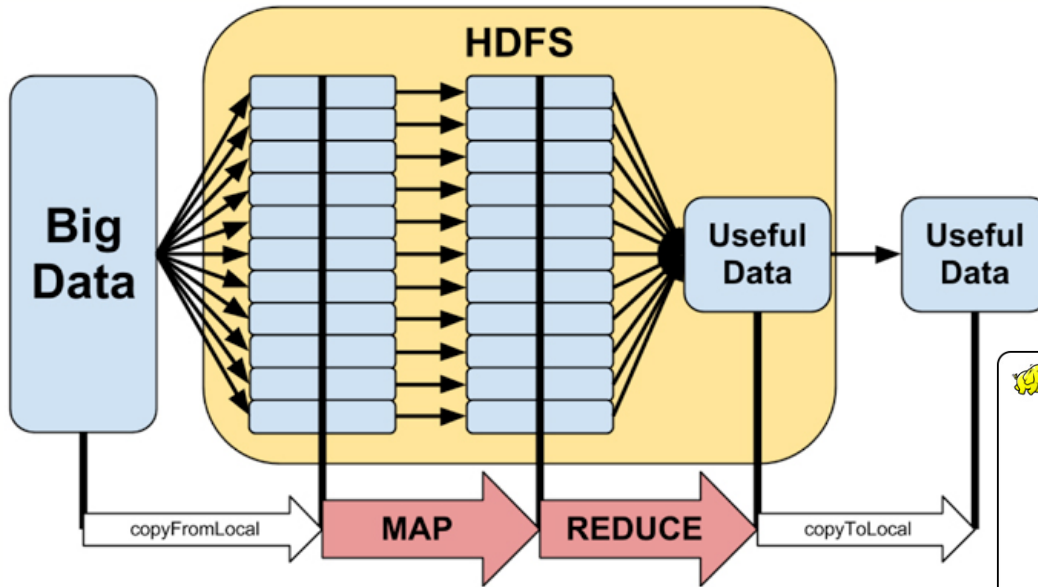
Traditional data management can't handle with the changeable nature of big data.



VELOCITY

Data is generated at an ongoing flow, making it harder to manage

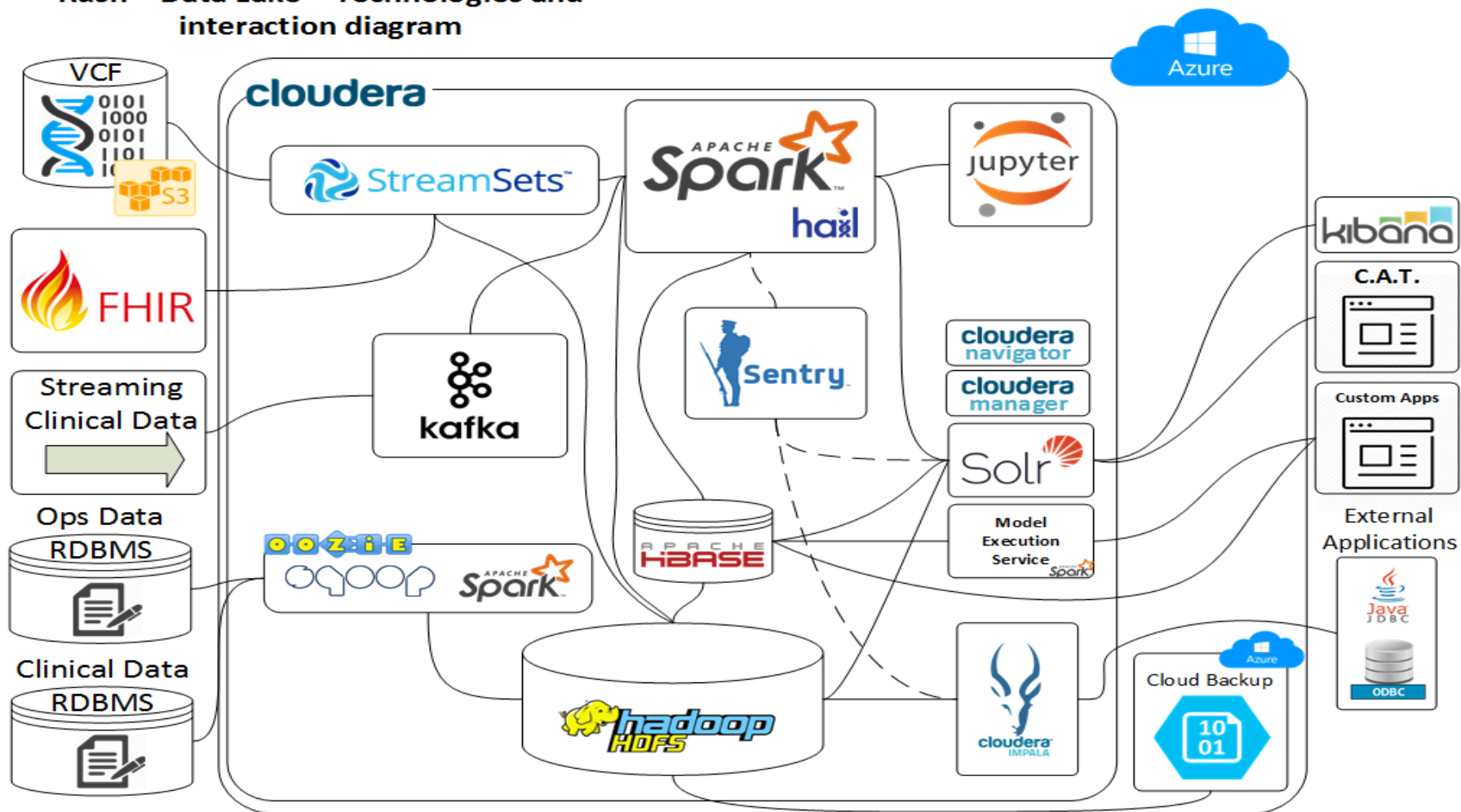
What is Hadoop?

