Recent Developments in NIH Peer Review

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Agenda

1. Recovery from shutdown

2. Centralization of NIH peer review

3. Ongoing initiatives to strengthen peer review

Responding to the 2025 shutdown

Upon return, NIH peer review was badly behind: The 43-day shutdown hit at the height of the fall review cycle (January Council)

- November 13, first day back, the round should have been nearly finished. Instead, over 32,000 grant applications remained.
- 379 meetings had been cancelled (>15,000 reviewers, 27,000 applications)
- Most remaining meetings were no longer viable—ultimately more than 500 meetings were canceled.

Recovery began remarkably quickly:

- By November 26, CSR had rescheduled 567 meetings (18,900 reviewers, >30,000 applications)

Effects of the shutdown will ripple through the entire 2026 council year—all 3 rounds

Keys to recovery: Factors enabling the post-shutdown recovery

1. **Dedicated, well trained staff -** 465 SROs (helped by the entire organization)
2. The **extramural community**—reviewers said "yes" and showed great flexibility
3. Assistance from IC staff through short-term details
4. Coordinated, cooperative decisions and implementation across NIH
5. Emergency Modifications to review policies and practices

   – ~ 1/3 of applications were discussed, with middle 1/3 designated as "Competitive but not discussed". ICs consider the top 2/3 of applications for funding.

   – Succinct summaries for discussed applications. Bulleted format. Focus on level of panel consensus and major score-driving points.

The modifications were highly effective

- January Council ("Oct/Nov" meetings)
  - 423 meetings in January alone
  - The round is essentially done. 99.6% of summary statements are out.

- May Council ("February/March" meetings)
  - 33,600 applications; the meetings are set up and starting to run
  - Meetings are much later than usual—meetings are running through end of May
  - Summary statements will be released by June 15

- October Council (June/July meetings)
  - We are catching up: Jan-26 reviews were delayed about 2.5 months; May-26 reviews are delayed about 1 month
  - More August meetings than usual
  - CSR is attempting to meet usual summary statement deadlines

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2. **Centralization of NIH peer review**

3. Ongoing initiatives to strengthen peer review

Background

Until 2025, NIH ran 24 administratively distinct review shops, CSR plus 23 institute/center (IC) review branches.

- All 24 units had standing study sections, all 24 ran SEPs.

- All followed NIH review policy, but there were substantial local variations in practices.

- There were major differences in the types of applications reviewed.
  - CSR did 94% of R01s, 85% of Fs, 85% of small business.
  - ICs did most training (Ks/Ts), multi-component (P01, P30, etc.), and all contracts, all loan repayment, and R01s in response to IC-specific initiatives.

- CSR reviewed 77% of applications. Collectively, the 23 IC shops managed 23%.

- Roughly 50% of all NIH review staff worked in IC branches. NIH had become aware that per application review costs were much lower at CSR than at any IC review branch.

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In March 2025, NIH announced peer review would be centralized within CSR
to eliminate duplicative efforts across NIH, increase efficiency and consistency
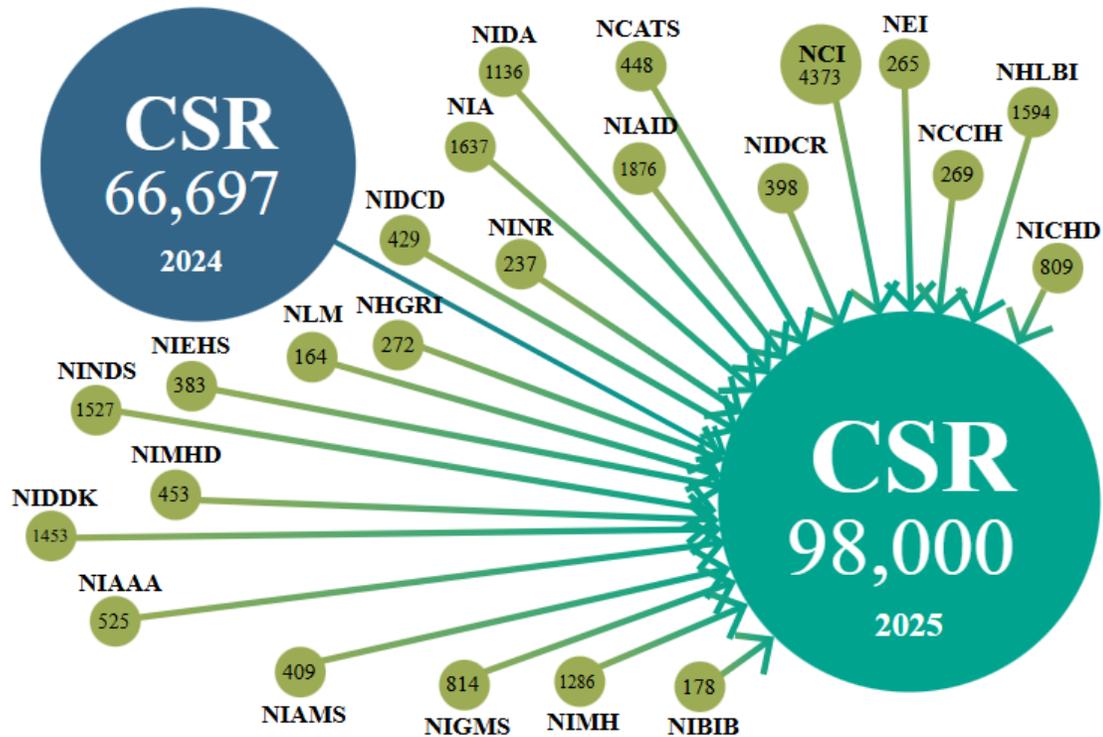
- In early 2025, NIH was directed to achieve significant operational efficiencies.

