Division of Extramural Research Update

June 7th, 2018

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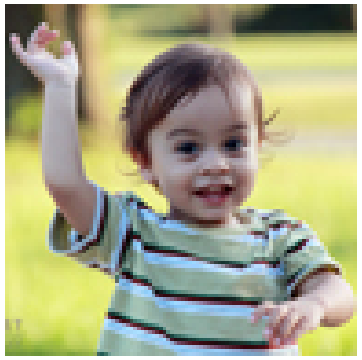
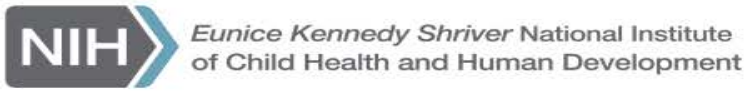
NIH *Eunice Kennedy Shriver* National Institute of Child Health and Human Development

Overview



- Impact Analysis of Large Programs
- Staff Updates

Impact Analysis of Large Programs



Assessing the impact of large programs

- Development of a standard set of metrics and methods to quantify the impact of NICHD's large programs
- Characterize and analyze the products of the large program over time through identification, assessment, and mapping of:
  - Productivity, collaboration, research topics, and citation impact of papers funded by the program

Assessing the impact of large programs

- There is no one metric that can be used to measure the totality of a program and its impact

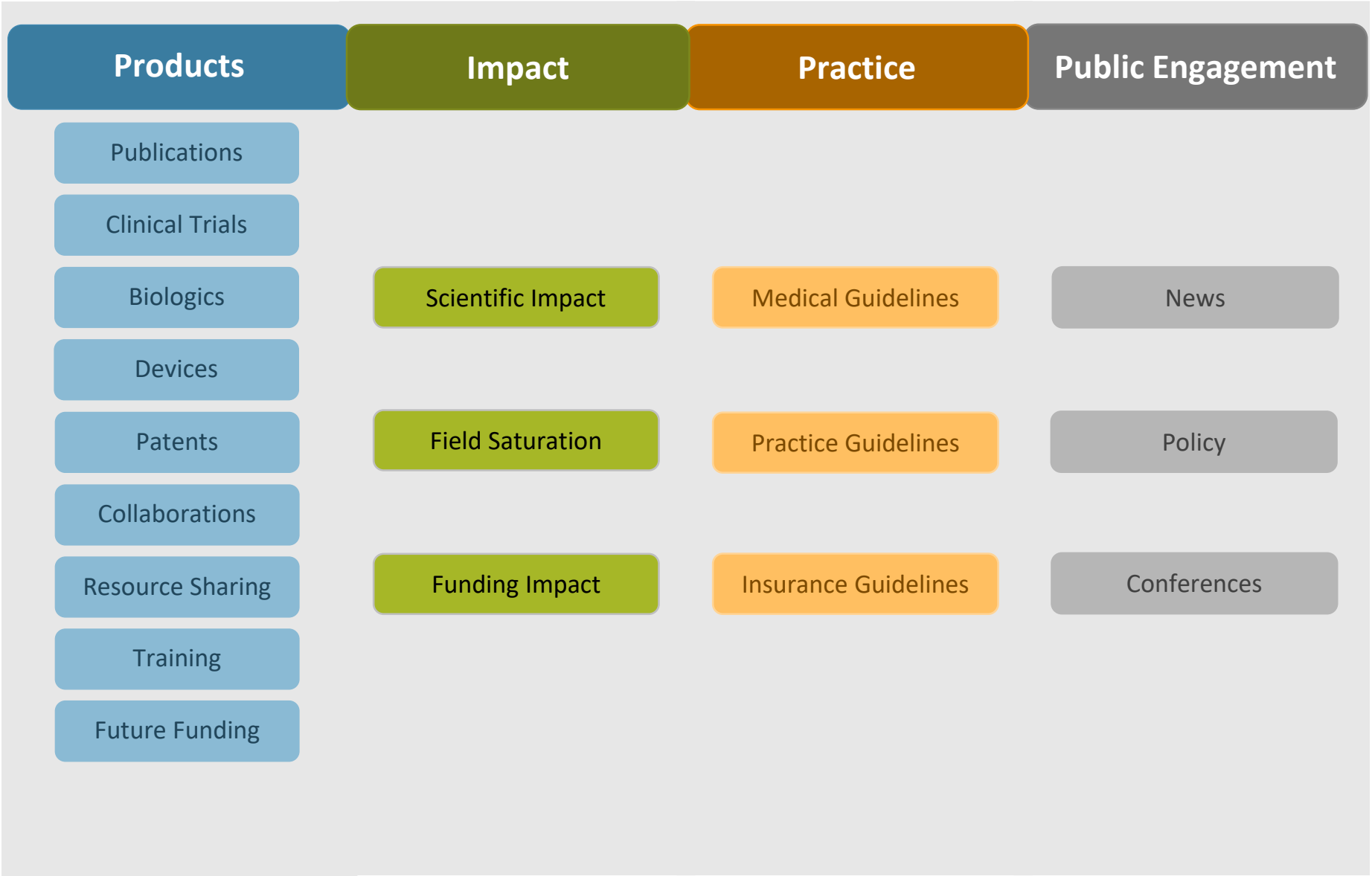
No silver bullet/@bryanMMathers/CC-BY-ND

- This analysis uses indicators and metrics for which we have data and is meant to be considered within the nuance of the program to frame, interpret, and contextualize the program

First Round of Large NICHD Programs

- Maternal-Fetal Medicine Units Network (MFMU)
- Learning Disabilities Research Centers and Innovation Hubs (LDRCs)
- Pediatric HIV/AIDS cohort study (PHACs)
- National Centers for Translational Research in Reproduction and Infertility (NCTRI)
- Population Dynamics Centers Research Infrastructure (PopCCIP)

Framework


Products
Impact
Practice
Public Engagement
Publications
Clinical Trials
Biologics
Devices
Patents
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Quantifying the impact of large programs

- **In examining program impact, reference groups are needed to help contextualize**
- **Developed two reference groups for each large program**
  - Matched R01 Awards (all of NIH) – matched on content
  - Branch Awards – matched on program start date