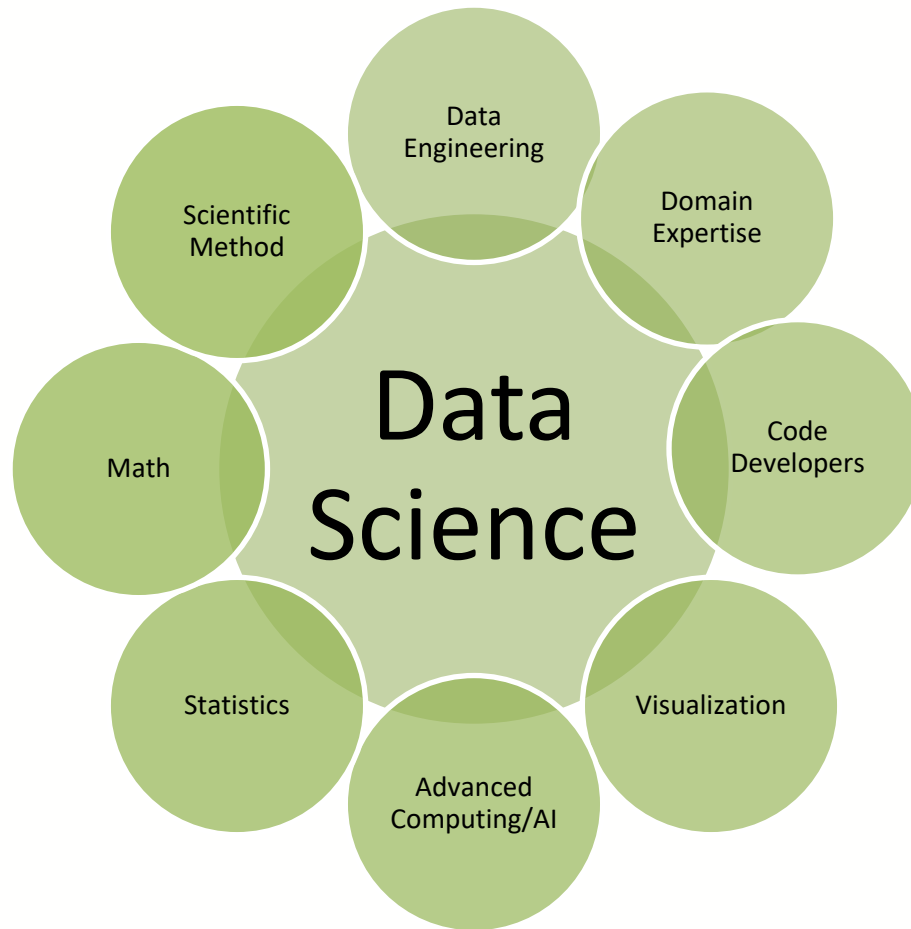


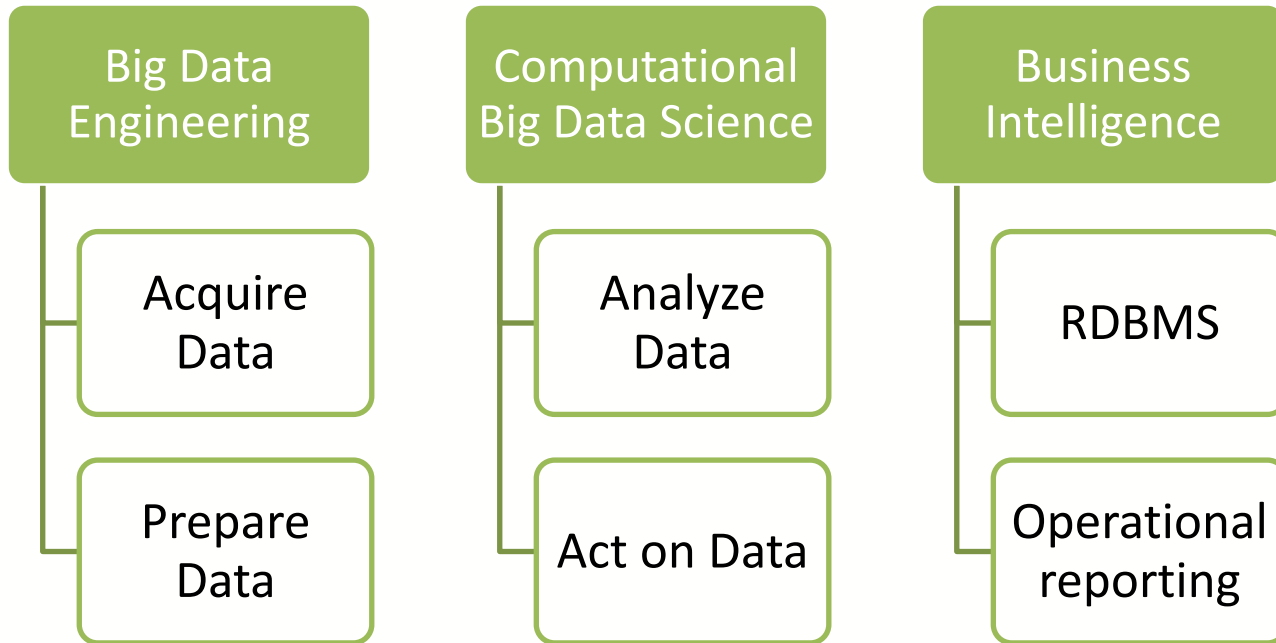
Rush - Hadoop

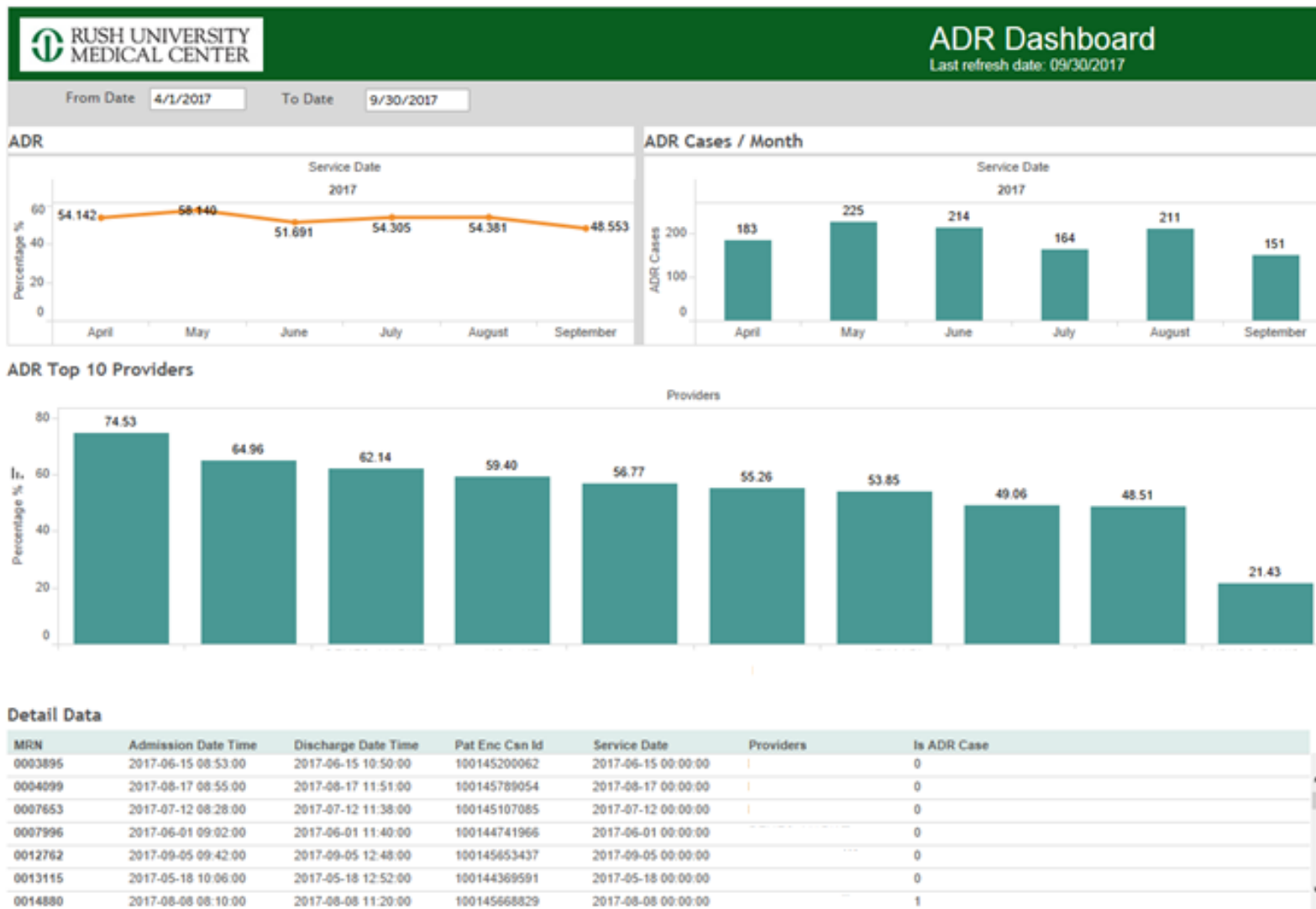


Rush – Data Lake – Technologies and interaction diagram







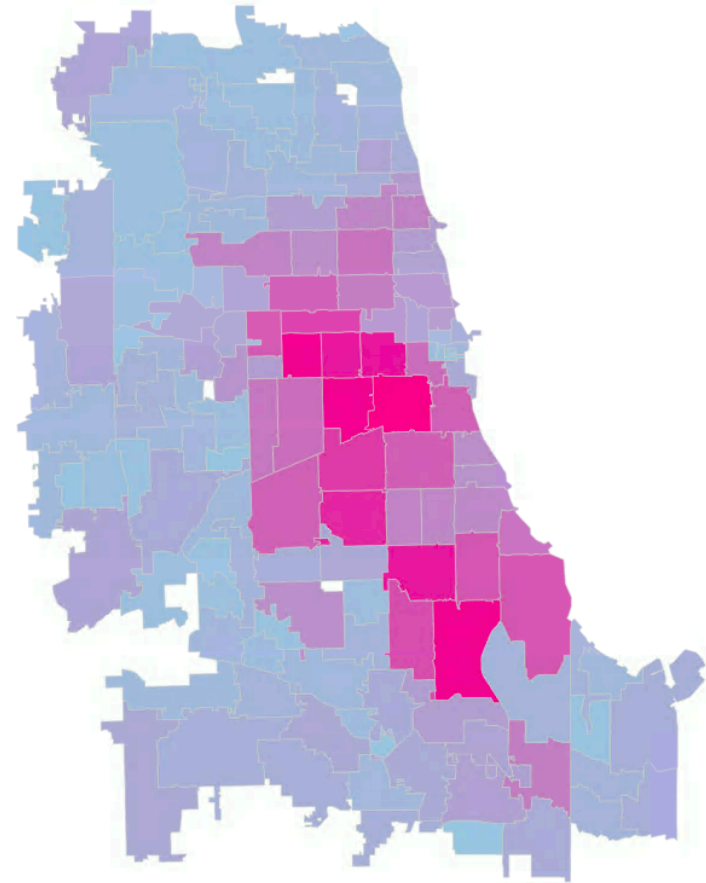


Use Cost – High Cost Clusters



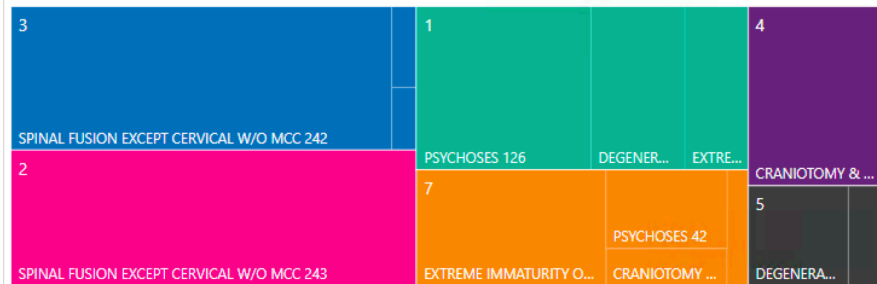
Encounters	AVG. LOS	30 day Readmission	AVG. Cost per Encounter
6612	14.47	12.01%	55.42K
			Cost-Reimbursement
			\$13.3M

Location of High Cost Patients

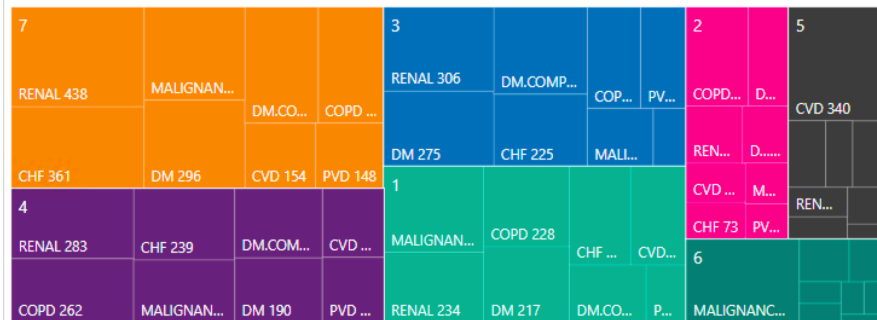


ClusterNumber	%GT Count of encounterSetID	30day readmission	Average of LOS	Average of cciScore	Average of age
1	16.88%	14.35 %	20.06	0.24	52.30
2	15.96%	5.97 %	5.43	0.16	58.68
3	19.48%	7.92 %	7.49	0.21	63.35
4	14.00%	16.63 %	13.85	0.22	60.36

Top DRG by Cluster



Top Comorbidity by Cluster



Cluster 1: Patients with neurological and psychological diagnoses and a long inpatient stay

Cluster 2/3: Patients with complicated spinal surgeries and complicated major joint replacement surgeries, particularly those with underlying medical comorbidities such as COPD and poorly controlled diabetes

Cluster 4: Patients with complicated neurosurgical procedures

Cluster 5: Medical patients with cardiovascular disease and/or chronic kidney disease;

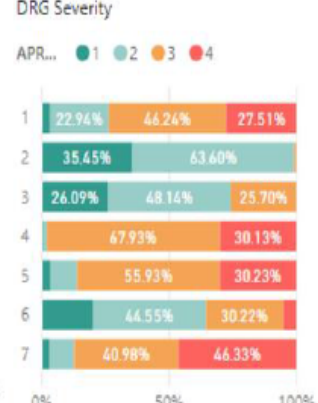
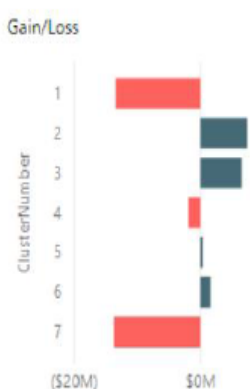
Cluster 6: Patients with specific hematologic malignancies;

Cluster 7: NICU patients, particularly neonates of extreme pre-maturity

Use case – High Cost Clustering



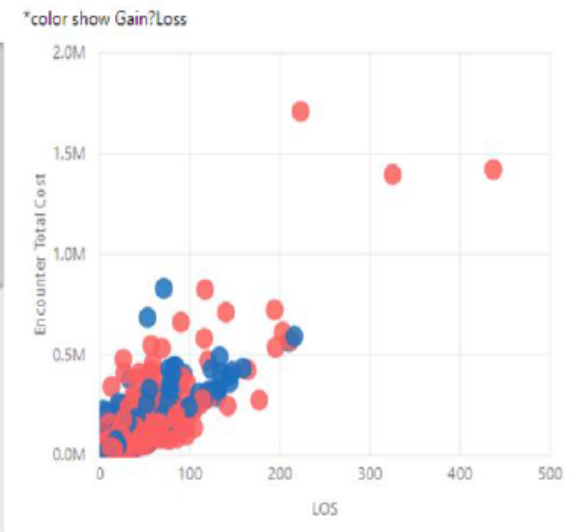
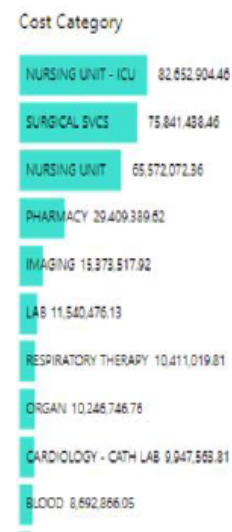
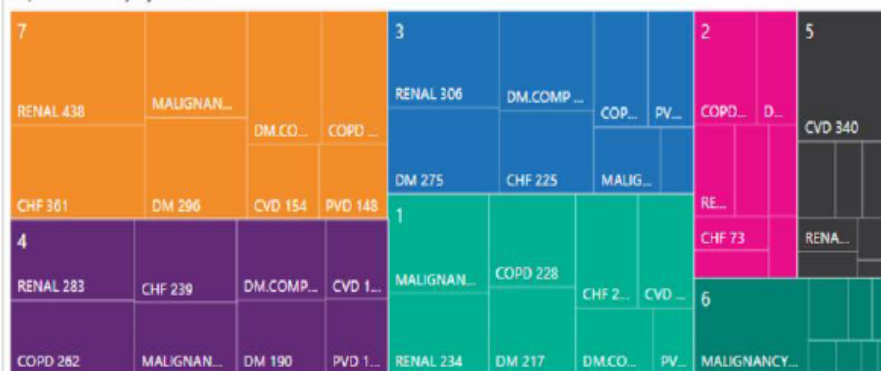
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Top DRG by Cluster



Top Comorbidity by Cluster



LWBS Prediction Model

Model Quality Metric

AUC
83 %

Accuracy
75 %

Sensitivity
75 %

Specificity
75 %

Patient View

checkedInTime

1/1/2015 1/10/2018

ACUITY

All

encounter	birthTime	TIME_ED_ARRIVED	ARRIVAL_TO_TRIAGE	ACUITY	chiefComplaint	Wait time (mins)	LWBS Risk
				5.97	3 DIZZINESS	37	14.6 %
				2.65	3 LEG SWELLING	16	66.8 %
				6.83	3 LEG SWELLING	71	33.4 %
				6.13	3 DEEP VEIN THROMBOSIS	72	52.7 %
				14.45	4 ARM PAIN	83	74.5 %
				8.07	4 DENTAL PAIN	65	47.6 %
				5.88	3 OTHER	61	73.3 %
				7.60	3 HEADACHE	25	65.6 %
				190.23	3 FATIGUE	234	47.9 %
				8.83	3 ABDOMINAL PAIN	34	34.4 %
				1.03	3 HEADACHE	52	44.3 %
				3.85	3 ABDOMINAL PAIN	59	61.4 %
				1.38	3 POST-OP PROBLEM	42	50.0 %
				1.42	3 ABDOMINAL PAIN	62	47.2 %
				22.68	4 COUGH	82	41.9 %
				5.22	3 HEADACHE	28	24.6 %
				1.73	3 HEADACHE	37	69.2 %
				6.60	3 HEADACHE	69	36.0 %
				4.65	2 DIZZINESS	55	13.8 %
				7.98	3 FLANK PAIN	64	42.1 %
				4.60	2 PSYCHIATRIC PROBLEM	40	17.7 %
				4.28	4 MEDICATION REFILL	61	53.3 %
				6.15	3 ABDOMINAL PAIN	67	58.3 %
				10.22	3 BACK PAIN	53	67.5 %
				1.67	4 OTHER	31	78.5 %

Future State - Big Picture

- Privacy and Lifetime
- Curation and quality
- Sources of Truth
- Interoperability and regulation
- Emphasize foundational capabilities of EMR

Data Acquisition

Acquire all data

Data Governance

- Social media
- Mobile apps
- External Sets
- Cost Data

- Patient Records
- Self reported novel people data
- Genomic data

- Sensor data from machines
- Data from fitness devices
- Data from medical devices

Machine Data

Attribute Data

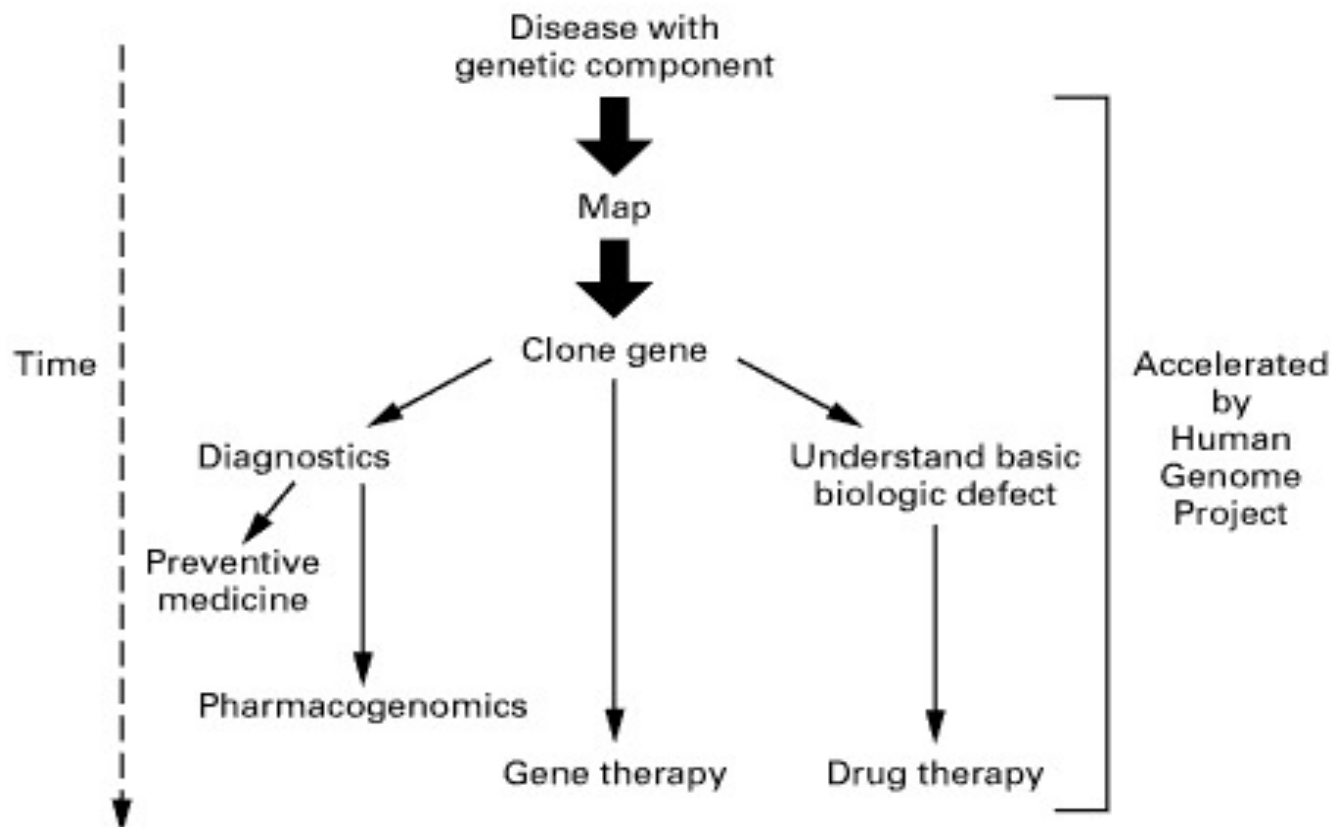
People Data

Data (Sources of Truth)

Data Analysis (Aggregates, Reports, NLP, Prediction, Machine Learning, AI)