- Incoming NIH leadership identified peer review as one area where efficiencies could be achieved and directed that processes be consolidated.

- Rapid implementation: Plan announced March 6; by June 1, all review was being managed by CSR.

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In consolidation, NIH sought greater efficiency and consistency

- Improved efficiency largely stems from efficiencies of scale. It does not require compromising quality of review.

- CSR was **much** larger than any IC review branch.

  - In 2024, CSR reviewed 66,697 applications. The largest IC branch reviewed 4,373; several reviewed under 300 applications per year.

- Consolidation allows management, support, and training structures to be more efficient.

- IC review meetings tended to be smaller. Smaller meetings make less efficient use of NIH staff and of peer reviewers.

- Unified management structure promotes consistency.

Consolidation presents organizational challenges

- In the consolidation, CSR took on review ~30,000 additional applications per year and absorbed ~250 IC review staff
  - **Applications**
    - The influx of transferred R01s/R21s/R03s (from RFAs, PARs previously IC-reviewed) far exceeds the capacity of existing study sections
    - Many of the other transferred apps were mechanisms largely reviewed by ICs
      - Ks, Ts, multi-components (P01 P30, U54, etc.), Ls, R&D contracts
      - New, consistent review homes needed for these applications
  - **Administrative and Logistics**
    - Personnel transfers, supervisory reassignments, acquiring space and moving staff (everyone is co-located), IT changes and support
  - **Culture**
    - Old organizational structures, affinity groups disrupted
    - Policy interpretation, review practices, work roles varied considerably across ICs and were often different than CSR's

Addressing the challenges

- **CSR is working closely with every IC**.
  - Senior CSR liaisons have ongoing discussions with senior IC program colleagues to discuss important NOFOs, review considerations.

- **Standardizing review practices**
  - CSR has established standard guidelines for conducting reviews of Ks, Ts, and different multi-component applications. IC SRO were heavily involved in shaping those guidelines.

- **Providing strong, centralized training**
  - transitional training, continuing education, emergency modifications

- **CSR is reorganizing—new branches, new study sections**
  - Better attention to application referral, to review meetings, and more attention to staff management and development
  - Better review homes for applications, improved transparency and predictability for applicants

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CSR Reorganization Highlights

- 10 new review branches, 2 for each of the 5 existing review divisions

- 52 new standing study sections will be chartered to handle overflows
  - Many current study sections are running 1+ overflow special emphasis panels (SEP) every round
  - Guidelines will be adjusted to cluster topics scientifically in new panels
  - Better transparency, predictability of review locus for applicants and program

- Each division now has recurring SEPs for scientifically-clustered Ks or Ts (42 in all) and multicomponent applications (24 altogether)

- Descriptions of all new chartered panels, to-be-chartered panels, and recurring SEPs are posted on CSR's website