Example Metric: RCR for Scientific Impact

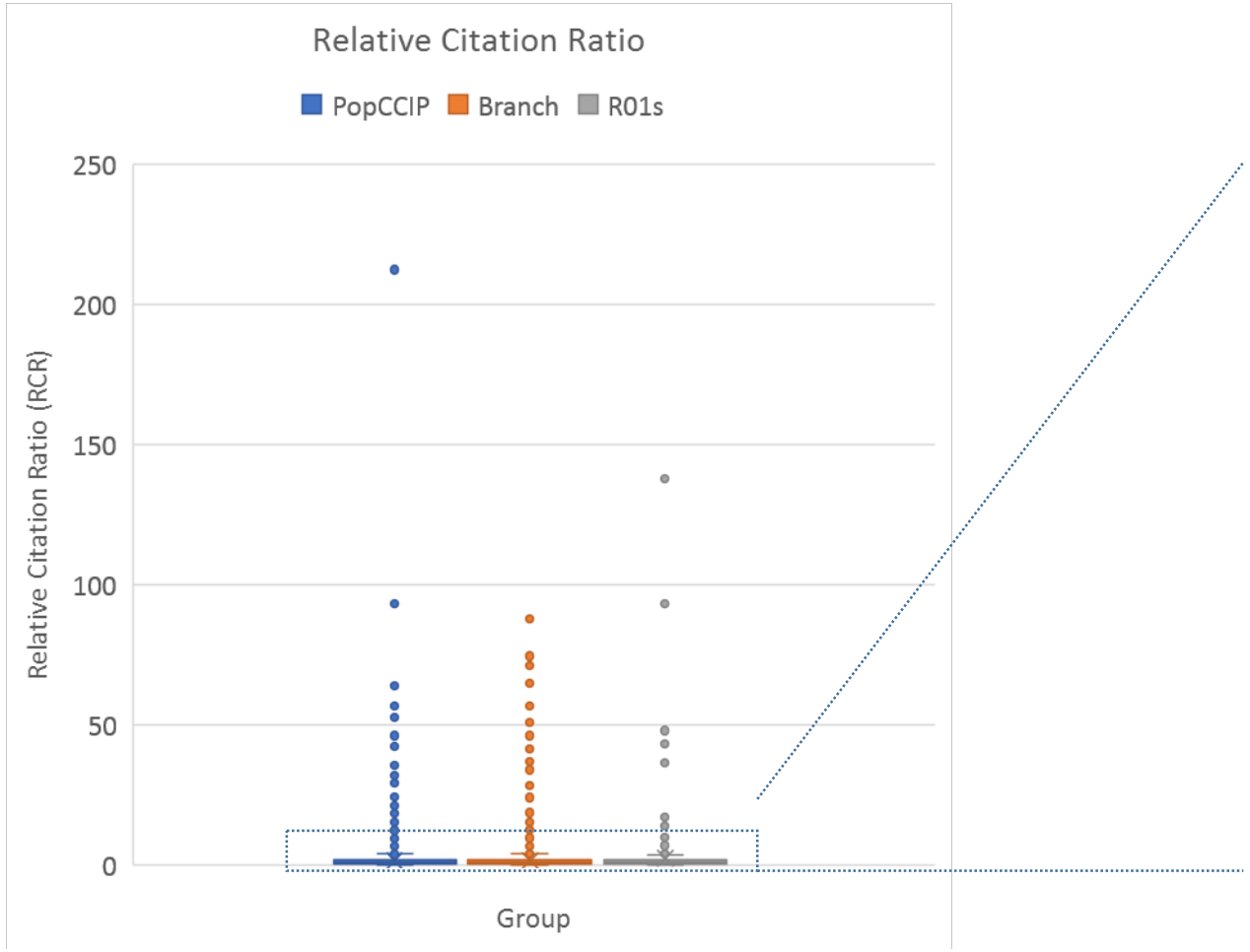
- Relative Citation Ratio is a field-normalized metric that shows the scientific influence of one or more articles relative to the average NIH-funded paper.
- If a paper is cited exactly as often as would be expected based on the NIH norm, the RCR = 1.
- If a paper is never cited, the RCR = 0.
- If a paper is cited a great deal, the RCR will exceed 3 or be even higher.
  - For more information see https://nexus.od.nih.gov/all/2016/09/08/nih-rcr/

		PopCCIP
	Program start	**1972**
RCR (median)	**Program**	0.86
	Branch	0.94
	R01	0.81
% pubs with RCR>3*	**Program**	11%
	Branch	12%
	R01	16%

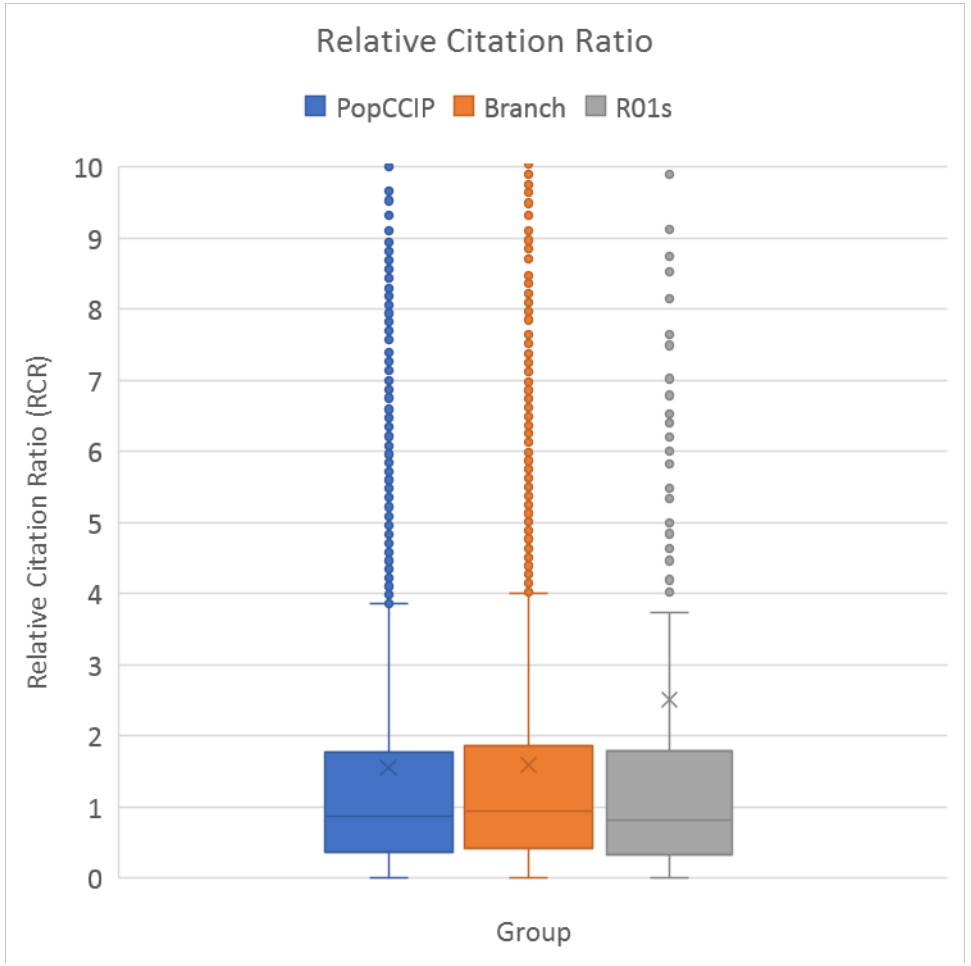
** Calculated only for publications with an RCR*