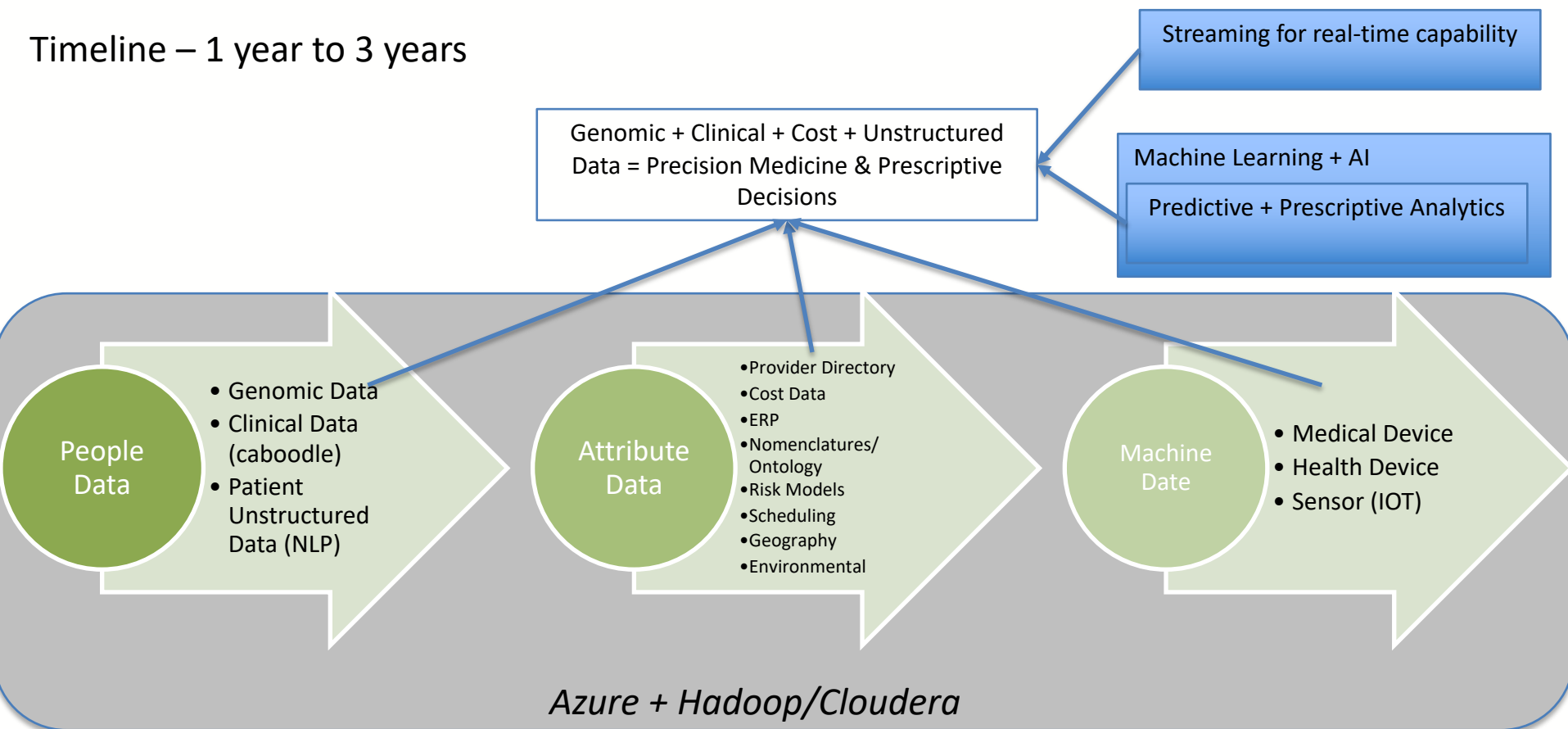
Data Presentation (Apps first, Real time, Mobile, Self Service)

New England Journal of Medicine



Future State - Strategy

Timeline – 1 year to 3 years



Align with Epic Cognitive Computing Roadmap

Real time data streaming to analytics platform

Rules Engine with Bidirectional Flow of Data to EMR

AI Layer applied to streaming data

API Based App development leveraging FHIR/EMR and Streaming Data/HDFS

Thank you!

 RUSH

QUESTION!

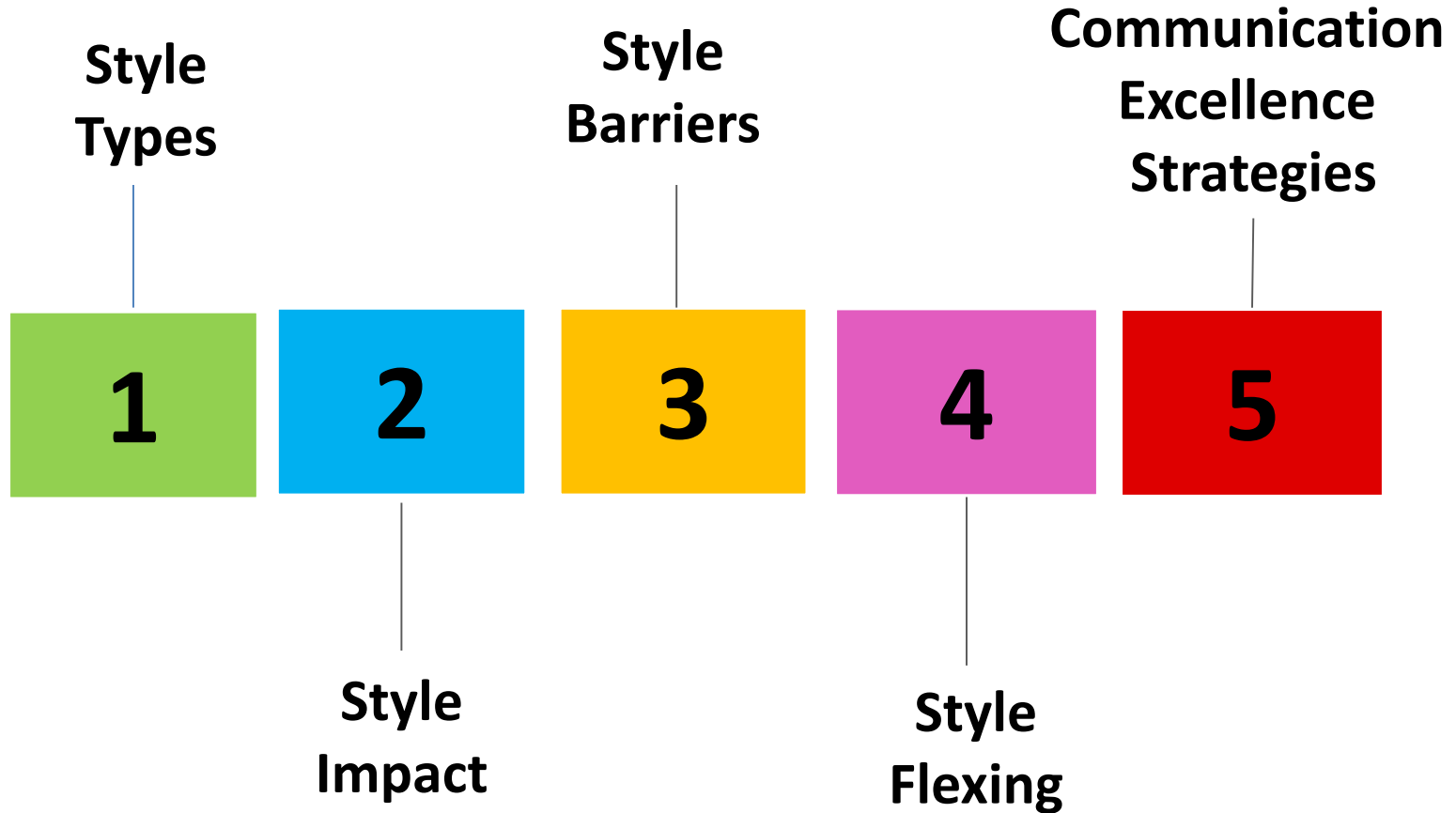
Thank You!



Communication Excellence

Janet Shlaes, PhD, MBA, MA

Agenda



Disclaimer

The program content and structure for this presentation were conceived and designed by the presentation facilitator. Your facilitator has disclosed that there is no actual or potential conflict of interest in regard to this program. The planners, editors, faculty and reviewers of this activity have no relevant financial relationships to disclose. This program was created without any commercial support.

Learning Objectives



1. Increase awareness regarding non-verbal and verbal communication elements.
2. Identify potential impact of personal communication style.
3. Understand importance of style flexing for leadership effectiveness.

Communication Realities



- Linguistic style is culturally influenced in terms of learned signals, meaning and focus
- Linguistic style impacts perceptions of competence, confidence, who gets heard, who gets credit and what gets done
- Linguistic style includes: directness, indirectness, pacing, pausing and choice of words

Main Communication Styles



- Passive
- Aggressive
- Passive-Aggressive
- Assertive

Essential Communication Qualities



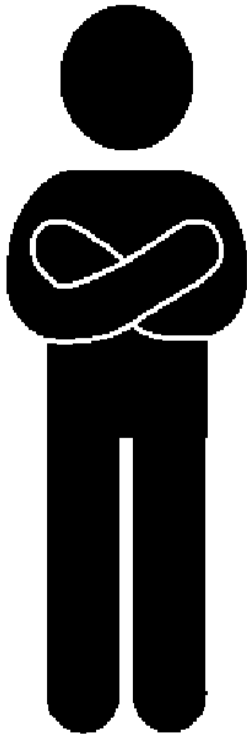
- Clarity
- Credibility
- Authority
- Authenticity

Verbal Communication



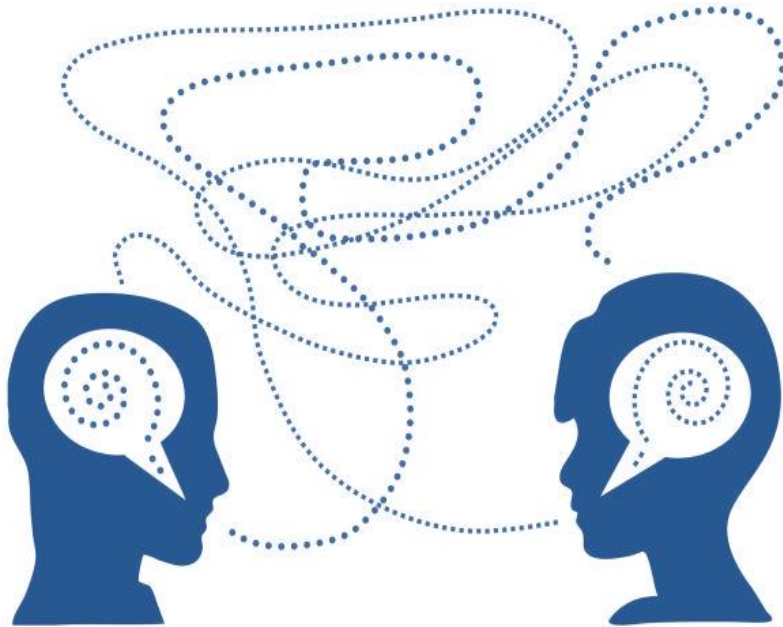
- Voice Tone
- Voice Speed
- Voice Volume
- Vocabulary
- Grammar

Non-Verbal Communication



- 70 - 80 %
- Facial Expressions
- Body Language
- Physical Distance
- Use of space
- Easily misinterpreted
- Culturally specific
- Physiological Changes

Potential Communication Barriers



- Opposing Styles
- Timing
- Differing Agendas
- False Assumptions
- Stress and Fear
- Internal Focus
- External Distractions
- Cultural Expectations

Communication Style Flexing



- What is it?
- Why do I need it?
- How do I do it?

Communication Excellence Strategies



- Know yourself
- Know your audience
- Know what you want to say
- Know why you want to say it
- Organize your thoughts
- Be direct, specific and clear
- Monitor non-verbal feedback
- Be positive and respectful

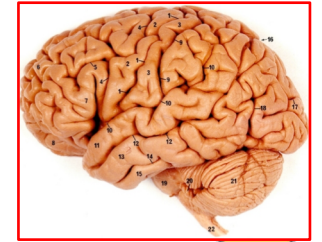
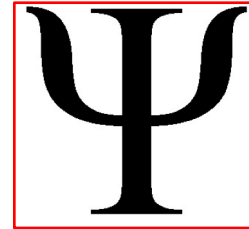
Questions?



Viewing Patients as People; Treating the Whole Person & Cultural Elements

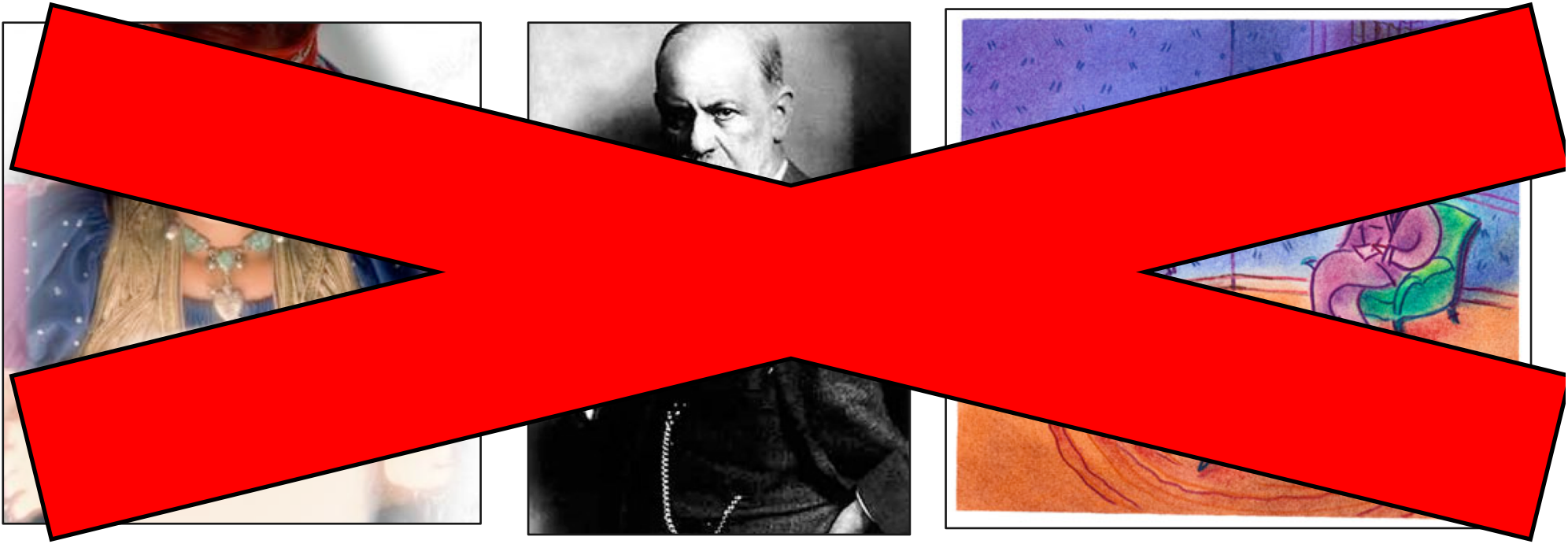
Adam Waytz

Northwestern | Kellogg



Kellogg
School of Management





ADAM WAYTZ



THE

POWER

OF HUMAN

HOW OUR SHARED HUMANITY CAN
HELP US CREATE A BETTER WORLD

Dehumanization, a definition

Dehumanization represents the failure to consider others as having minds capable of thinking and feeling. “Seeing human,” or the idea of humanization, represents the opposite: considering others as having minds capable of thinking and feeling

A Dehumanizing Shift

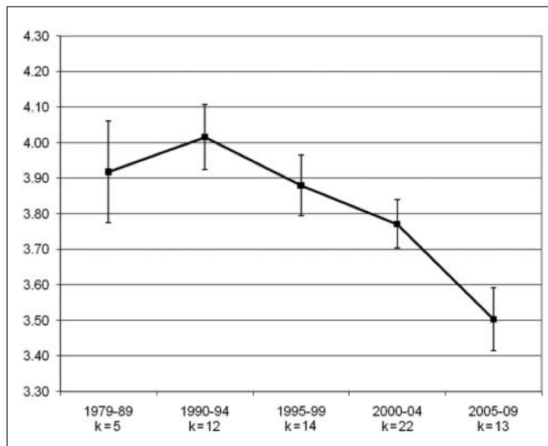


Figure 1. College students' Empathic Concern scores by period
Note: Capped vertical bars denote ± 1 SE.