CSR Organizational Structure 2025 – 27 review branches in 5 divisions

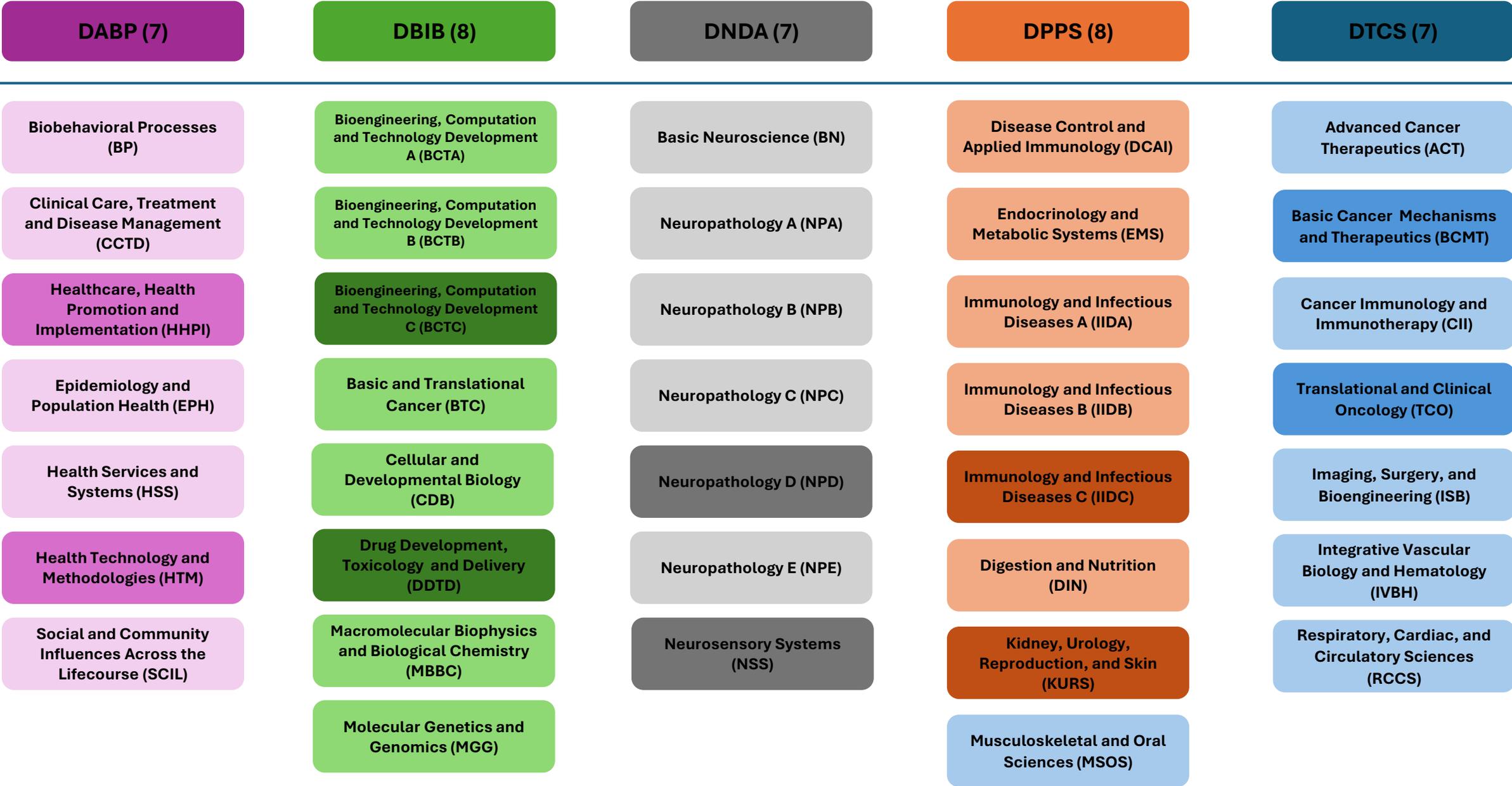| DABP (7)	DBIB (8)	DNDA (7)	DPPS (8)	DTCS (7)
Biobehavioral Processes (BP)	Bioengineering, Computation and Technology Development A (BCTA)	Basic Neuroscience (BN)	Disease Control and Applied Immunology (DCAI)	Advanced Cancer Therapeutics (ACT)
Clinical Care, Treatment and Disease Management (CCTD)	Bioengineering, Computation and Technology Development B (BCTB)	Neuropathology A (NPA)	Endocrinology and Metabolic Systems (EMS)	Cancer Immunology and Immunotherapy (CII)
Epidemiology and Population Health (EPH)	Basic and Translational Cancer (BTC)	Neuropathology B (NPB)	Immunology and Infectious Diseases A (IIDA)	Imaging, Surgery, and Bioengineering (ISB)
Health Services and Systems (HSS)	Cellular and Developmental Biology (CDB)	Neuropathology C (NPC)	Immunology and Infectious Diseases B (IIDB)	Integrative Vascular Biology and Hematology (IVBH)
Social and Community Influences Across the Lifecourse (SCIL)	Macromolecular Biophysics and Biological Chemistry (MBBC)	Neuropathology E (NPE)	Digestion and Nutrition (DIN)	Respiratory, Cardiac, and Circulatory Sciences (RCCS)
	Molecular Genetics and Genomics (MGG)			Musculoskeletal and Oral Sciences (MSOS)