Example metric: RCR for PopCCIP

PopCCIP



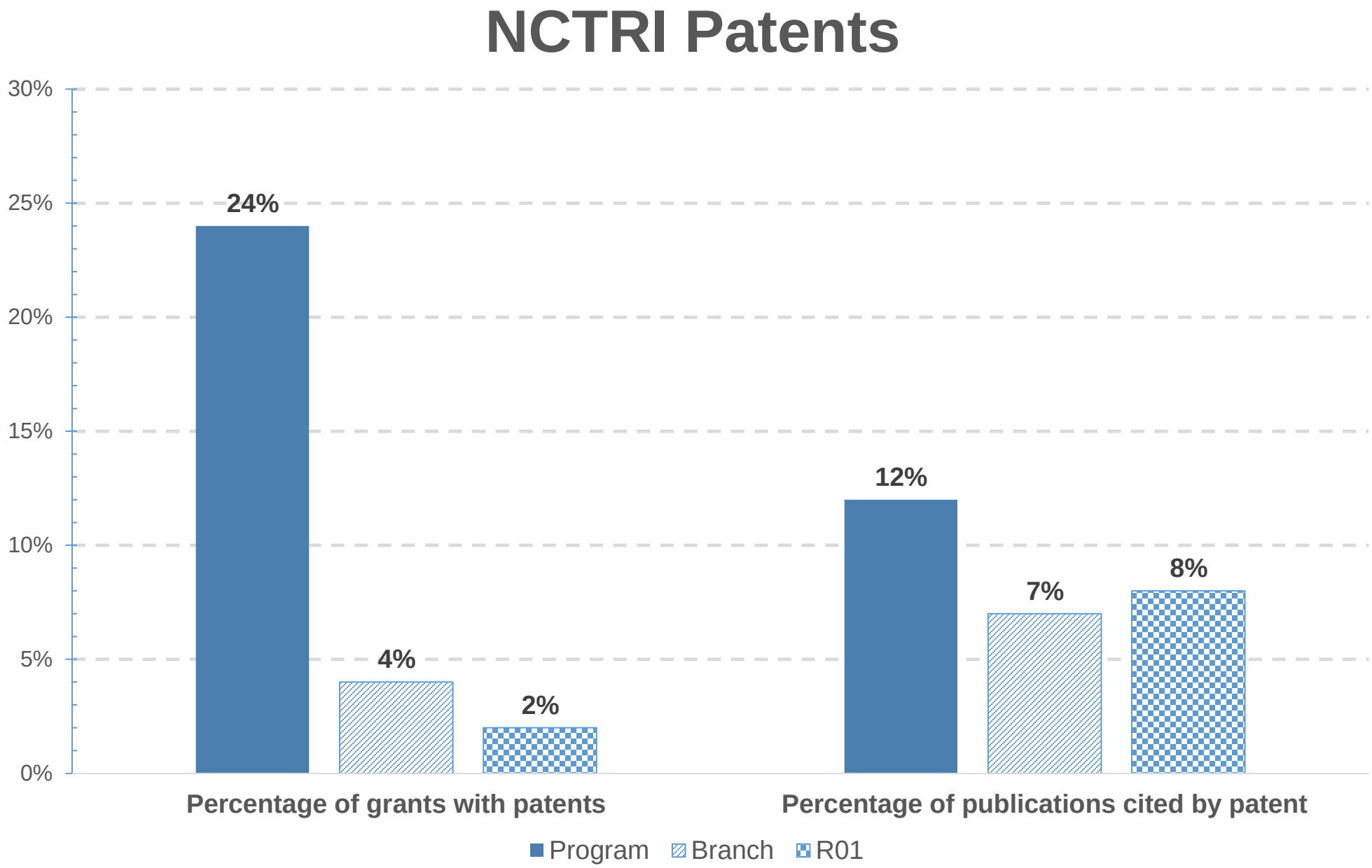
Zoomed view



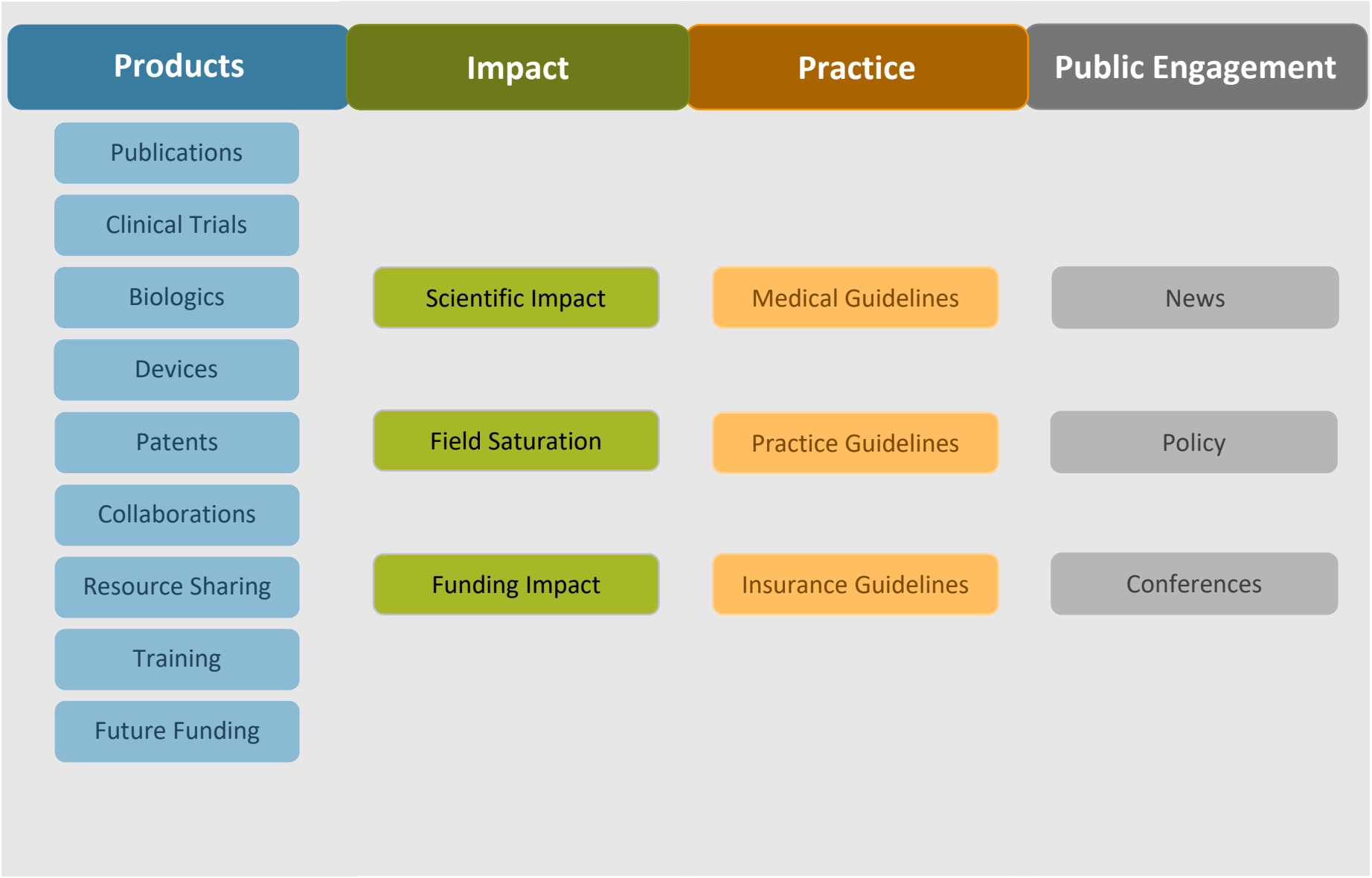
Example metric: Patents

- Direct links: Grants linked to patents
  - Patent-grant linkages were retrieved from *iSearch*. These linkages are a combination of direct links made between the federal support section of patents listed in the USPTO database, and investigator-reported links.