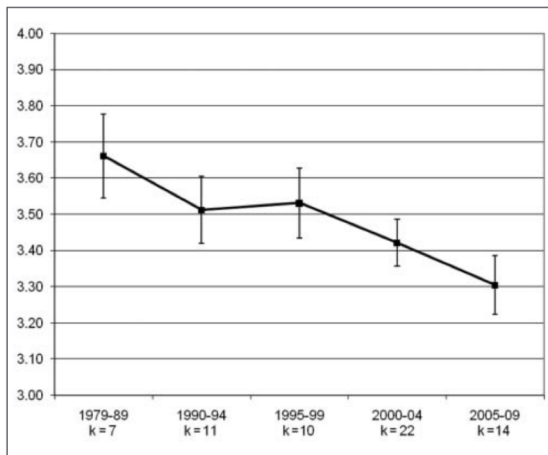
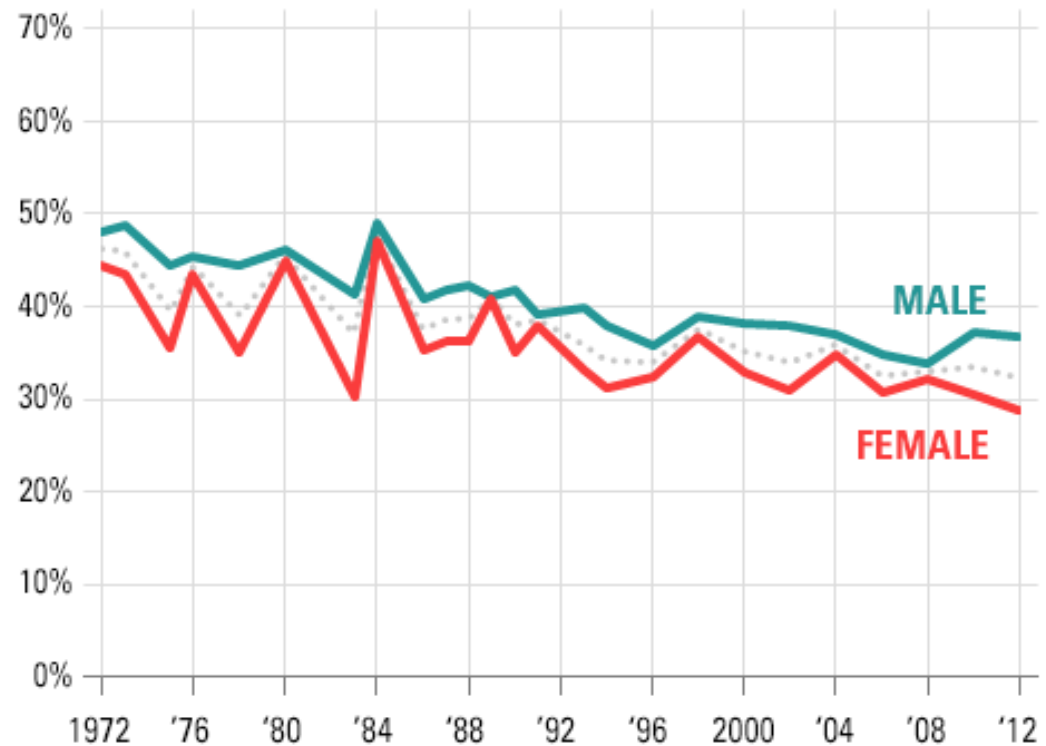


Figure 2. College students' Perspective Taking scores by period
Note: Capped vertical bars denote ± 1 SE.

Americans, By Gender, Who Said "Most People Can Be Trusted," 1972–2012



Source: General Social Survey, 1972–2012

Konrath, O'Brien, & Hsing, 2011

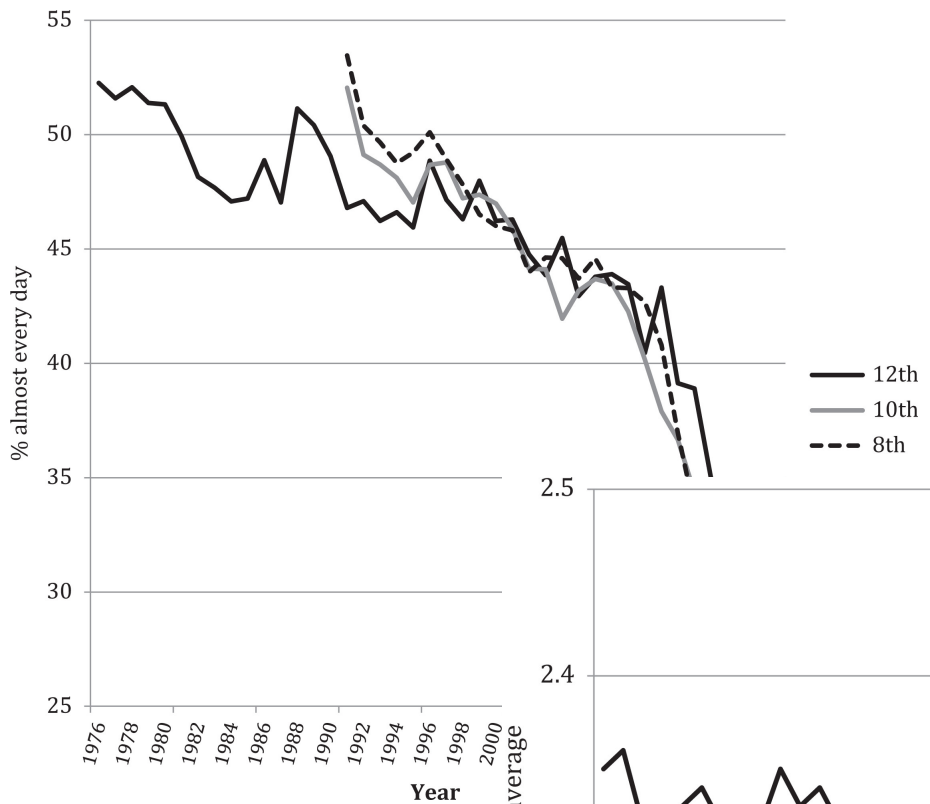
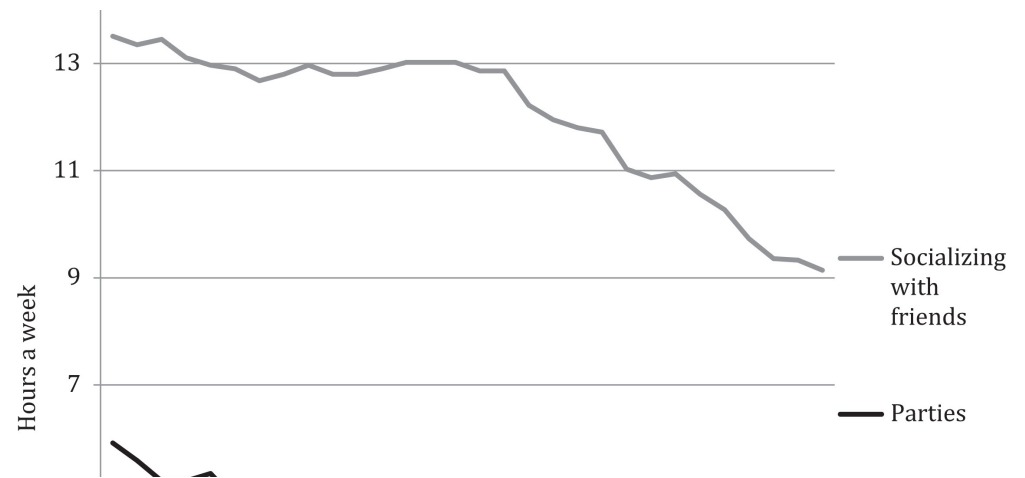


Figure 1. Percent getting together every day, U.S. 8th, 10th, and



friends and partying, entering ear in high school, 1987–2016.



Figure 5. Mean loneliness, 6-item scale, U.S. 8th, 10th, and 12th graders, 1977–2017.

Twenge, Spitzberg, & Campbell

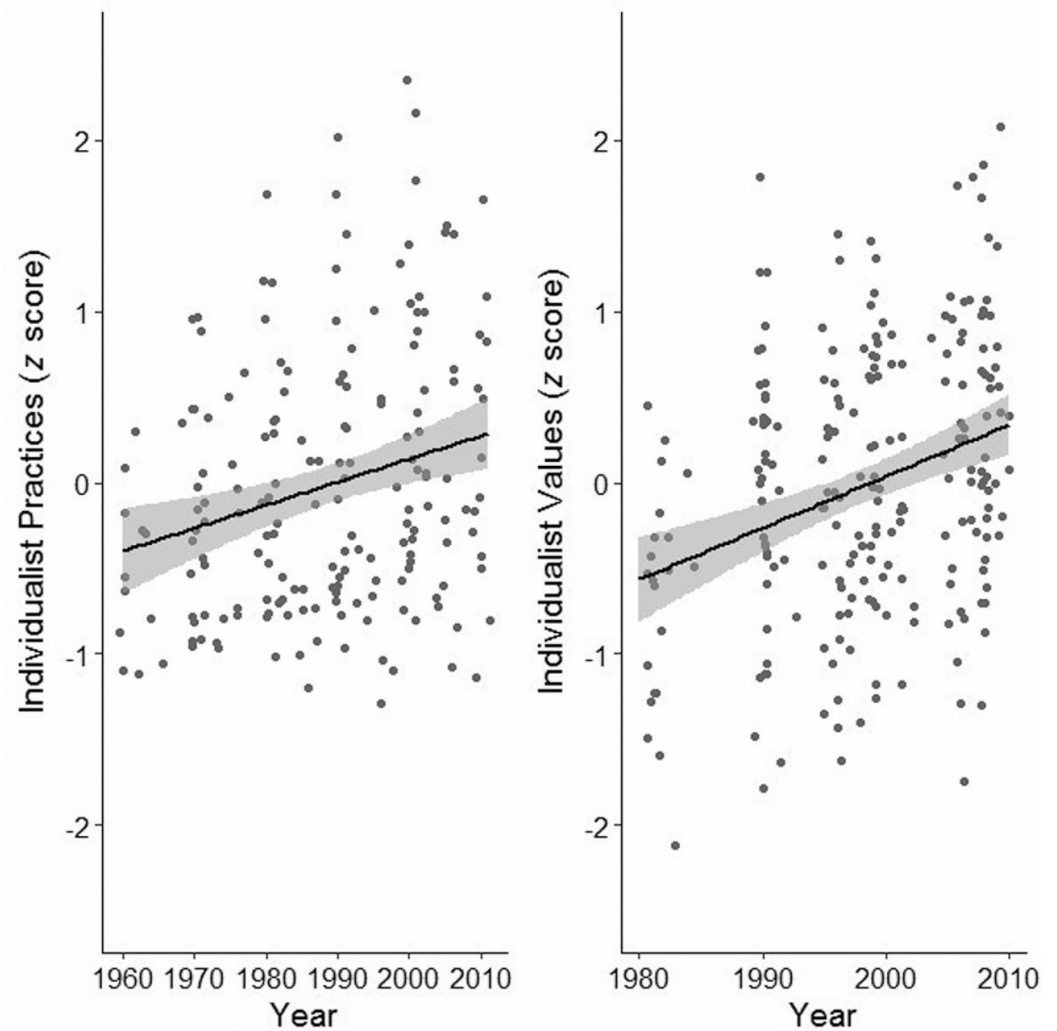
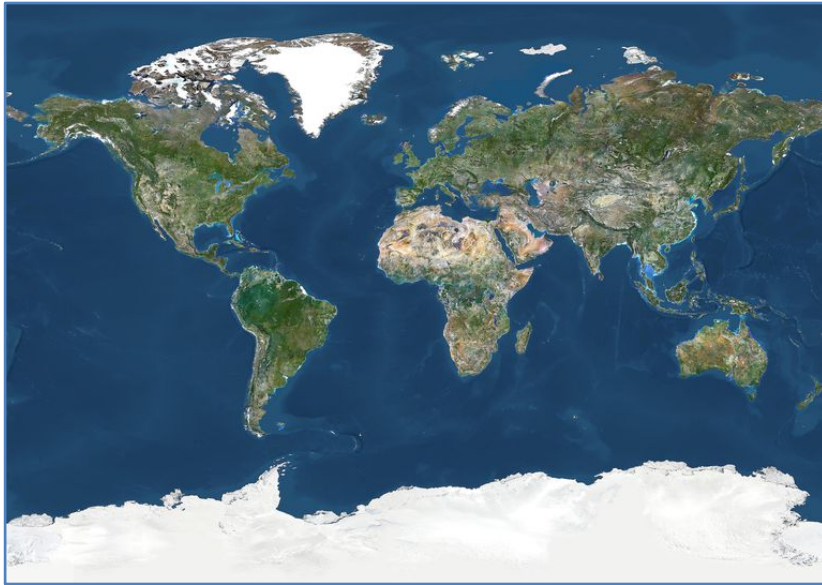


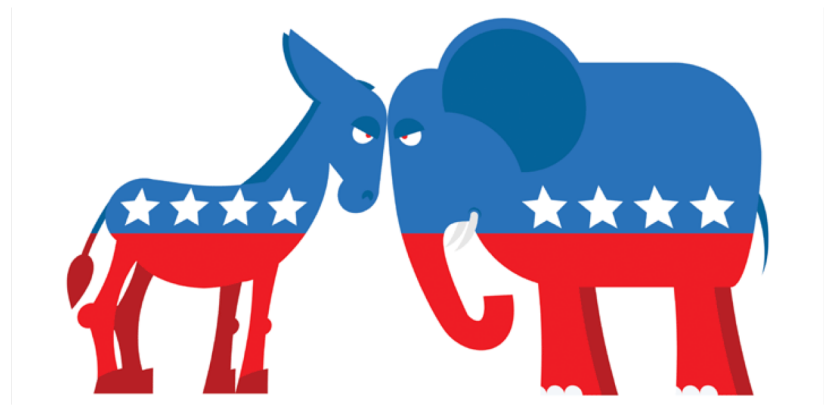
Fig. 1. Overall change in individualist practices (left) and values (right) over time. Each plotted point represents the score from a single country in the year indicated. The lines represent the slopes from the multilevel models, and the gray bands represent the 95% confidence intervals.