CSR Organizational Structure 2026-- 37 review branches in 5 divisions

DABP (7)	DBIB (8)	DNDA (7)	DPPS (8)	DTCS (7)
Biobehavioral Processes (BP)	Bioengineering, Computation and Technology Development A (BCTA)	Basic Neuroscience (BN)	Disease Control and Applied Immunology (DCAI)	Advanced Cancer Therapeutics (ACT)
Clinical Care, Treatment and Disease Management (CCTD)	Bioengineering, Computation and Technology Development B (BCTB)	Neuropathology A (NPA)	Endocrinology and Metabolic Systems (EMS)	Basic Cancer Mechanisms and Therapeutics (BCMT)
Healthcare, Health Promotion and Implementation (HHPI)	Bioengineering, Computation and Technology Development C (BCTC)	Neuropathology B (NPB)	Immunology and Infectious Diseases A (IIDA)	Cancer Immunology and Immunotherapy (CII)
Epidemiology and Population Health (EPH)	Basic and Translational Cancer (BTC)	Neuropathology C (NPC)	Immunology and Infectious Diseases B (IIDB)	Translational and Clinical Oncology (TCO)
Health Services and Systems (HSS)	Cellular and Developmental Biology (CDB)	Neuropathology D (NPD)	Immunology and Infectious Diseases C (IIDC)	Imaging, Surgery, and Bioengineering (ISB)
Health Technology and Methodologies (HTM)	Drug Development, Toxicology and Delivery (DDTD)	Neuropathology E (NPE)	Digestion and Nutrition (DIN)	Integrative Vascular Biology and Hematology (IVBH)
Social and Community Influences Across the Lifecourse (SCIL)	Macromolecular Biophysics and Biological Chemistry (MBBC)	Neurosensory Systems (NSS)	Kidney, Urology, Reproduction, and Skin (KURS)	Respiratory, Cardiac, and Circulatory Sciences (RCCS)
	Molecular Genetics and Genomics (MGG)		Musculoskeletal and Oral Sciences (MSOS)	