- Indirect links: Publications cited in patents
  - To identify indirect linkages between grants and patents, publications cited in patents were matched to publications associated with the programs and comparison groups.
- In both cases only awarded patents were considered

Example metric: Patents



Framework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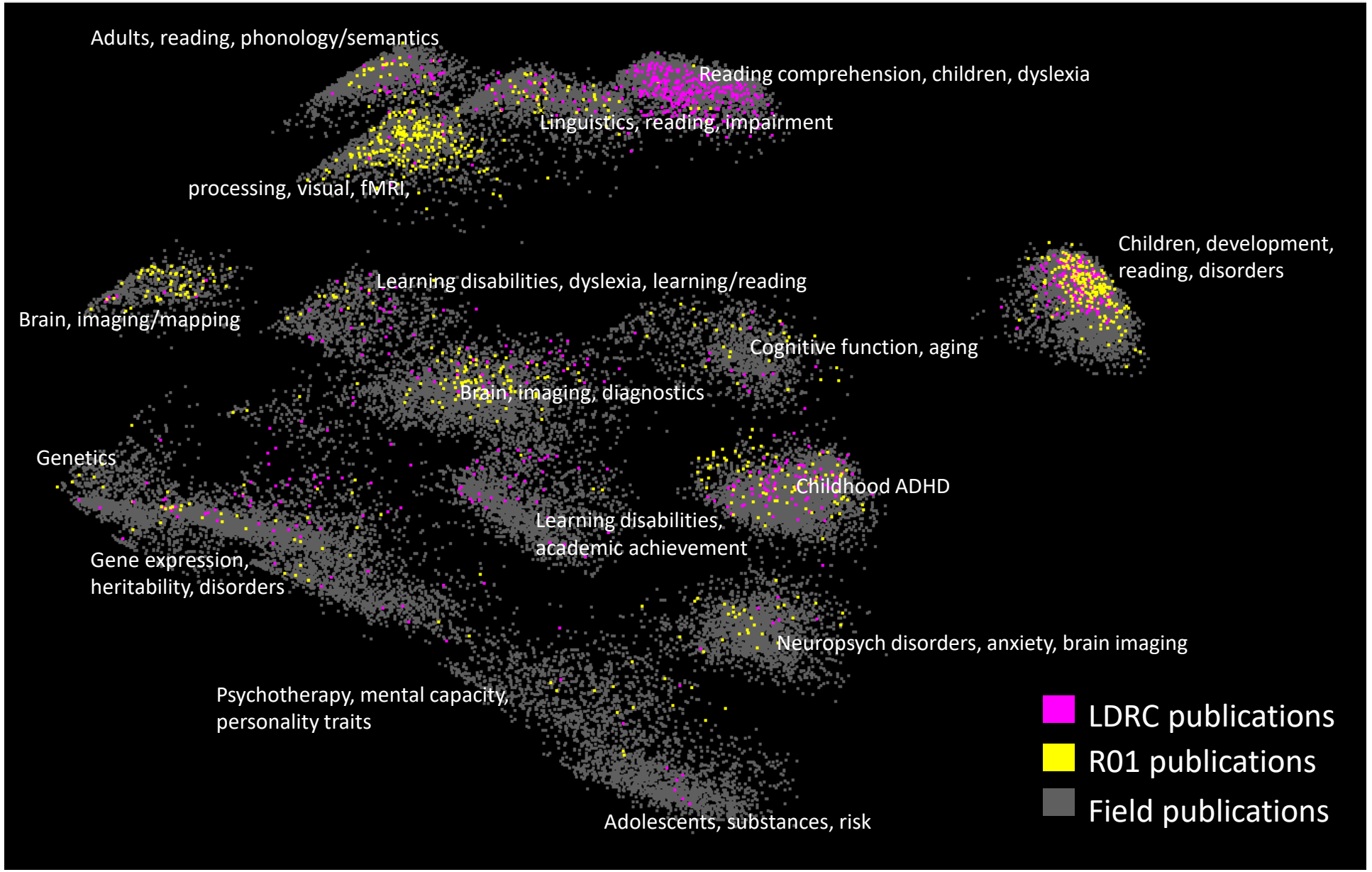
Example Metric: Content Analysis

