



# Scientific Workforce Diversity Seminar Series Proceedings

How Does Diversity Affect  
Innovation in Pharma?

September 14, 2022

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## 1. Executive Summary

This document summarizes the proceedings of the [Scientific Workforce Diversity Seminar Series](#) (SWDSS) virtual seminar, “[How Does Diversity Affect Innovation in Pharma?](#),” which began the 2022–2023 series. The National Institutes of Health (NIH) [Chief Officer for Scientific Workforce Diversity](#) (COSWD) hosted the seminar on September 14, 2022. More than 300 people from NIH and other organizations attended. Marie A. Bernard, M.D., NIH COSWD, moderated a panel discussion on the evidence regarding the impact of diversity, equity, inclusion, and accessibility (DEIA) on innovation in the pharmaceutical industry. Four pharmaceutical leaders with scientific workforce diversity expertise shared perspectives and discussed current research, focusing on how inclusive, equitable workplace cultures can enhance creativity, team effectiveness, and outcomes.

Panel presentations were followed by a Q&A session moderated by Dr. Bernard. This document details the key takeaways from the invited speakers’ presentations and the ensuing discussion on how DEIA enhances innovation in pharma. The [seminar recording](#) and [panelists’ presentation materials](#) are on the COSWD website.

## 2. Opening Remarks

Marie A. Bernard, M.D., NIH COSWD

Dr. Bernard briefly reviewed the May 2022 SWDSS seminar, “[How Does Diversity Impact Science?](#),” noting [multiple studies](#) which suggest that increased diversity leads to more innovative biomedical research solutions. The September 2022 seminar continued these discussions by focusing on the pharmaceutical industry, drug development, and clinical trials.

The seminar featured the following panelists:



[Aida Habtezion, M.D., M.Sc., FRCPC, AGAF](#), Chief Medical Officer and Head of Worldwide Medical and Safety, Pfizer



[Graham Jones, Ph.D., D.Sc.](#), Head of Research and Innovation, Novartis



[Michelle McMurry-Heath, M.D., Ph.D.](#), President and CEO, Biotechnology Innovation Organization



[Meena Subramanyam, Ph.D.](#), Vice President, Global Program Leader and Conditional T cell Engager Platform Lead, Takeda Oncology, Takeda Pharmaceutical

### 3. How Does Diversity Affect Innovation in Pharma?

Michelle McMurry-Heath, M.D., Ph.D.,  
President and CEO, Biotechnology  
Innovation Organization

Dr. McMurry-Heath shared her experiences attending the [BIO Africa Convention](#) in August 2022, which included an important gathering of women leaders in biological research and biotechnology from across Africa. Members of this women-led convention discussed the challenges and barriers found across all scientific disciplines, illustrating the systemic difficulties in recruiting and retaining a diverse scientific workforce. In addition, recruiting and retaining a diverse scientific workforce is indispensable for the public's perception regarding career opportunities and success stories from all scientific fields. For example, less than 25 percent of Black Americans viewed scientific jobs as welcoming to Black people.<sup>1</sup>

Diversity can impact pharmaceutical innovations and research in three ways. First, greater diversity among scientists and researchers increases the focus on overlooked diseases and research. For example, White principal investigators (PIs) are nearly twice as likely as Black PIs to receive funding for independent grant applications from NIH, even when stratified by academic and research achievements.<sup>2</sup> This translates into research priorities, as shown in the disparity between approximately \$2,800 per capita funding for cystic fibrosis research compared with \$812 per capita for sickle cell anemia research.<sup>3</sup>

Second, greater diversity in company and organization leadership means that underrepresented groups are more likely to influence decision-making and challenge preconceived notions. Even when underrepresented groups are a larger percentage of the total workforce, these

groups are typically underrepresented in executive and leadership positions, which affects policies and access.

Third, greater diversity of participants in clinical trials may facilitate more robust opportunities for novel medical discoveries and greater societal impact. Many clinical trials have strict inclusion and exclusion criteria to reduce data variability and remove potential confounding factors; however, strict criteria also may limit the applicability of clinical trial data to groups that are traditionally underrepresented or excluded from clinical trials. For example, less than 20 percent of new drug approvals since 2015 have data regarding treatment benefits or side effects specifically for Black patients.<sup>4</sup>

Scientific workforce diversity initiatives, such as [UNITE](#)—an NIH working group that identifies and addresses structural racism in the biomedical and behavioral research enterprise—will play a key role in improving pharmaceutical workforce diversity and overcoming biases in areas that include funding, research prioritization, and clinical trial participation.