Drug Development, Toxicology and Delivery (DDTD)	Macromolecular Biophysics and Biological Chemistry (MBBC)	Cellular and Developmental Biology (CDB)	Molecular Genetics and Genomics (MGG)	Bioengineering, Computation and Technology Development A (BCTA)	Bioengineering, Computation and Technology Development B (BCTB)	Bioengineering, Computation and Technology Development C (BCTC)	Basic and Translational Cancer (BTC)
Environmental Determinants of Disease (EDD) (from KUDS)	Biochemistry and Biophysics of Membranes (BBBM)	**Cell Fate, Stem Cells and Regeneration	Molecular Genetics (MG)	Cellular and Molecular Technologies (CMT)	Biodata Management and Analysis (BDMA)	Innovations in Nanosystems and Nanotechnology (INN)	Biochemical and Cellular Oncogenesis (BCO)
Drug and Biologic Disposition (DBDT) (from KUDS)	Chemical Biology & Probes (CBP)	** Tissue Formation and Organogenesis (TFO)	Genetic Variation and Evolution (GVE)	Enabling Bioanalytical and Imaging Technologies (EBIT)	Biomaterials and Biointerfaces (BMBI)	Instrumentation and Systems Development (ISD)	Basic Mechanisms in Cancer Health Disparities (BMCD)
Drug Discovery and Molecular Pharmacology B (DMPB) (from MBBC)	Chemical Synthesis & Biosynthesis (CSB)	Biology and Development of the Eye (BDE)	Genetics of Health and Disease (GHD)	Maximizing Investigators' Research Award G (MRAG)	Genomics, Computational Biology and Technology (GCAT) (from MGG)	** Musculoskeletal Tissue Engineering (MTE) (from MSOS)	Cancer Cell Biology (CCB)
Advancing Therapeutics B (ATB) (from MCST)	Macromolecular Structure and Function A (MSFA)	Cellular Mechanisms in Aging and Development (CMAD)	Prokaryotic Cell and Molecular Biology (PCMB)	Modeling and Analysis of Biological Systems (MABS)	SEP Overflow BDMA ★	Cancer Nanotech	Cancer Genetics (CG)
Drug and Biologic Therapeutic Delivery (DBTD) (from BBBT)	Macromolecular Structure and Function B (MSFB)	Cell Structure and Function-1 (CSF)	Therapeutic Approaches to Genetic Diseases (TAG)	SEP Overflow MRAG	SEP Overflow BDMA ★	SEP Overflow INN ★	Gene Regulation in Cancer (GRIC)
Nucleic Acid Therapeutic Delivery (BBBT 81) (from BBBT) ★	Macromolecular Structure and Function C (MSFC)	Cellular Signaling and Regulatory Systems (CSRS)	Maximizing Investigators' Research Award A (MRAA)	SEP Overflow CMT ★	SEP Overflow BMBI ★	SEP Overflow ISD ★	SEP Overflow BTC R21 ★
SEP Overflow: DMPB/ATB	Maximizing Investigators' Research Award B (MRAB)	Maximizing Investigators' Research Award C (MRAC)	Maximizing Investigators' Research Award F (MRAF)	SEP Overflow CMT/EBIT ★	SB: BBBT-10	SB: MCST-12	SEP NCI Tech RFA recurring
SEP Overflow: DBTD	Maximizing Investigators' Research Award E (MRAE)	Maximizing Investigators' Research Award D (MRAD)	SEP Overflow MRAA	SB: MCST-10	SB: MCST-14	Divisional T/R25	Fellowship: Oncological Sciences (F09 A)
SB: Drug Discovery (from MBBC)	SEP Overflow MRAB	SEP Overflow MRAC	SEP Overflow MRAF	SB: MCST-15	Fellowship: Cell Biology, Developmental Biology and Bioengineering A (F05 A) (from MCST)	SEP: RM1 10+ (BTOD from MBBC)	SEP: K BTC
Chemistry, Biochemistry and Biophysics A (F04A) (from MBBC)	SEP Overflow MRAE	SEP Overflow MRAD	SB: MCST-19	Fellowship: Cell Biology, Developmental Biology and Bioengineering BF05 B (From MCST)	SEP: RM1 (from BBBT)	SEP: NCI T /R25	
Divisional T/R25	Chemistry, Biochemistry and Biophysics B (F04B) (from MBBC)	K99 Divisional	Fellowship: Genes, Genomes, and Genetics (F08)	P01 GM	SEP: P41 Tech	SEP P01 from CTH	
							NCI Contracts

STANDING PANEL   RECURRING RPG SEP   SMALL BUSINESS   FELLOWSHIP/TRAINING   MULTICOMPONENT   ** ENQUIRE in progress

★ New Study Sections= 9

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Quality of review remains high following centralization

- **Expertise of reviewers on panels is retained**– SROs are recruiting reviewers who previously served on IC panels.

- **IC review staff expertise is retained**– most staff transferred to CSR.

- **Training is strong.**
  - CSR was the primary source of review staff training materials for all NIH, but CSR could not accommodate IC staff in the numerous interactive trainings it runs. All NIH SROs now participate.

- **CSR is working closely with every IC**.
  - Division Directors have ongoing discussions with senior IC program colleagues to discuss special review considerations.

- **Reorganization will provide consistency, predictability, and transparency** in review for the applications formerly reviewed in ICs.

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Improving NIH peer review 2019-2025

- Over the past 6 years CSR has pursued a series of changes aimed at improving peer review for scientific merit.

- Themes of change include improving competition, enabling better judgements of Significance and Innovation, promoting fairness, broadening scientific opportunity.

- ENQUIRE study section evaluation
- Simplified Review Framework
- Broadening the reviewer pool
- Ending overuse of reviewers
- Early Career Reviewer (ECR) Program

- Revised Review Criteria for Fellowships
- Bias Awareness & Mitigation Training
- Review Integrity Training
- Public reporting mailbox for review concerns

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The Simplified Review Framework (SRF)
Focusing reviewers on big questions

The Simplified Review Framework (SRF) grew out of an effort to simplify review criteria with the goal of directing reviewer attention to key scientific judgements. Provided an opportunity to address multiple concerns about NIH review.