Santos, Varnum, & Grossman

Four Pillars of Dehumanization



Automation



Polarization



Stratification



Marketization

Subtle dehumanization in medicine?

- Sinsky et al. (2016) : 57 U.S. physicians in family medicine, internal medicine, cardiology, and orthopedics were observed & kept diaries
- **Measurements:** Time spent on: direct clinical face time, electronic health record [EHR] and desk work, administrative tasks, and self-reported after-hours work.
- **Results:**
 - During office day: 27.0% of time spent on direct clinical face time with patients, 49.2% of time on EHR/desk work
 - While in the exam room with patients: 52.9% of time spent on direct clinical face time, 37.0% on EHR/desk work.



Dehumanization in Medicine



With: Omar S. Haque, MD (2012, *PoPS*):

- Deindividuating practices (e.g., uniforms)
- Impaired patient agency
- Dissimilarity (illness, labels, power)
- Mechanization (treating people as systems/symptoms)
- Empathy reduction (regulating empathy for pain)
- Moral disengagement (need to inflict pain)

Responses and Solutions

- Individuating practices
- Reemphasizing patients' agency
- Promoting physician/patient similarity
- Personification – knowing patients' story, name, etc.
- Empathic balance (knowing when to regulate)
- Moral engagement



Mere reminders of humanity

- Andersson et al. (2013): Critical care – photos of patients improve engagement/treatment
- Photos of unconscious patients placed bedside in a Swedish ICU
- Nurses and anesthesiologists surveyed – reported that photos helped them see patients as human— “more an individual rather than a parcel.”

- Neto et al. (2006) Critical care nurses at two Toronto ICUs reported patient photographs aid nursing goals/care
- “I feel that having pictures of patients with their children and/or extended family makes us realize that they are ‘human’.”



Empathy training

- WORK IN PROGRESS
- Reflection, question-asking, listening

Riess et al. 2012: 3/60-min modules

THE BATHE TECHNIQUE

The BATHE technique can help physicians discover emotional issues in a time-sensitive manner.!

		Example Question
B	Background	"What's going on in your life?"
A	Affect	"How do you feel about that?"
T	Troubles	"What troubles you most about this?"
H	Handling	"How are you handling this?"
E	Empathy	"That must be difficult for you."

- (1) scientific foundation for the neurobiology and physiology of empathy training
- (2) increase awareness of the physiology of emotions
- (3) Decode subtle facial expressions of emotion
- (4) teach empathic responses with self-regulation

**Patients perceived more care/empathy (blind to condition)



Words from my brother...

- Lots of “training” opportunities during residency
- “Would rather detach from work”



Temporary Tattoos

- Latham et al. 2012

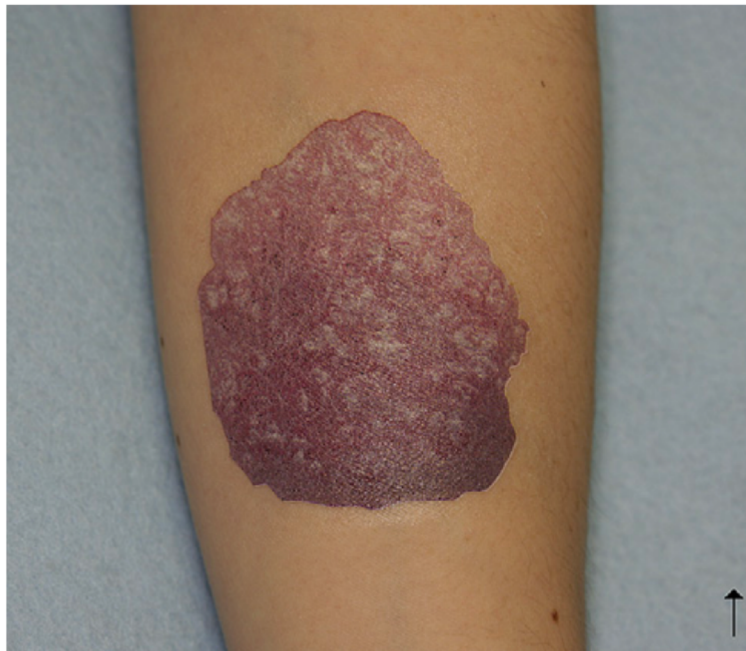


Fig 1. Temporary tattoo of psoriatic lesion.

- Undergrad students wore temp tattoos for 24 hours simulating psoriasis
- Prior to wearing the tattoo, students rated the physical and mental impact of psoriasis and eczema to be far lower than other diseases.
- After wearing the tattoo, these medical students rated the impact of psoriasis and eczema to be much greater, on par with arthritis, diabetes, and heart disease.

Corr et al. (2017) – similar results with melanoma tattoos


Keeping human beneficiaries top of mind

- People often do things on behalf of others that they would not do for their own benefit



How to increase hand-washing

Personal vs. Patient Consequences

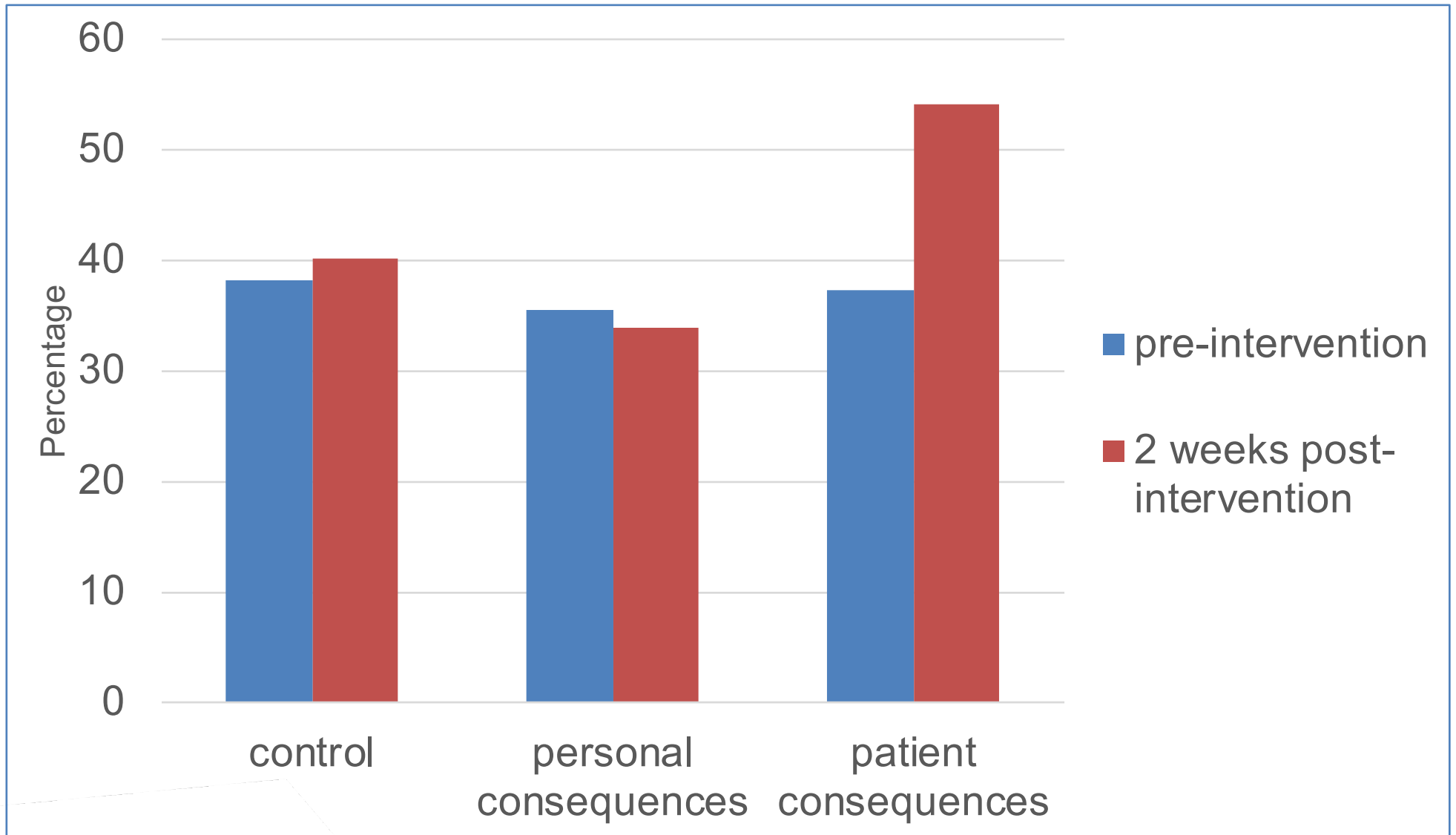


Hand hygiene prevents you from catching diseases.

Hand hygiene prevents patients from catching diseases.

How to increase hand-washing

(Grant & Hoffman, 2011)



Reminders of social mission



“Our first responsibility is to our patients; second, to people who work for us; and then to our lenders and investors.”

Conclusions

- Subtle dehumanization – a societal issue
- Certain aspects of medical environment may exacerbate tendencies for dehumanization
- Solutions are very preliminary
- Some traction for:
 - Mere reminders of humans
 - Empathy training
 - Highlighting beneficiaries
- Much room for collaboration between medical and behavior sciences



THANK YOU
a-waytz@kellogg.northwestern.edu



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Team Science: New Horizons

Dr. Alan L. Landay

Professor Department of Internal
Medicine

Professor Department of Microbial
Pathogens and Immunity

Assistant Provost Team Science

Team Science Advisory Group – to support the mission, goals, and objectives of Team Science overall, the Research Strategic Plans, and the Assistant Provost for Team Science; meets quarterly.

Joshua Jacobs – Chair

Sherine E. Gabriel

Susan Freeman

Diane McKeever

**Communication and Knowledge will be all achieved virtually.

Team Science Working Group



RUSH MEDICAL COLLEGE • COLLEGE OF NURSING • COLLEGE OF HEALTH SCIENCES • THE GRADUATE COLLEGE

Alan L. Landay – Chair Team Science

Ali Keshavarzian

Andrew J. Bean

Barbara A. Swanson

Christy Tangney

Jeffrey H. Kordower

Julie Schneider

Liz Berry-Kravis

Markus Wimmer

Rick Sumner

Sumant Chugh

Todd Rupp

Kristin Onken



Revisiting the Mission & Vision for Team Science



RUSH MEDICAL COLLEGE • COLLEGE OF NURSING • COLLEGE OF HEALTH SCIENCES • THE GRADUATE COLLEGE

Mission

1. To provide organizational, subject-matter, and incentive-based direction toward the development of large, multi-disciplinary, program-project-type team science sponsored award opportunities.
2. To partner with external entities, including industry, where shared interests and complimentary characteristics blend into research initiatives that benefit both parties.
3. Expected outcomes of the office include the receipt of extramural funding for large grants and external partnerships.

Vision

1. Coordinate Rush University efforts that facilitate translational and team-based research.
2. Establish new sources of research funding through collaboration and partnerships with other academic medical centers, diagnostic and pharmaceutical industry partners.

Current Projects & Project Teams

Current Projects & Teams:	Today's Status:
P50. Udall Grant Parkinson Studies Jeff Kordower/Ali Keshavarzian MPI	Will Submit Jan 2020
P50 NIAMS – Anne Marie Malfait, PhD Pain Research	Waiting for RFA to be issued Team being formed
U19 NIA – Alan Landay, PhD Aging and Microbiome	Developing Collaborative Team with JAX Laboratories. Grant Submitted – Jan 25 2019 Review in June./July 2019 Resubmission May 2020
R21/R33 NIA – Sandra Swantek, MD Studies with Caregivers and Patients with Neurocognitive Decline	Planning a Spring 2020 submission
NIH HEAL Initiative UM1 – John Burns, PhD; Asokumar Buvarandran, MD, Josh Jacobs MD	Submitted Oct 24,2018; Reviewed Scored and Funded
NIAID U01 Emerging Infectious Disease Research Centers- Collaboration University West Indies and SUNY	Submitted June 2019
U54 NCATS Rare Disease Network – Liz Berry-Kravis and Deborah Hall Fragile X and FXTAS	Submitted Oct 8,2018 Reviewed and Scored
NIDDK High Impact Interdisciplinary Science RC2- Collaboration Wake Forest and P40 Vervet Colony	Planning 2020 Submission
Collaboration Studies of Aging in ITM	Proposed Submission of U19 NIA
Laboratory Center ACTG UM1 -NIAID	Submitted August 2019
Advanced Stage Development and Utilization of Research Infrastructure for Interdisciplinary Aging Studies (R33) Collaboration CFAR, Pepper Centers, Shock Centers	Submitted June 2019