### 4. Impact of Diversity on Innovation and Creativity in Pharma

Aida Habtezion, M.D., M.Sc., FRCPC,  
AGAF, Chief Medical Officer and Head of  
Worldwide Medical and Safety, Pfizer

Dr. Habtezion began her presentation by stating the challenge: the biotechnology industry still faces a lack of workforce diversity. Black, Hispanic, and Indigenous people remain underrepresented in scientific positions.<sup>5</sup> [BIO's June 2022 report on measuring diversity in the biotechnology industry](#) confirms these disparities, noting that among 99 large biotechnology companies, Black employees comprised only

6 percent of their workforce, and Indigenous employees comprised only 0.6 percent.

Scientific workforce diversity is crucial for innovation. For example, ethnically and culturally diverse companies are 36 percent more likely to have financial returns above their respective industry median,<sup>6</sup> and organizations with inclusive cultures are six times more likely to be innovative and agile (e.g., better business performance, team collaboration) than companies without inclusive cultures.<sup>7</sup> Furthermore, 85 percent of executives surveyed agree that DEI is crucial for innovation.<sup>8</sup> Inclusivity in company culture plays a key role in employee engagement, and engaged employees are 43 percent more productive than non-engaged employees.<sup>9</sup> In addition, compared with more homogeneous teams, diverse teams draw from a broader range of experience, focus more on facts, and are more likely to re-examine data and assumptions while remaining objective.<sup>10</sup> Thus, diverse teams demonstrate superior problem solving and increased innovation, leading to better performance and results.

Pfizer's DEI strategy focuses on the following elements:

- Building a more inclusive workforce and a sense of belonging for all employees.
- Advancing health equity by ensuring that research and development activities align with the communities that Pfizer serves.
- Improving supplier diversity, including contractors and other suppliers from underrepresented communities.

Between 2019 and 2021, Pfizer increased the percentage of women and individuals from underrepresented groups in its U.S. workforce, including those in leadership roles, by 6 to 8 percent.<sup>11</sup> In addition, Pfizer began a [Breakthrough Fellowship Program](#) in 2021 to identify and support underrepresented

students starting their undergraduate studies. Pfizer also launched the [Refugee Leadership Initiative](#) in 2021, the initial goal of which was to hire 100 refugees and mentor another 150 refugees, 50 of whom identify as LGBTQ+, by December 2022.

## 5. How Does Diversity Affect Innovation in Pharma?

Meena Subramanyam, Ph.D., Vice President, Global Program Leader and Conditional T cell Engager Platform Lead, Takeda Oncology, Takeda Pharmaceutical

Dr. Subramanyam discussed Takeda's strategy for strengthening DEIA in its workforce. At Takeda, DEIA refers to a broad range of backgrounds beyond gender and ethnicity, including physical, cognitive, relational, occupational, and societal diversity. Takeda strives to represent diverse talent at all management levels to reflect the needs of its stakeholders (e.g., patients and their families). Takeda is committed to continuously removing barriers to DEIA to establish a work environment and culture where employees are heard, respected, and valued.

Dr. Subramanyam explained that Takeda accomplishes its DEIA strategy by implementing internal (e.g., the Achieve Program and [Takeda Resource Groups](#)) and external initiatives (e.g., [Access to Medicines](#)) that build a foundationally inclusive ecosystem for both patients and employees. She explained how internally, Takeda engages managers with DEIA training to bolster inclusive recruitment practices and offers leadership development opportunities through its Achieve Program by pairing mentors and mentees from all backgrounds to develop leadership skills.

In addition to the Achieve Program, 10 employee-led Takeda Resource Groups help create a sense of belonging for

employees by shaping scientific workforce diversity, influencing the hiring process, and creating an inclusive ecosystem for patients. Multiple organizations have recognized the Takeda Resource Groups for their DEIA efforts throughout 2021 and 2022. Externally, Takeda's Access to Medicines initiative also helps ensure equitable access to medicine in 54 countries and has provided medication to 70,000 patients since 2016. In addition, internship programs provide equitable opportunities for underrepresented students in all biomedical research disciplines.