Long standing concerns:
- Inadequate attention to Significance/Innovation
- Over-emphasis on Approach
- Tendency for reviewers be risk averse, potentially overlooking innovative research
- Undue influence of reputation of the Investigator and Environment, making it harder for investigators/institutions less well known to NIH reviewers to be competitive

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NIH's Simplified Review Framework (SRF): 5 legally-specified criteria restructured into 3 Factors

Applications receive 2 factor scores plus an overall impact score of 1-9.

"Should it be done?"

Factor 1: Importance of the Research, integrates *Significance* and *Innovation* to focus reviewers on the potential scientific value of the research. [Scored 1-9]

"Can it be done well?"

Factor 2: Rigor and Feasibility, frames consideration of *Approach* from a big picture perspective - is the work feasible and will it result in rigorous, replicable results? [Scored 1-9]

"Are the expertise and resources in place to do it?"

Factor 3: Expertise and Resources, frames evaluation of *Investigator* and *Environment* in the context of the proposed work. [Scored dichotomously]

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Scoring guidance for Factor 1 crafted to increase the influence of Significance/Innovation on overall impact scores

- This is the first time that NIH has given reviewers explicit guidance on how to weight criteria.
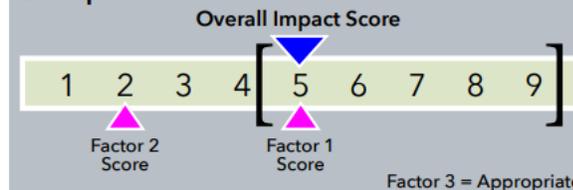- **Factor 1: Importance of the Research, sets the limit for the best possible overall impact score.**

Overall Impact Guidance:

Logically, a project of moderate or limited importance (Factor 1) cannot be made more impactful by a strong approach (Factor 2) and/or appropriate expertise and resources (Factor 3).

- Your Factor 1 score should set a limit for the best possible overall impact score.
- Your assessment of Factors 2 and 3 can reinforce this score or worsen it.
- Concerns with the Additional Review Criteria can move you towards a worse score.

Overall Impact Scoring: Examples

Example 1:

Overall Impact Score

1 2 3 4 [5 6 7 8 9]

Factor 2 Score   Factor 1 Score

Factor 3 = Appropriate

Because the importance of the research (Factor 1) is seen as moderate, a strong approach (Factor 2) and/or appropriate expertise and resources (Factor 3) cannot be expected to improve the overall impact score.

With the simplified review framework, Importance of the research carries more weight

An analysis of >123,000 NIH applications for FY2010-2013 showed that **Approach heavily drove overall impact score.**[1]

Regression of criterion scores on final overall impact scores (10-90).

Research Criteria	Coefficients	CI
Approach	7.6	(7.5–7.7)
Significance	3.4	(3.3–3.5)
Innovation	1.4	(1.3–1.5)
Investigator(s)	1.0	(0.9–1.0)
Environment	-0.2 (-0.3– -0.1)	(-0.3– -0.1)
Approach X Significance	-0.8	(-0.9– -0.8)

An analysis of the first round of SRF (n = 31,432) indicates **a much smaller difference between Approach (Factor 1) and Significance/Innovation (Factor 2) in driving overall impact score**.

Regression of SRF Factor scores on reviewer overall impact scores (1-9).

	Coefficients	Standard Error
Intercept	0.23	0.010057
Factor 1	0.47	0.002741
Factor 2	0.54	0.002674
Factor 3	0.11	0.01133
Score Compression	0.002	0.001935

[1]Eblen et al. 2016. PLoS One. https://doi.org/10.1371/journal.pone.0155060; Table 3 excerpt.

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Broadening the reviewer pool

- Broadening the pool brings in fresh perspectives; can bring healthy variety, reduce "gatekeeping", help keep rosters scientifically current, distribute the benefits of study section service.

- Through changes in policy, guidance, training, and culture, CSR led steps to broaden the pool

- Compared to 6 years ago, excessively high service is almost eliminated, the mix of full vs. associate professors is better balanced, assistant profs are more consistently present.