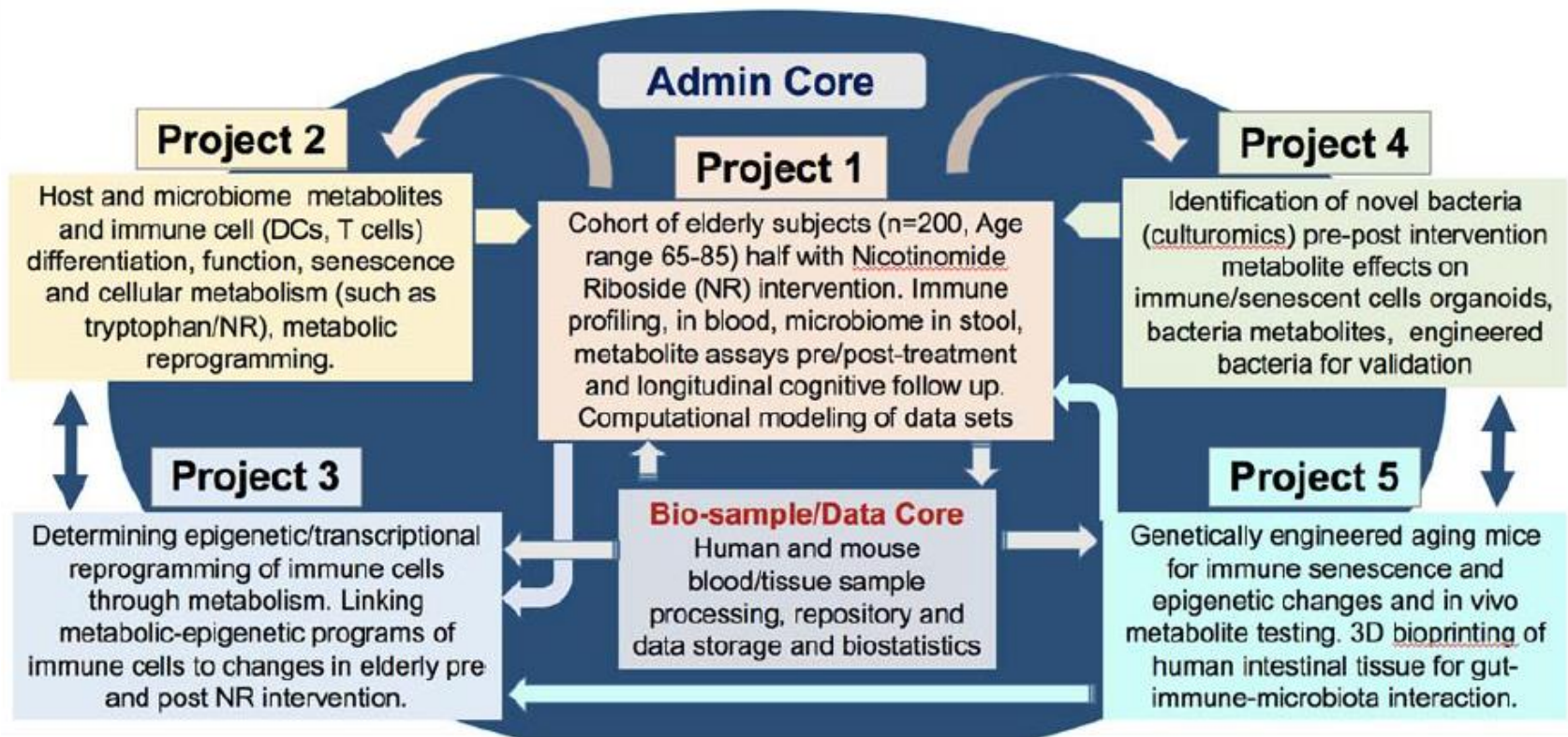


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BUILDING TEAM GRANTS

EXAMPLE OF U19

Network topology of metabolism, microbiota and immune system in association with neurocognitive and physical manifestations of aging



Project 2

Metabolic effects on immune senescence: Unutmaz (Lead PI, JAX), Landay (Rush), **Immune reprogramming CRISPR editing:** Unutmaz (JAX), **Mitochondrial metabolism:** Birsoy (Rockefeller).

Project 3

Epigenetics and transcriptomics during immune aging and computational analysis: Ucar (Lead PI, Jax), Li (JAX)
Epigenetic reprogramming of immune cells: Unutmaz (JAX), Xu (UConn)

Administrative core

Landay (Lead PI, Rush)
Unutmaz (JAX),
Kuchel (UConn)

Project 1

Cohorts, clinical phenotype: Kuchel (Lead, UConn), Laurienti, Kritchevsky, Divers (Wake), Manning, Steffens, Bartley (Uconn)
Immune profiling: Unutmaz (JAX)
Metabolite assays: Landay (Rush)
Microbiome: Oh (JAX)
Computational modeling: Robinson (JAX), Miller (Wake)

Biological sample/Data Core:

Human subject sample processing, repository: Unutmaz (Lead PIs, JAX), Bartley (Uconn), Oh (JAX)
Mouse tissue samples: Xu (UConn),
Biostatistics/data: Divers (Wake)

Project 4

Microbiome culturomics: Oh (Lead PI, Jax), **Immune, senescence & organoid assays:** Unutmaz (Jax), Landay (Rush), Xu (UConn), Keshavarzian (Rush)
Metabolite identification and engineering: Yao (UConn), Oh (Jax)

Project 5

In vivo mouse models for metabolic impact of immune senescence: Xu (Lead PI, UConn)
3D bioprinted of gut/immune tissue models: Ozboilat (Penn State), Keshavarzian (Rush)

Current Industry/Foundation Collaborations

Current Collaborations:	Today's Status:
Merck-Contact is Aubrey Stoch, MD Director of Experimental Medicine	Meeting on Nov 8,2018 with focus on Neuroscience, Inflammation and Cardio/Metabolic studies. CDA signed and in place for discussion, in follow-up collaboration discussion Visit planned early 2020
SERES-Contact is Matthew Henn, PhD Senior VP Head of Drug Discovery	Setting up Meeting for 2020 with focus on Inflammation (UC, IBS) Infection (C-diff, Antibiotic Resistance, HIV) Immunoncology and Metabolic disease (NASH, NAFLD, PSC)
Abbott Labs – Diagnostic Collaboration John Hackett, PhD Gavin Cloherty, PhD	In-Person Meeting at Rush July 17, 2018 Developing Collaboration with Graduate College for Graduate Student Training and Research Collaboration
Gilead Richard Haubrich- Vice President Medical Affairs	Setting up opportunity to discuss clinical informatics at Rush
RTI	University collaborations and possible fellowships in areas of Digital-health; Pain, Newborn Screening and Non-Communicable Diseases
Genentech/IMD	Opportunities in Healthcare Disparities; Coleman Foundation– 4 Year Program (Cancer)

BUILDING ACADEMIC INDUSTRY PARTNERSHIPS



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SCIENTIFIC DISCOVERY WITH MERCK

EXPERIMENTAL MEDICINE

- Neuroscience
- Immunology

Building Collaborations between Rush University and RTI International



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delivering **the promise of science**
for global good



RTI International is an independent, nonprofit research institute dedicated to improving the human condition. We combine scientific rigor and technical expertise in social and laboratory sciences, engineering, and international development to deliver solutions to the critical needs of clients worldwide.



Worldwide Presence and Financial Strength

\$957 M 

FY2018 Revenue

3,830

Projects

(fiscal year 2018)



1,226

Clients

(fiscal year 2018)



12 

U.S. Offices

Research Triangle Park, NC

Ann Arbor, MI Atlanta, GA

Berkeley, CA

Chicago, IL

Fort Collins, CO

Portland, OR

Rockville, MD

San Francisco, CA

Seattle, WA

Waltham, MA

Washington, DC

12 

International
Offices

Abu Dhabi, United Arab Emirates

Barcelona, Spain

Beijing, China

Belfast, Northern Ireland

Jakarta, Indonesia Kuala

Lumpur, Malaysia Ljungskile,

Sweden

Manchester, United Kingdom

Nairobi, Kenya

New Delhi, India

San Salvador, El Salvador

Toronto, Canada

The R3 Initiative: A Rush-RTI Research Collaborative



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COMING SOON!!!

- A jointly funded research pilot program to promote cross-organizational collaboration
- Open call but with 3 target areas of mutual interest
 - Innovations in Care Delivery
 - Social Determinants of Health; health quality measurement
 - Advancements in Health Education and Learning
 - Supporting increasingly diverse workforces; innovations in communication and empathy in clinical care
 - Inventions with Technology and Data
 - Using data to improve care coordination; AI solutions to improve patient-specific decision-making
- Target release for late spring 2020



Team Science – Current and Long-Term Opportunities



Current Opportunities:	Rush Assistance/Support:
1. Projects & Project Teams	Key Recruitments
2. Industry Collaborations	Institutional Support
3. Recruitment Links	Engaging Faculty
4. Moving Team Science Forward	Share Success with Rush Leadership External Partnership
5. Facilitate Support For ITM – Driven Priorities	Basic Science Connections; Cores & Infrastructure on Grants

Longer-Term Opportunities:
Research America Links
Innovation with Hiten Patel
Recognition for Team Science Innovation
Deeper Links/Synergy with Rush Strategic Plans – System Wide

Training Opportunities



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- Graduate Students
- Post-Doctoral Fellows
- Clinical Fellows

New Thinking and Ideas



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I. Focusing on the Next Generation

- Team Science Fellows
 - a) Cohn Fellows
 - b) Industry Fellows – RTI Scholars, Abbott Scholars
 - c) Pilot – Supported T.S. Scholars
 - d) ITM – Team Science Scholars
- (Open Submission and Leveraging Funds)

II. Expanding Footprint

- For Team Science
 - a) “Collaboratory” Space
 - b) “Blue Sky” Approach and Infrastructure
 - c) Grant – Funding Resources
 - d) Team Science Special Services
 - e) Knowledge Share

All intended to bridge-build between University, Research and Rush Systems

Leveraging FY'20 as A Year of Action





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The NEW ENGLAND JOURNAL *of* MEDICINE

Perspective
JANUARY 4, 2018

BECOMING A PHYSICIAN

Toward a Culture of Scientific Inquiry — The Role of Medical Teaching Services

Katrina Armstrong, M.D., Rajesh Ranganathan, Ph.D., and Mark Fishman, M.D.

Pathways Consult Service



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- Connecting biology to the bedside
- Identify potential unifying mechanism from unexplained patients
- Patients unexplained presentations referred to Pathways Consult
- Meet with patient care team, preform literature review, engage clinical and scientific experts
- Interdisciplinary conference with physician scientists and research scientists
- Proof of concept trial with experimental therapeutic



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TRANSLATIONAL RESEARCH AND TEAM SCIENCE

THE CLINICAL RESEARCH AND EDUCATION LINKS

Food Allergy Clinic



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- Integrated allergy, immunology, and GI service for adult and pediatric patients
- College of Health Science Nutrition
- College of Nursing
- Graduate College PhD student thesis projects

Revisiting Blue Sky Discussion



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Blue Sky Discussion

- What we learn v. what we share
- Health Literacy
- Trauma and cognitive health
- Fall risk
- Physical function
- Resilience
- Health behaviors
- Chronologic v. biologic v. reproductive again
- Health service research
- Palliative care
- Telehealth v. face to face
- Falls prevention
- Program development
- Health promotion programming
- Going to where people are
- Self-management
- How do we bring learning back to Rush?
- Bone health and aging
- Barriers to health
- Social determinants of health
- Biomarkers (integrated in aging)
- Dementia
- Bio-repositories
- Prevention strategies
- Minority populations
- Evidence-based programs (English and Spanish)
- Translation
- Frailty
- Workforce development, continuing studies
- Train next generation of professionals
- Caregiver models (taking care of caregiver)
- Care management
- Impact of community
- Integration in Rush system
- Center for Health and Social Care Integration



Recruitment Links

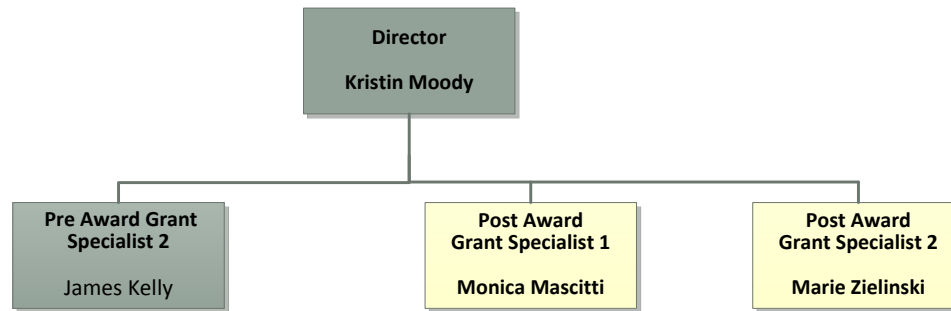


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Current Recruitment(s):	Today's Status:
Discussion with Recruitment Office	Dr. Landay will present on Team Science during faculty orientations.
Ongoing Interaction of Faculty in Nursing and Health Sciences	Recruitment of Research Faculty and Integration in University

Research Administration Shared Services

Pre and Post Award Services



Pre Award Services

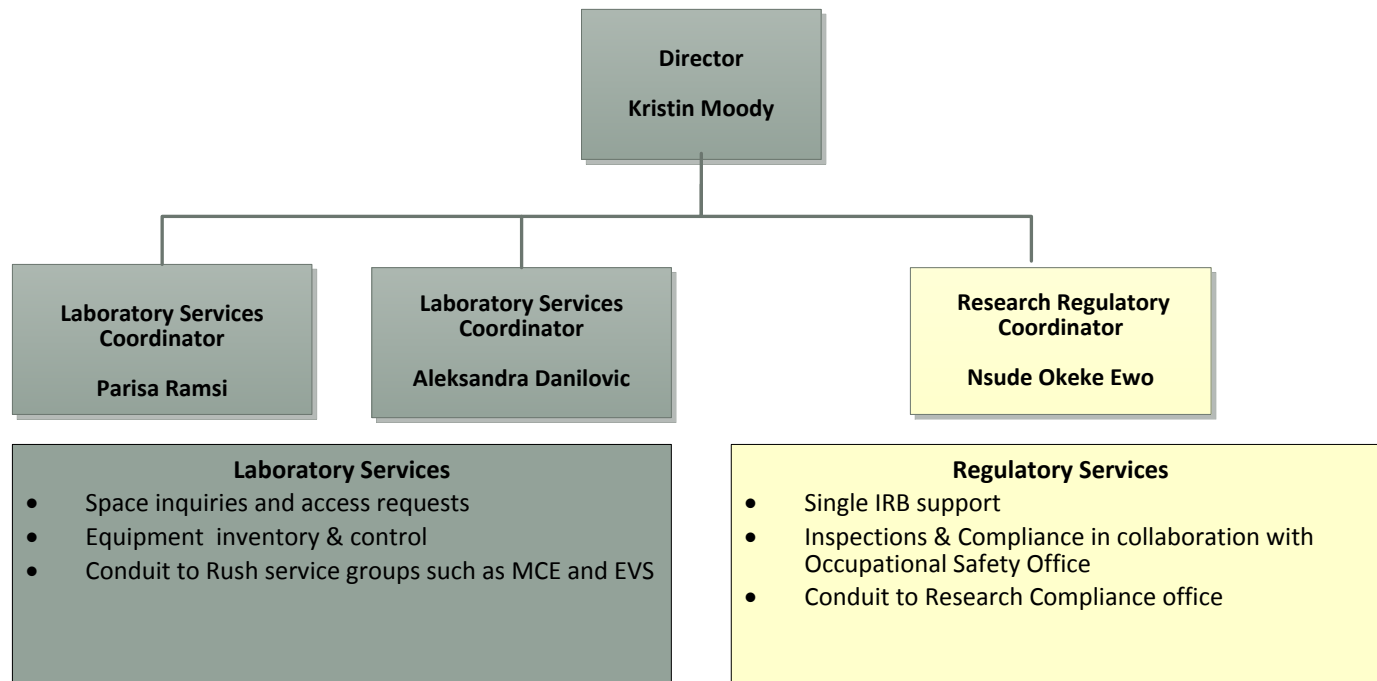
- Assist with proposal development
- Assist with Proposal budgets
- Interface with Rush Research Portal and Proposal Submission
- Execute sub award agreements
- Experience with complex grants submissions (P01, UM1, U19, & T32)

Post Award Services

- Overall Post Award administration of grants and department budgets
- Liaison to Fund Accounting & LINK
- Award monitoring – pace and allowability
- Assist with Progress Report submission
- Annual budgeting
- Trend Analysis
- Financial reporting and closeouts
- Effort reporting & salary distributions

Research Administration Shared Services

Lab and Regulatory Services



How to Leverage the Strengths & Weaknesses of a Team & Team Building

January 21, 2020

Naomi Parrella, MD, FAAFP, Dipl. ABOM

Rush University Medical Center

Medical Director | Center for Weight Loss and Lifestyle Medicine

Director of Strategic Development and Implementation | Department of Surgery

Assistant Professor | Rush Medical College

Objectives

1. Understand key characteristics & behaviors of successful teams
2. Be able to identify individual work styles & differences relevant to building effective teams
3. Learn & practice skills for successful team building & achievement

Why Team?