- Content analysis can address questions about gaps and overlap
- Specifically, within the context of the broader field:
  - Do the program publications overlap with publications from the following groups?
    - The R01 group – matched on content
    - Other NICHD publications
    - Other NIH publications
  - Do the program publications occupy a unique area?

Content Analysis: LDRC field 1989-2017



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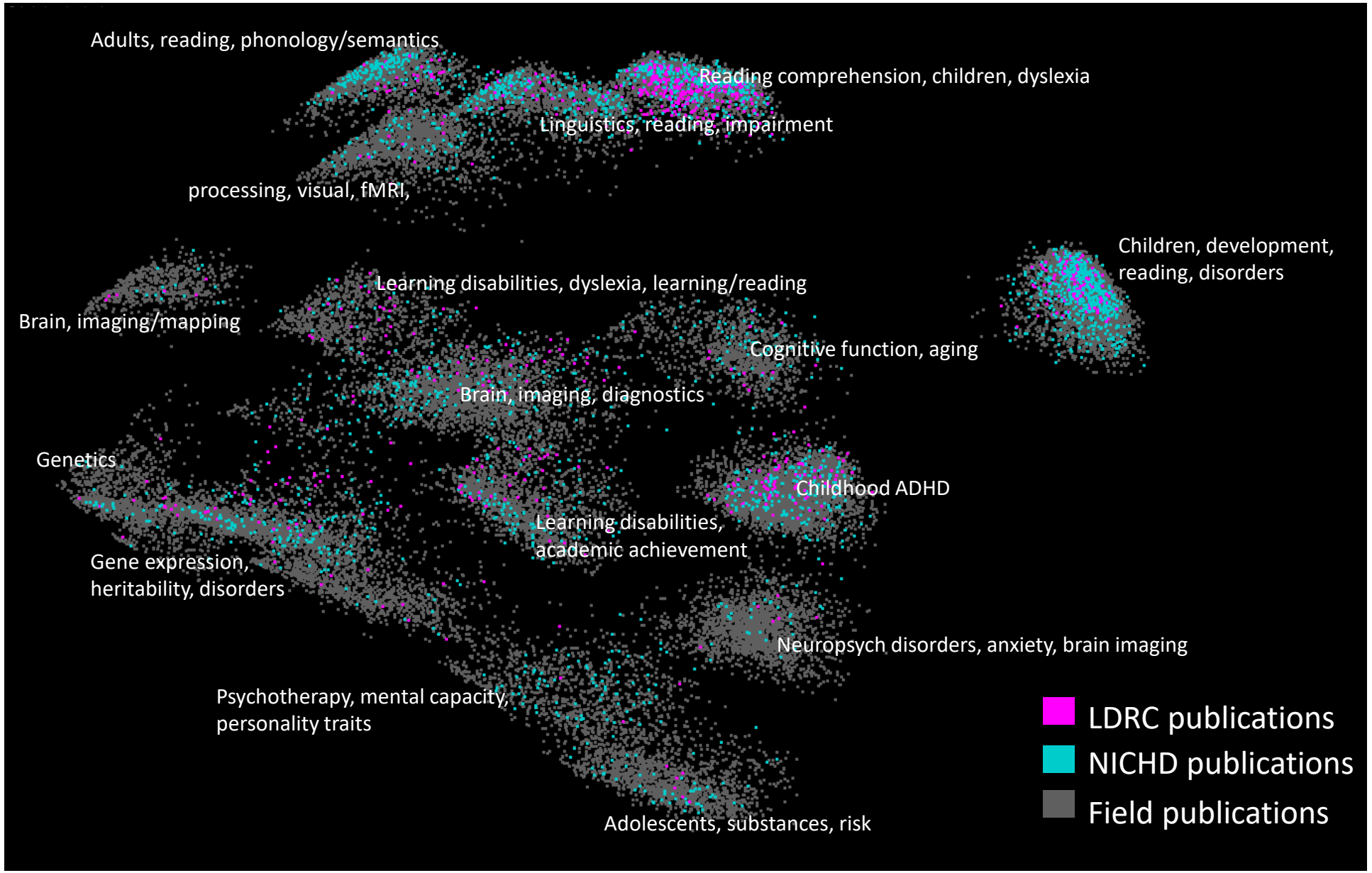