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Impact of CSR's policy to reduce excessive service
Reviewer service over a 12-year period (36 rounds of review)

Reviewers serving in 2018-2019

Reviewers serving in 2023-2024
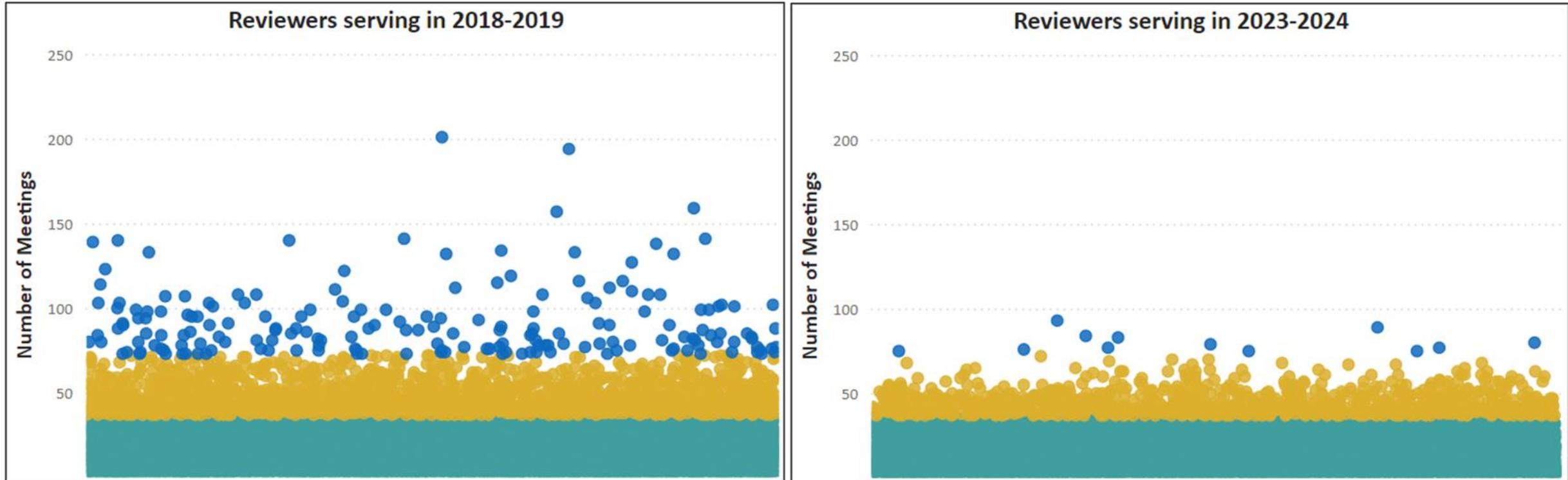
● 1-36 meetings (95.8% of reviewers) ● 37-72 meetings (3.7% of reviewers) ● 73+ meetings (0.5% of reviewers)

Persons guilty of review tampering were disproportionately frequent among those with very high service.

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The balance of senior/midcareer scientists on committees has improved

■ Assistant ■ Associate ■ Professor ■ Other

% of all appointed members

	2019	2020	2021	2022	2023	2024
Other	5.3%	5.3%	5.1%	4.4%	3.8%	3.0%
Professor	73.5%	68.4%	60.6%	52.4%	45.0%	45.5%
Associate	20.7%	25.1%	31.5%	38.4%	43.6%	43.8%
Assistant	0.5%	1.2%	2.8%	4.8%	7.6%	7.7%

The main change occurred in the balance of senior/midcareer scientists on committees