- Goal
- Benefit

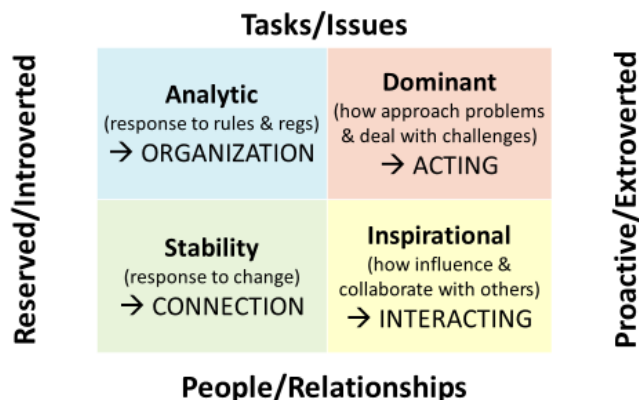
Characteristics & Behaviors of Successful Teams

- Clear expectations
- Adaptable/flexible leadership
- Safety
- Rules of engagement
- Respect

Characteristics & Behaviors of Effective Teams: It's about the People

- **Cohesion** (similarities, common identities/goals, common enemy, shared experiences – success/suffering) (+) gets things done (-) Group Think (*Irving L. Janis, 1971*), social influence, “expert” knows best
- **Diversity** (demographics vs perspectives) (+) better results, more creative (-) disagreements

Group Participation Styles



Group Participation Style: **RED**

Self Described	Perceived As
Dominant	Rude
Ambitious	Impatient
Passionate	Aggressive
Determined	Confrontational
Decisive	Arrogant

Adapted from Thomas Erikson's Surrounded by Idiots 14

People Make the Team:

Boosters	Aggravators
Being in charge.	Give mundane tasks.
Challenges & mixing up tasks.	No authority.
Concrete results.	Sit around & do nothing.
Effective Feedback	
Speak up & Get to the point.	
Concrete examples.	
Very direct & stand strong.	

Adapted from Thomas Erikson's Surrounded by Idiots 15

Group Participation Style: **BLUE**

Self Described	Perceived As
Analytical	Uncaring
Perfectionist	Micromanaging
Realist	Pessimist
Detail-oriented	Cold-hearted
Silence = Virtue	Aloof

Adapted from Thomas Erikson's Surrounded by Idiots 16

People Make the Team:

Boosters	Aggravators
Privacy & Time for planning.	Force spontaneous risk taking.
Space for perfection.	↑ time w/emotional people.
Accuracy, order & caution.	Less admin time.
Effective Feedback	
Straight to the point.	
Defend position with cold hard data.	
Have the exact details & facts correct.	

Adapted from Thomas Erikson's Surrounded by Idiots 17

Group Participation Style: **GREEN**

Self Described	Perceived As
Agreeable	Conflict Averse
Balanced	Rigid
Tolerant	Unconcerned
Loyal	Resistant to change
Listener	Passive Aggressive

Adapted from Thomas Erikson's Surrounded by Idiots 18

People Make the Team:

Boosters	Aggravators
Steady routines, dependability	Sudden unexpected changes.
Calm, stability.	Reassign mid-project.
Privacy, security.	Redo finished work.
Effective Feedback	
Be clear – NOT Personal.	
Clear directives.	
Series of small steps over time.	

Adapted from Thomas Erikson's Surrounded by Idiots 19

Group Participation Style: **YELLOW**

Self Described	Perceived As
Optimistic	Impulsive
Cheerful	Careless
Persuasive	Poor listener
Charming	Overtalkative
Inspiring	Superficial

Adapted from Thomas Erikson's Surrounded by Idiots 20

People Make the Team:

Boosters	Aggravators
Freedom & spontaneity.	Being ignored/isolated, negative attitudes.
Appreciation for natural cheerfulness.	Forced strict routines.
Plan social events.	Reprimanded publicly.
Effective Feedback	
Be open & amiable.	
Have agenda with key points.	
Confirm with written agreed upon items.	

Adapted from Thomas Erikson's Surrounded by Idiots 21

CREATING EFFECTIVE TEAMS: *(Adapted from Thomas Erikson, 2019)*

Leveraging Group Participation Styles

Blue	Red	Project: gas pedal with breaks, task completion, not “fun”
Green	Yellow	Happy, cohesiveness of team, slow to get project done
Blue	Green	Trouble with decisiveness, but well thought out
Red	Yellow	Lots of talking, less listening
Red	Green	Tough unless 1 is a leader & other is a follower
Yellow	Blue	Unhappy, impasse. Absolute NOT

*If Team is not effective
→ Add another Group
Participation Style
(Diversity)*

Establish Method to Generate (The Best) Ideas

1. Brainstorming: (-) social/informational influence
2. Better: Nominal Group Technique (NGT) *(by Andre Delbecq & Andrew H. Van de Ven, 1971)*
3. Best: NGT then Brainstorming those ideas

Provide Opportunities for “Other” Opinions

1. Normalizing dissent → Conflicts (Content vs. Interpersonal)
2. Assign Devil’s Advocate
3. Options for nonverbal input
4. Future input opportunities with due date → Create iterative process to continue to make it better after time to think & process

TEAM DEVELOPMENT:

Clear Purpose

1. Expectations clear & understood
2. Determine team charter
3. What is the reason for the team?
4. What happens with the products of the team?

Tuckman’s Stages of Group Development *(by Bruce Tuckman, 1965)*

1. Forming
2. Storming – vulnerable stage
3. Norming
4. Performing
5. Adjourning (maybe)

Role of the Individual

1. Understand clear priorities
2. Speak up
3. Encourage each person to contribute



Excellence is just the beginning.



Rush System for Health

Rush Teaching Academy: Integrating the 4Ms of an Age-Friendly Health System in University Curriculum

May 19, 2020

Erin Emery-Tiburcio, PhD
Laurin Mack, PhD
Linda Olson, PhD, OTR/L
Mary Zonsius, PhD, RN

Disclosure

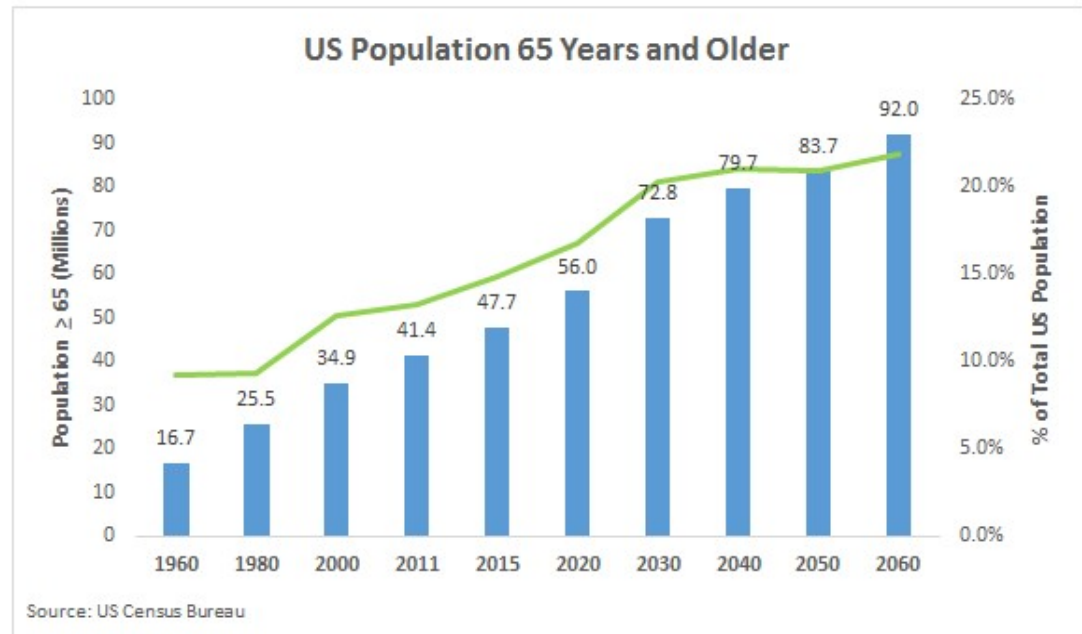
- **The presenters do not have any potential or actual conflicts of interest in regards to this presentation.**

Learning Objectives

- **Describe the 4Ms of an Age-Friendly Health System, including during COVID-19**
- **Identify strategies to integrate the 4Ms into existing curriculum**
- **Recognize readily available resources to integrate the 4M framework into existing curriculum**

Demographic Imperative

- **By 2030, the number of people 65 years and older is expected to be more than 70 million—or almost double the nearly 37 million older adults in 2005**
- **Older adults represent at least half of most clinic and inpatient units**
- **COVID-19 is having a disproportionate impact on older adults**



What is an Age-Friendly Health System?

An Age-Friendly Health System is one in which every older adult's care is:

- Guided by an essential set of evidence-based practices (4Ms: What Matters, Medication, Mentation (Mind), Mobility);
- Causes no harms; and
- Is consistent with What Matters to the older adult and their family.

In an Age-Friendly Health System, value is optimized for all — patients, families, caregivers, health care providers, and the overall system.

The 4Ms



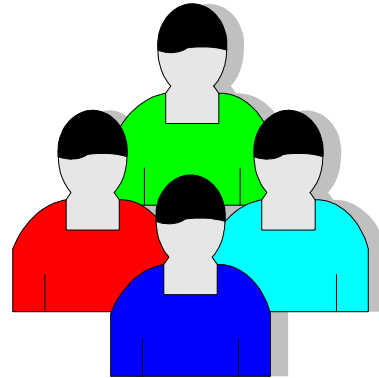
The 4Ms	Description
<u>What Matters</u>	Know and align care with each older adult’s specific health outcome goals and care preferences including, but not limited to end-of-life, and across settings of care
<u>Mobility</u>	Ensure that older adult move safely every day to maintain function and do What Matters
<u>Medication</u>	If medications are necessary, use Age-Friendly medications that do not interfere with What Matters to the older adult, Mobility, or Mentation across settings of care
<u>Mentation</u>	Identify, treat, and manage dementia, depression, and delirium across care settings of care

The 4Ms



The “4Ms”	IMPACT	
<u>What Matters</u>	<ul style="list-style-type: none"> Improves patient satisfaction Lowers inpatient utilization Increases hospice use 	<ul style="list-style-type: none"> Increases treatment adherence
<u>Medication</u>	<ul style="list-style-type: none"> Decreases adverse events Decreases falls (in younger adults too) Improves ADLs and quality of life 	
<u>Mentation</u>	<ul style="list-style-type: none"> Decreases health care costs (depression increases it) Improves treatment adherence 	
<u>Mobility</u>	<ul style="list-style-type: none"> Decreases falls Decreases health care costs 	