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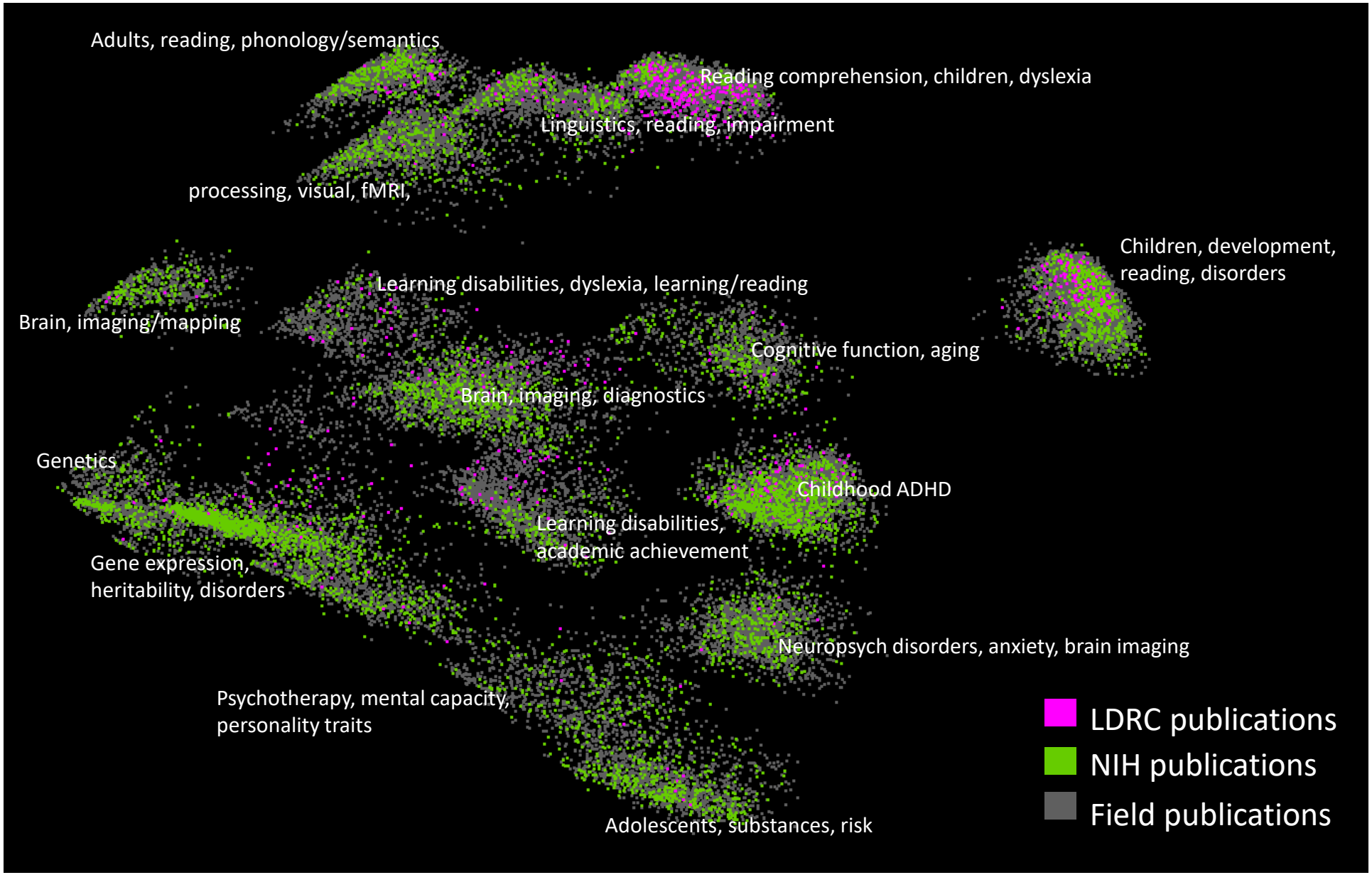
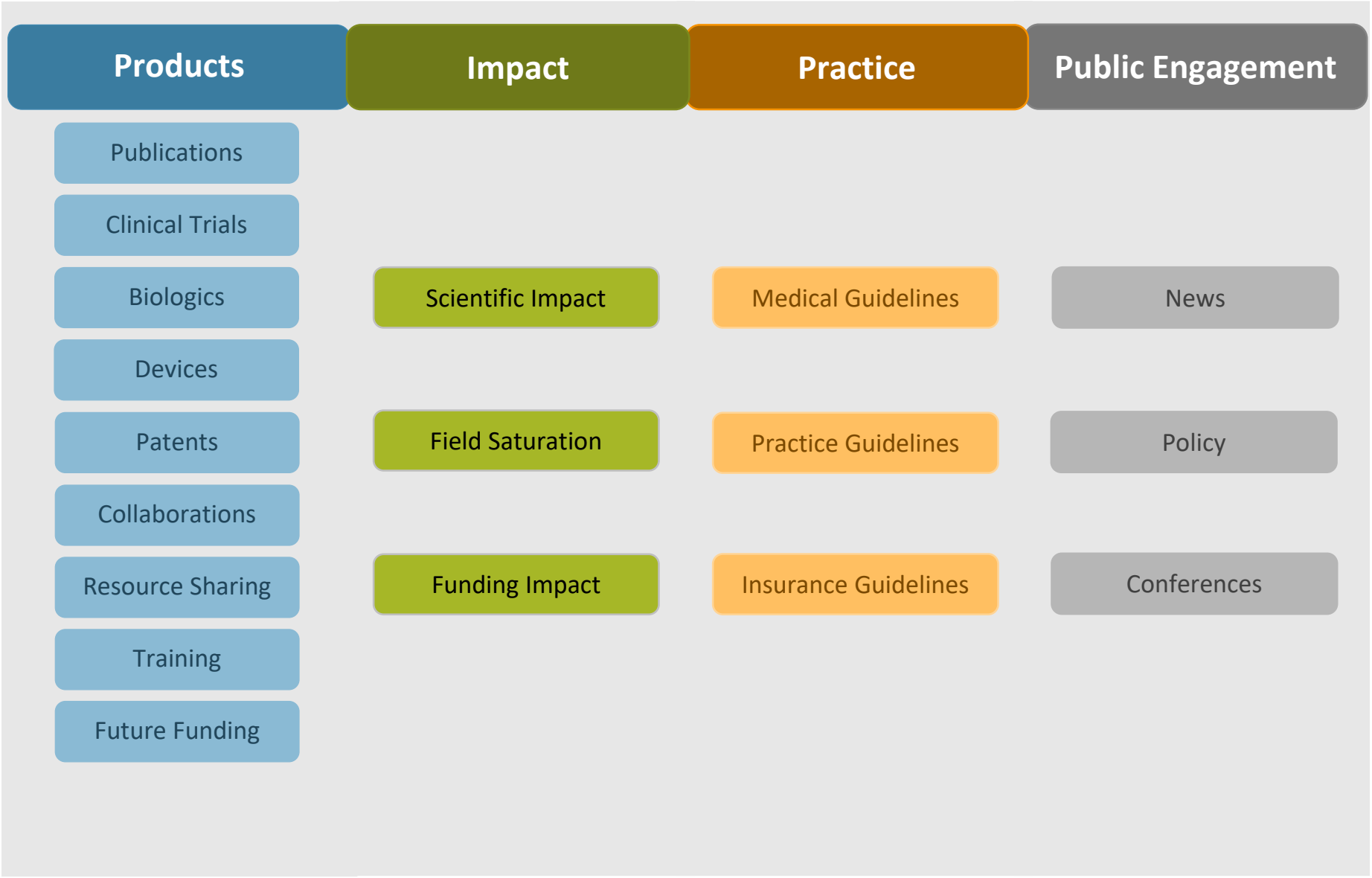