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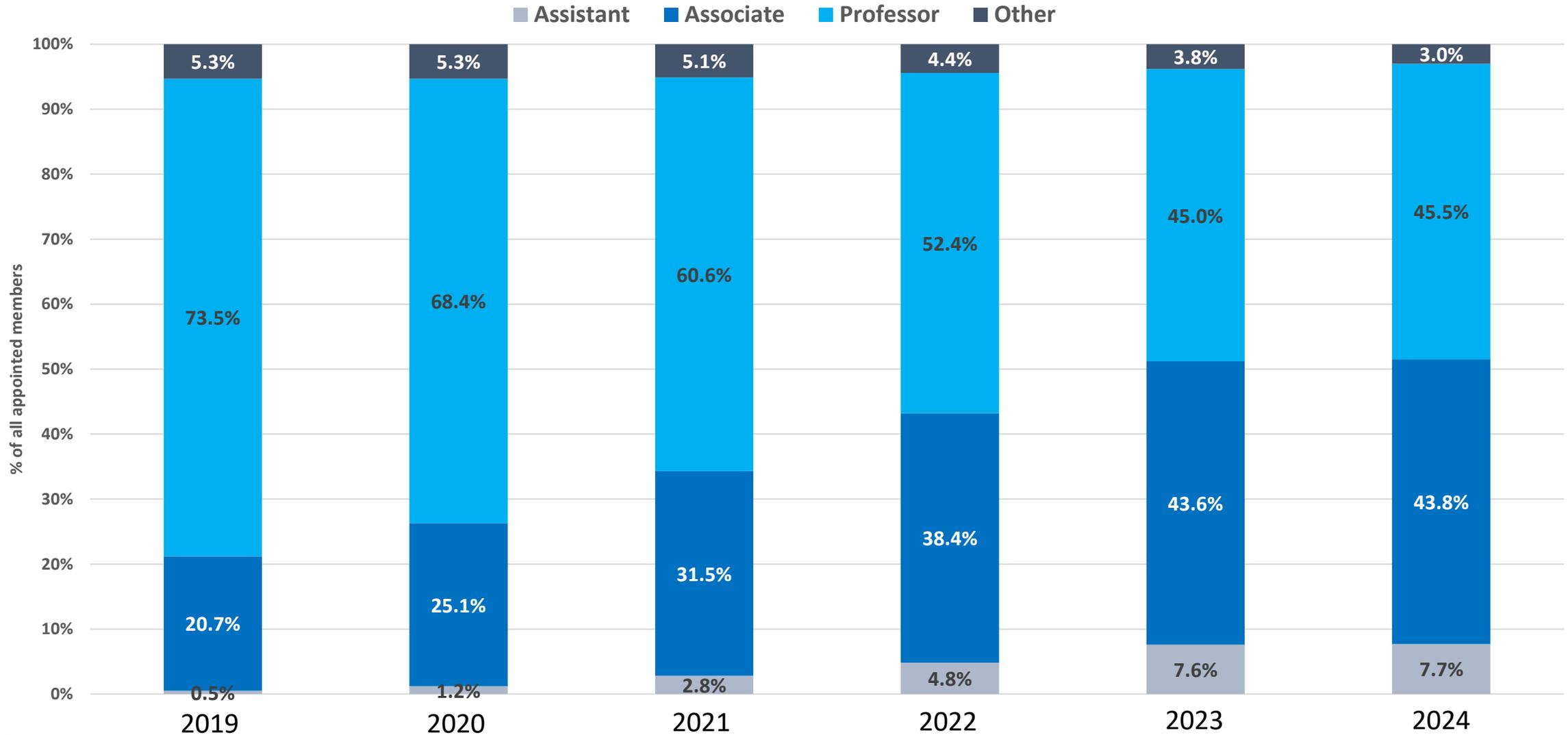
Peer Review in 2026

Immediate business:

- Getting back to normal--on track for a normal fall review cycle

- Implementing reorganization
- Chartering 52 new study sections; populating standing rosters

Longer term: I**mproving peer review is an ongoing commitment of CSR**

- Evaluate the impact of emergency modifications in practice (in response to shutdown)

- Monitor and evaluate implementation of SRF and significant changes in fellowship review

- Development of new public resources by CSR's Office of Training and Development – facilitating consistent, high-quality review and transparency

Resources for Reviewers

The following materials are available to help explain how applications will be reviewed under the simplified review framework.

- Resources for the revised fellowship review process - Chair Orientation Session: Revisions to the NIH Fellowship - (September 19, 2025)
  - ○ 2025 CSR Incoming Chair Orientation - Fellowships (PDF - 337 KB)
  - ○ Fellowship Panel Chair Orientation: Revised NIH Fellowship Application and Review Process (PDF - 421 KB)
  - ○ Recording ⬈ (Video)
- **Video Introduction to the Sim**
  - ○ This video walks reviewers
    the simplified review fram
- **Reviewer Guide to Evaluating**
  - ○ This document provides g
    simplified review framewo

Resources

Videos

- NIH Peer Reviewers Answer: How the Simplified Review Framework Changed Reviewers' Approach ⬈ (January 14, 2026)
- NIH Peer Reviewers Answer: Encouraging the Evaluation of Risk ⬈ (January 14, 2026)

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Questions?

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