Diffusion of Innovation: AFHS Network Mapping



Center for Excellence in Aging

Family Medicine

Geriatric Medicine

Internal Medicine

Neurology

Nursing

Physiatry

Pop Health Pharmacy

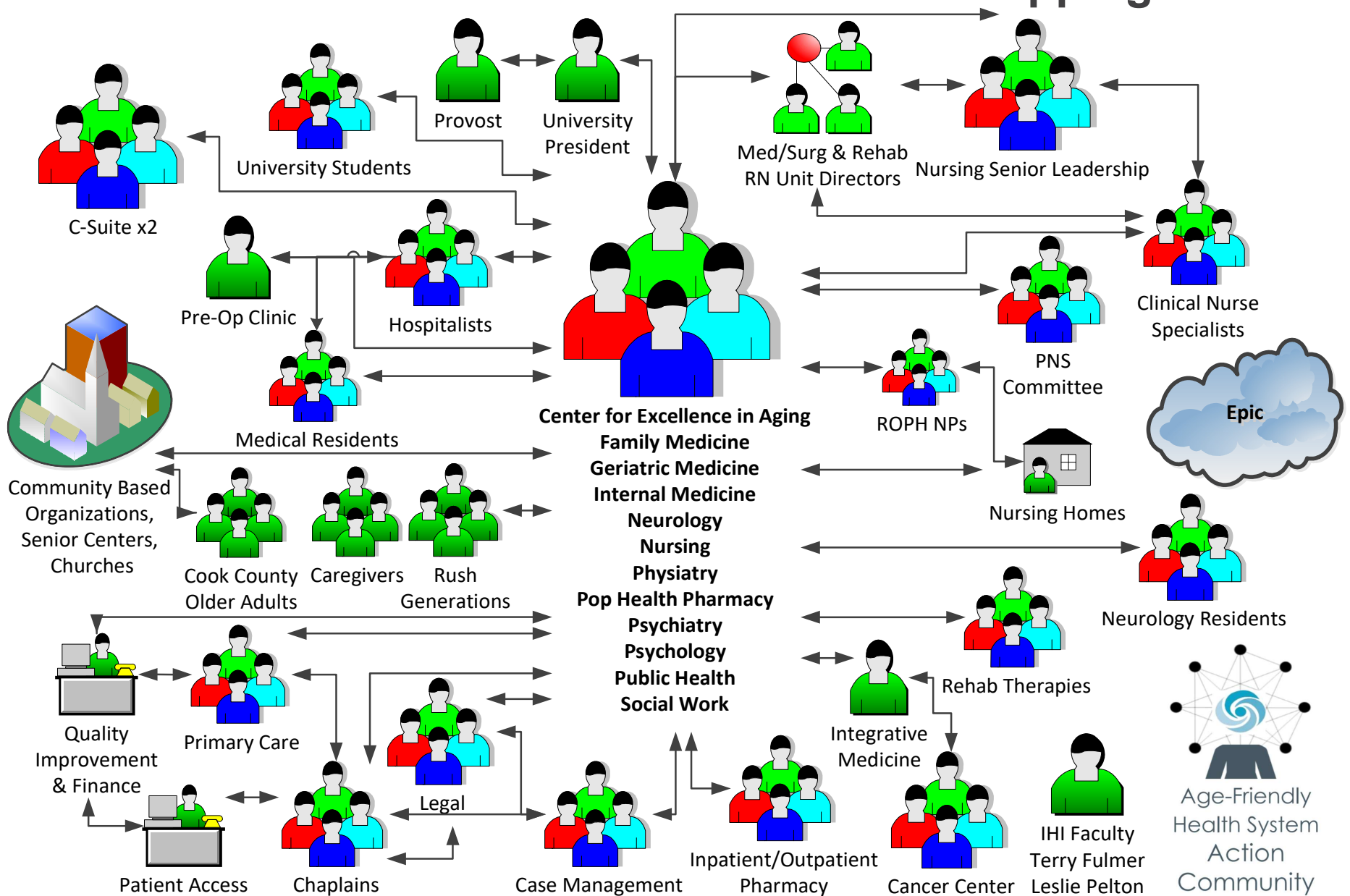
Psychiatry

Psychology

Public Health

Social Work

Diffusion of Innovation: AFHS Network Mapping



Using the 4Ms: Framework for Learning



- **Provides a “roadmap” for teaching and learning**
 - Assures content is being delivered
 - Identifies gap in curriculum
- **Offers structure to assess competence in faculty and students**
- **Conveys competence of graduates/practitioners to community**
- **Aligns with accreditation requirements**

Using the 4Ms: Framework for Learning



- Provides a shared understanding between professions
- Serves as a resource for teaching and learning
- Can be graded for novice learners to advanced practitioners

Using the 4Ms: Framework for Learning



- Framework for shared language across the university
- Easy to incorporate into existing curriculum
- Identify and address gaps in curriculum
- Remember the 4Ms are inter-related

College of Nursing

Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
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4M Interventions

	High-level Interventions	Implementation Actions
What Matters	1 Know what matters: health outcome goals and care preferences for current and future care, including end of life	<p>Developed with the health systems teams.</p> <p>Teams can select from our ideas or identify their own ideas for reliable implementation.</p> <p>We will learn from one another and share generously.</p>
	2 Act on what matters for current and future care, including end of life	
Mobility	3 Implement an individualized mobility plan	
	4 Create an environment that enables mobility	
Medications	5 Implement standard process for age-friendly medication reconciliation	
	6 De-prescribe and adjust doses to be age-friendly	
Mentation	7 Ensure adequate nutrition & hydration, sleep and comfort	
	8 Engage and orient to maximize independence and dignity	
	9 Identify, treat, and manage dementia, delirium, and depression	

Interprofessional Education



Interprofessional Education

Geriatric Interdisciplinary Team Training (GITT)

Part 3 & 4: Mrs. Kemp's Behavior and Hospitalization

- What should Mr. and Mrs. Kemp decide to do in this situation?
- How should providers manage this situation?
- What role does "What Matters" play in her care, specifically regarding her new behaviors?



IPE 502: Interprofessional Patient Centered Care

College of Health Sciences



Tips

- Appearance Matters
 - Dress
 - Language/Body Language
- Share Credentials and Experience
- Avoid Pre-judgments Based on Generation



Old Age



Western Views	Other Views
Decline in Social Status	Revered
Intolerance	Honored
Burdensome	Offers Value through history
Drain of Resources	Family responsibility to care for
Unproductive	Resource
Successful aging= retaining cognitive skills, economic self-sufficiency, optimism	Successful Aging= Accumulating wisdom and a deeper understanding of human experience
Medicalization of Aging	View age related illness as a natural process

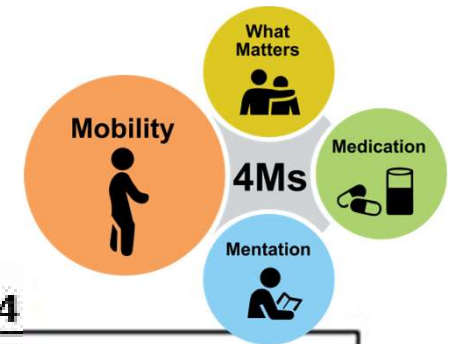
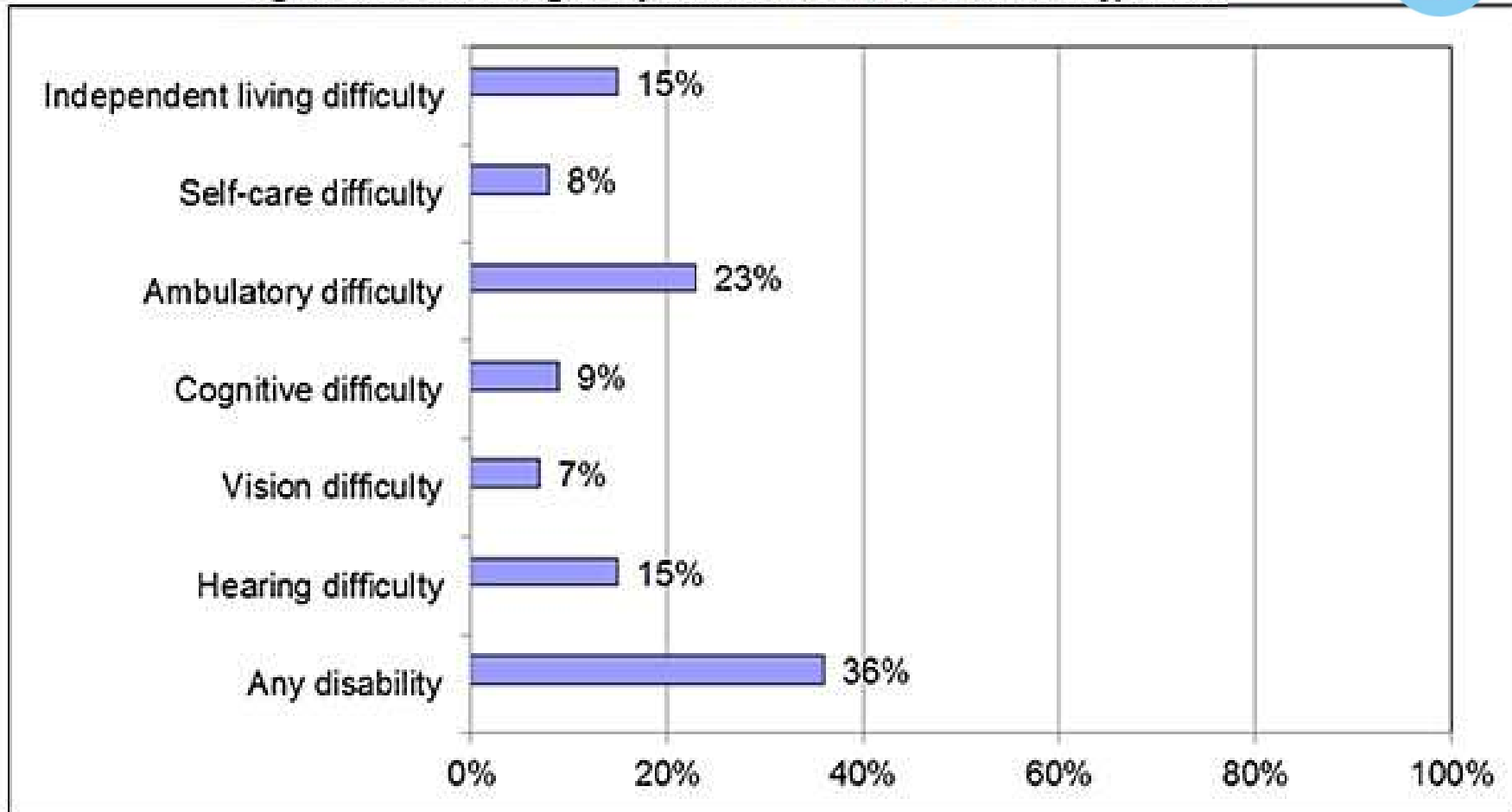


Figure 9: Percentage of persons 65+ with a disability, 2014






Source: U.S. Census Bureau, American Community Survey


Medical College





Communicating with Older Adults

  **Narrating the Visit** 5 / 14 

Watch the video, then use the forward arrow to continue.







Discussion

- **How would this framework be helpful in your teaching?**
- **How would you envision using it?**

Discussion

- **What challenges do you imagine with building this framework into existing curriculum?**

Discussion

- **Think about the syllabus for the course you're teaching next – where can you incorporate additional materials about older adults using the 4M framework?**

Next Steps

Call to action – when you are ready:

- **Include logo in existing course slide decks (introduce to 4Ms)**
- **Use 4Ms to enhance curriculum and address gaps**
 - **CATCH-ON team can provide materials to fill gaps including 4M modules, PowerPoints, and more**
 - **Please visit www.catch-on.org (under education for healthcare clinicians) to learn more**



CAP | STRAT

Rush Teaching Academy

Building Financial Resilience Beyond the Pandemic

Program Recap

Now more than ever we all have questions and CAP STRAT can help you navigate through this time of uncertainty. Whether you make decisions on your own or with an advisor, we are happy to offer our perspective on this critical aspect of your life.

Please don't hesitate to reach out to us at 630-320-5100 or email Neil Davies at ndavies@capstratig.com.

Since the pandemic, we have had significant negative and positive market swings given the uncertainty of the impacts and timing of the recovery from the economic shut down.

Some key things to consider as you manage your personal financial situation now and into the future:

DIVERSIFICATION

Diversification is the driving factor to long-term investment success: Research shows over 91% of an investment portfolio's return is solely based on asset allocation. Ensure your aggregate household's

investments are appropriately diversified, not just each individual account. This way you may avoid assuming more risk than you intended and jeopardizing your success.

HAVE A PLAN

Create a financial plan to align your finances with your life goals. Your plan will help you determine if you are on track financially to achieve your life and legacy goals and if not, can help you identify adjustments to make to do so.

A financial plan will create a recommended asset allocation based on your financial resources, time horizon, and risk tolerance. Be sure it factors in all your financial assets, including your practice and other assets. And as your financial circumstances evolve you may look to shift your targeted allocation. Also, as the markets fluctuate so will your investment holdings, so be sure to rebalance them toward your targeted allocation – at least annually.

SAVINGS

Take advantage of tax-advantaged saving and investment opportunities. Maximize deferrals (and employer contributions) into your qualified and non-qualified retirement plans. If you participate in a high deductible health plan, contribute to a Health Savings Account.

Your personal investments. Ask your investment or tax advisor about the various Roth IRA strategies that you may be able to deploy. Consider 529 Plans for your children's eligible private or college education.

CHARITABLE GIVING

Consider using appreciated securities versus cash when making donations; and depending on your level of giving, establishing a donor advised fund is just one strategy to maximize tax benefits of charitable contributions.

ESTATE PLANNING

Create or update your estate plan: To protect yourself, loved ones and your legacy. The basic documents control decision making so that your wealth is transitioned and to ensure your intentions are fulfilled if you become incapacitated; and include: powers of attorney (for both property and healthcare), a will, and in many cases a revocable trust.

FEEES

It is essential to know what you pay for your investments. Excessive fees can significantly erode the growth of your wealth and curtail you achieving your long-term personal and legacy goals. Know the dollar amount, not just the percentages, of the fees you are paying for investment advisory and asset management – and assess the value of the services you are receiving for these fees.

To learn more about how we can help you, reach out to us at 630-320-5100 or
email Neil Davies at ndavies@capstratig.com.

To get our current market thoughts, please tune in to our
YouTube channel here: [CAP STRAT YouTube](#)

Who We Are

CAP STRAT is an independent, employee-owned, fee-only firm. We are the standard-bearer of absolute independence, combining a no-conflict business strategy with exceptional client service and adaptability.

OUR VALUE PROPOSITION TO YOU

Our firm is unique within the asset management and wealth advisory industry, where we compete against traditional consulting firms, small practices within larger advisory firms, and teams affiliated with broker/dealers. In contrast, we have structured our firm to fully align our interests with our clients':

- **Registered Investment Advisor only.** We are a Registered Investment Advisor only, with no broker/dealer affiliations. As a result, we are legally prohibited from receiving any form of compensation, other than compensation from our clients.
- **No affiliations.** Neither our firm nor any of our associates have any affiliation to any other organization – bank, broker/dealer, investment manager, etc.
- **Employee owned.** We are 100% owned by our employees. In addition to ensuring that our business interests are fully aligned with our clients' interests, our ownership structure allows us total control over our resources, including people and technology, which supports our innovation and development of new tools and resources for our clients. These characteristics allow us to deliver true independence, act as a strategic partner, and bring a fiduciary approach to all aspects of our relationship.



Service We Offer You

The success of your future depends on successfully managing your wealth. To help you, we offer asset management services to grow investments and wealth advisory services to manage risk, preserve your wealth, and optimize all financial decisions. What's unique about our approach is that we tailor our approach to meet your specific needs, goals, and risk preferences. *There is no "cookie cutter" here.*



ASSETS

Growth and capital preservation over the long-term are a central tenet to our investment philosophy as you worked hard to build your wealth, so let's make sure you don't lose it. We focus on what matters: diversification, tax efficiency, fees, and simplicity.



WEALTH

Rather than trying to integrate advice and products from a series of professionals, you benefit from our holistic approach in which we coordinate all the services needed to manage your money and plan for your own and your family's current and future needs. Things we advise on: estate planning, tax planning, sale of business, risk management, charitable giving, executive benefits, concentrated stock, family dynamics, investment opportunity analysis.



FINANCIAL PLANNING

What does it cost to be you? We help you answer that question and build a plan to manage your everyday finances to achieve your goals. This includes budgeting, cash flow planning, debt management strategies, and saving for college and retirement. Our planning helps you build sustainable income that will provide for the lifestyle you intend to lead in your post-career phase of life.

Disclaimers

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