Framework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Example Metrics: Guidelines for Practice Impact

Methods

Citations from guidelines were extracted and linked to publications associated with programs and the reference groups:

- Practice guidelines
  - Guidelines listed in AHRQ's National Guideline Clearinghouse and PubMed (guidelines in PubMed were reviewed to ensure they were a clinical practice guideline)
- Physician support guidelines
  - UpToDate: a point-of-care medical resource that is marketed as an evidence-based clinical resource

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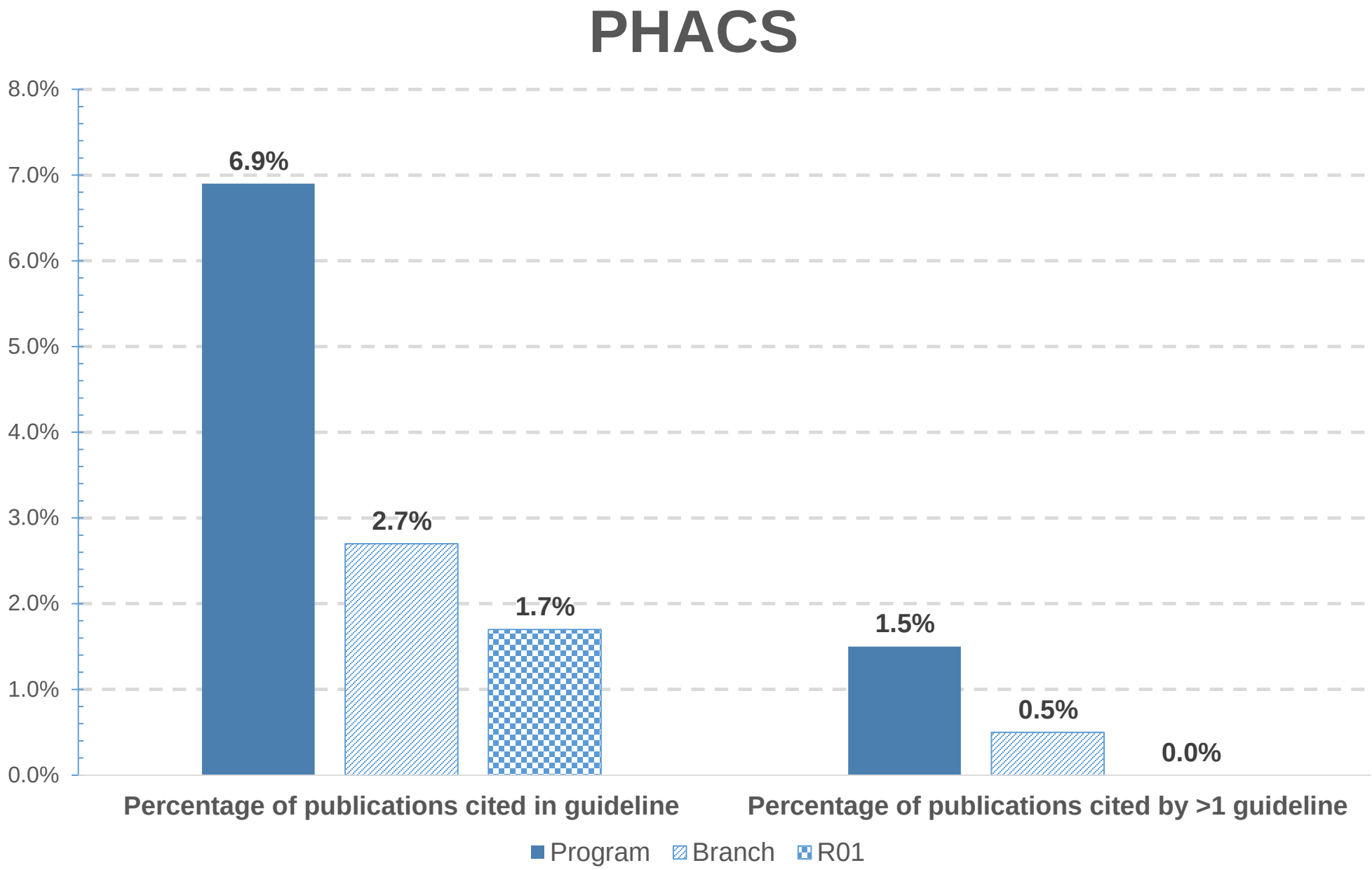
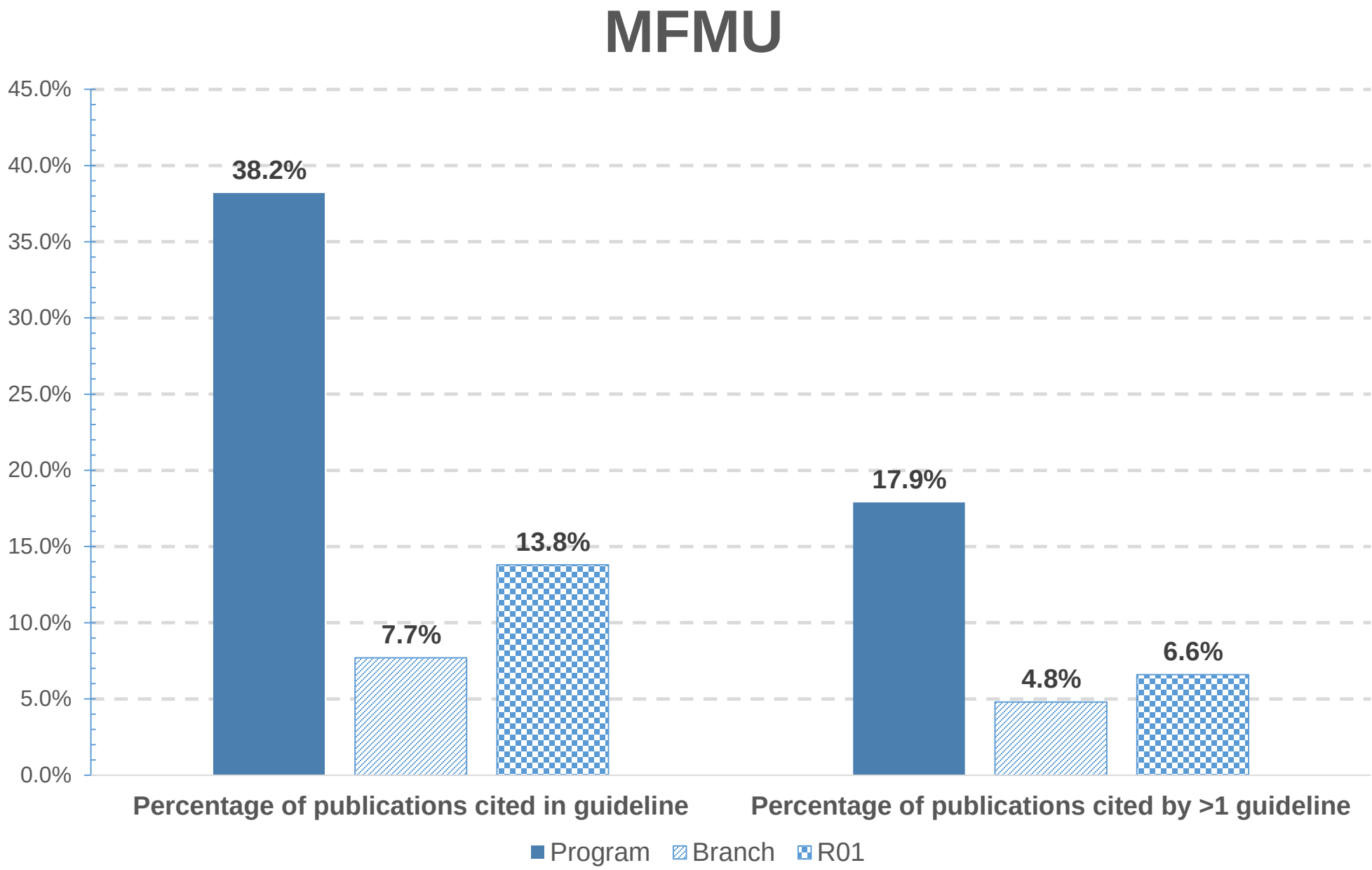
Example metric: Practice Guidelines