## 6. Cultural Diversity Drives Innovation Teams

Graham Jones, Ph.D., D.Sc., Head of Research and Innovation, Novartis

Dr. Jones discussed innovation success in teams composed of individuals with diverse backgrounds. He explained that diverse teams perform better in terms of innovation and impact, partly because such teams may take more risks and members with diverse backgrounds have specific cultural knowledge to help assess and solve problems. A 2020 study by Novartis evaluated 10 major cultural groupings (e.g., by short-term vs. long-term goals, cooperative vs. competitive) and concluded that inclusive team dynamics and strategic approaches are essential to innovation performance.<sup>12</sup>

Dr. Jones stated that innovation success follows from teams operating under principles that help maximize inclusivity. However, teams naturally undergo maturation stages, which include “fault line” factors (e.g., absence of trust, fear of conflict, lack of commitment, avoiding accountability, inattention to results) that must be addressed by selecting an appropriate method of conflict resolution.<sup>13,14,15,16</sup> In addition, Dr. Jones provided further references for stakeholders,<sup>17,18</sup> as well as

[research questions](#) about the success of culturally diverse teams (e.g., how to promote inclusivity, improve cross-cultural awareness, evaluate the impact of remote/hybrid working models) that Novartis aims to address within the next 5 years.

## 7. Question and Answer Session

**Q. Because of the for-profit nature of the pharmaceutical industry as opposed to nonprofit academic and government research, what are the differences between the two in ensuring diversity in the workforce?**

**Dr. Jones:** Although routine problems may not necessarily require a diverse team, the need for team diversity increases as the problem becomes more complex. Pharmaceutical companies often have preferred resources to build a diverse team of employees.

**Dr. McMurry-Heath:** Large pharmaceutical companies can often hire individuals faster than the government but place guardrails for diversity and transparency in performance, particularly when individuals strive for leadership roles. Due to their size, small biotech companies and academic labs may not have the resources needed to make consistent progress in enhancing diversity. However, industry, academia, and government all have leadership that share common goals and desires in promoting diversity.

**Dr. Habtezion:** The challenges for industry and academia are similar, and both understand that diversity encourages thought, breakthroughs, and innovation.

**Dr. Subramanyam:** Both for-profit and nonprofit organizations focus on accountability to ensure that goals in diversity and inclusion are met. It is important to build an inclusive culture.

**Q. How were any employee surveys conducted, and how did they assist in developing metrics for success? Are there any real-world examples of how diversity led to innovation?**

**Dr. McMurry-Heath:** Dr. Ted Love, the former CEO of Global Blood Therapeutics, worked with sickle cell patients who faced discrimination. His care for these patients led him to come out of retirement to help Global Blood Therapeutics complete a project. Dr. Love is an ardent example of how willingness and commitment are critical to achieving diversity goals.

**Dr. Subramanyam:** Takeda conducts annual and biannual employee surveys that provide anonymous and direct feedback. For example, a number of employees expressed that they felt constrained in voicing opinions at public meetings. To address this issue, Takeda implemented Slido, a live audience interaction platform that allows employees to submit questions or thoughts anonymously or by name to its research and development leadership. Transparently sharing feedback and developing processes for addressing feedback have improved Takeda's responsiveness and employee satisfaction.

**Dr. Jones:** Novartis has conducted qualitative and quantitative surveys, with successes often coming from one-on-one interviews, allowing for trusted and open communication. Inviting employees to speak in interviews can avoid common issues within companies, such as the fear employees face in challenging middle management. In addition, Novartis often designates individuals to act as "observers" during meetings to make sure that employees' voices are heard and to help them share their opinions in a diplomatic manner.

**Dr. Habtezion:** Pfizer has invested time and resources into conducting pulse surveys for monitoring "people experience" at all

employment levels. Pfizer also has conducted listening tours, allowing employees to have a voice in the company's direction and evaluate the company's hybrid environment during the COVID-19 pandemic. Both pulse surveys and listening tours helped Pfizer meet the needs of employees in various working environments.

**Q. What is one action that audience members can take to optimize the benefits of scientific workforce diversity?**

**Dr. Subramanyam:** Although it takes courage, people need to speak up and articulate their needs in the moment as to why building a diverse organization and hearing diverse perspective on issues that matter to them.

**Dr. Jones:** People should surround themselves with individuals who hold different perspectives. There is power in receiving input on foundational principles from individuals who view the world differently.

**Dr. Habtezion:** It is important to have the courage to contact others for mentorship to help provide guidance through different areas of one's career.

**Dr. McMurry-Heath:** In addition, it is important to mentor others just as others have mentored you.

## **Acknowledgments**

The COSWD office thanks former NIH Director Francis S. Collins, M.D., Ph.D., for encouraging and facilitating collaborations with the invited speakers for this seminar.

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