Example metric: UpToDate Guidelines



Programs for Second Round

- *Eunice Kennedy Shriver* Intellectual & Developmental Disabilities Research Centers (EKS-IDDRCs)
- Reproductive Medicine Network (RMN)
- Neonatal Research Network (NRN)
- Pelvic Floor Disorders Network (PFDN)
- Collaborative Pediatric Critical Care Research Network (CPCCRN)

Thanks to Staff!

- Stephanie Archer
- Kirk Baker
- Christopher Belter
- Katrina Bibb
- David Bochner
- Samantha Calabrese
- Rebecca Clark
- Alexandria Cull
- Marina Dathe
- Louis De Paolo
- Sara Dodson
- Bill Duval
- Paula Fearon
- Tuba Fehr
- Lisa Freund
- James Griffin
- Gene Hayunga
- Della Hann
- Rohan Hazra
- Rosemary Higgins
- John Ilekis
- Roz King
- Vesna Kutlesic
- Charisee Lamar
- Ya-Ling Lu
- Brett Miller
- Menachem Miodovnik
- Stuart Moss
- Melissa Parisi
- Stephane Philogene
- Ronna Popkin
- Tonse Raju
- Uma Reddy
- Denise Russo
- Samantha Sanchez
- Christian Sauter
- Caroline Signore
- Dennis Twombly
- Marina Volkov

Staff Updates

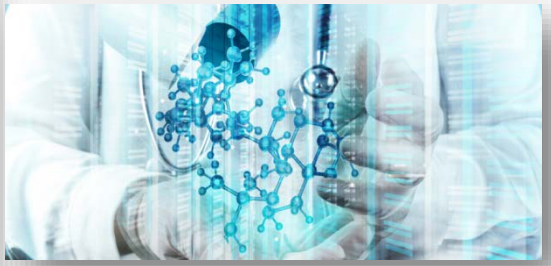
Staff New to NICHD Extramural

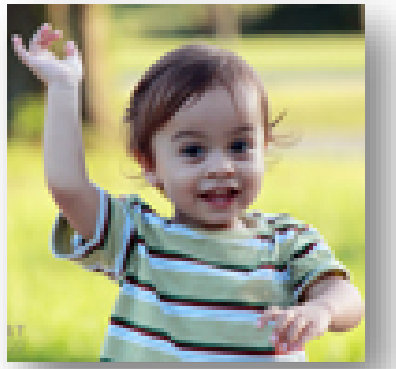
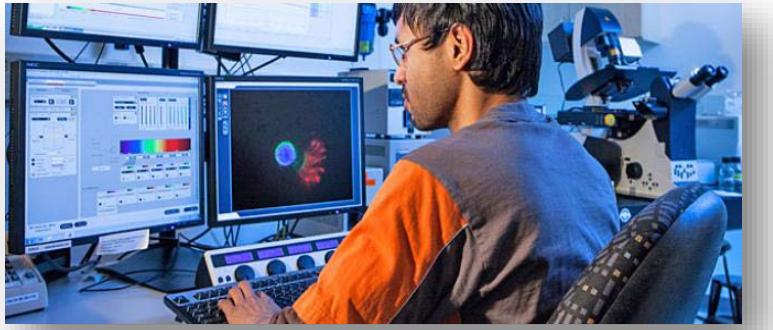
Andrew (Drew) Bremer
PGNB

Staff Transitions from NICHD Extramural

Ted Williams
GMB

Funding the Best Science at NICHD…

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