



PARTNERSHIP FOR PUBLIC SERVICE

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“Brain Drain: Rebuilding the Federal Scientific Workforce”

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Introduction

Chairman Foster, Ranking Member Obernolte, and members of the Subcommittee on Investigations and Oversight, thank you for the opportunity to appear before you today to discuss the importance of rebuilding the federal scientific workforce.

The Partnership for Public Service is a non-partisan, non-profit organization dedicated to inspiring public service and increasing the efficiency and effectiveness of the federal government. The Partnership was founded on the premise that any organization's best asset is its people.

Our federal government is the incubator for some of the world's most impactful research, innovative technological advances, and prolific scientific minds. Public servants working in STEM have developed breakthroughs that treat and cure major diseases, clarify the nature and effects of a changing climate, promote humanity's exploration of outer space, and much more. Scientists in the federal arena are unmatched in their potential to conduct research that advances the public good and apply it on a large scale. And as the COVID-19 pandemic continues to claim lives and livelihoods across the country and the world, this nation has seen a sobering reminder of how important a robust scientific workforce is to our basic health and well-being. From building and communicating critical knowledge about how the virus spreads, to developing treatments and vaccines and ensuring their safety and effectiveness, the work of scientists has the potential to save lives and help restore a sense of normality during a turbulent time.

As we move past the pandemic, we must focus on revitalizing the federal scientific workforce and preparing it for future challenges. We are on the cusp of achieving a remarkable transformation and revitalization of the federal government and its workforce, due in part to the expansion of telework and other changes in response to the pandemic. If we seize the moment, the government will have an opportunity to recruit talent wherever that talent is, ensure that the federal workforce reflects the diversity of our country, create a culture more in line with today's mobile workforce, spur innovation and use of new technologies, raise federal employee morale to meet or exceed private sector benchmarks, develop more customer-focused services, and strengthen the federal government's collaboration with state, local and tribal governments and the private and non-profit sectors. It is a once-in-a-generation opportunity to drive meaningful, systemic and lasting improvement in how government runs.

Challenges Facing the Federal Scientific Workforce

Unpacking the data on the federal scientific workforce reveals different stories across the government. There are areas of growth, including in government-wide totals – between September 2014 and September 2020, the full-time STEM workforce increased by 1.3% per year on average. Over the same period, the federal workforce overall increased by 0.9% per year on average.

However, there are concerning trends in other areas of the scientific workforce. Declines in full-time employees were particularly pronounced at agencies that employ large numbers of environmental and agricultural scientists. For example, over 700 scientists left the EPA from 2017 to early 2020, but the agency only hired half that number of scientists to replace employees who departed.¹ Between

¹ The Washington Post, "Science ranks grow thin in Trump administration," January 23, 2020. Retrieved from https://www.washingtonpost.com/climate-environment/science-ranks-grow-thin-in-trump-administration/2020/01/23/5d22b522-3172-11ea-a053-dc6d944ba776_story.html.

September 2014 and September 2020, the full-time STEM workforce at the Environmental Protection Agency decreased by 1.0% per year on average.²

At USDA, a controversial decision to relocate the offices of the Economic Research Service (ERS) and National Institute of Food and Agriculture (NIFA) from Washington, DC to Kansas City, Missouri have gutted the agency's scientific workforce. Faced with the relocation ultimatum, 40% of ERS and 60% of NIFA employees opted to quit or found other jobs.³ Between September 2014 and September 2020, the full-time workforce at ERS decreased by 10.3% per year on average, while the full-time workforce at the NIFA decreased by 11.4% per year on average.

Government also faces challenges in recruiting, hiring, and retaining a scientific workforce that looks like the American public. For example, 50.8% of the U.S. population identifies as female⁴; however, in September 2020, just 29.1% of the full-time STEM workforce identified as female, compared to 43.2% government-wide. And 39.9% of the U.S. population identifies as people of color, while just 28.6% of the full-time STEM workforce identified as people of color, compared to 37.8% government-wide.

The federal scientific workforce is also older than the U.S. labor force. The percent of full-time STEM employees under the age of 30 steadily increased from 6.9% to 9.0% between September 2014 and September 2020; however, this still lags behind the almost 20% of the employed U.S. labor force in 2020 that is under age 30.

To revitalize the workforce, the administration and Congress must address both immediate and long-standing problems. Key data points from the overall federal workforce signal the urgent need for attention to this vital national asset. These trends are not new but will be harder to fix the longer we wait:

- Just 6.8% of full-time federal workers are under the age of 30. By comparison, almost 20% of the employed U.S. labor force in 2020 was under age 30.
- Of the full-time employees on board as of the beginning of fiscal year 2019, 25% will be eligible to retire by the end of 2021; 35.5% will be eligible to retire by the end of 2024.
- In the federal IT workforce, more than 19 times more employees are over the age of 50 than under age 30.
- Use of the federal Pathways intern program, which should be a main pipeline into federal service, has plummeted. According to the [fiscal 2020 budget request](#), the number of new hires of student interns fell from 35,000 in 2010 to 4,000 in 2018.⁵
- Of the full-time employees under 30 who voluntarily quit federal service in fiscal 2019, over 73% did so with less than 2 years of federal tenure, suggesting that many young people do not have a positive work experience in the federal government or lack sufficient incentives to stay in federal service.

² Statistics on federal employees are drawn from Office of Personnel Management FedScope data on the federal workforce unless indicated otherwise.

³ Federal News Network, "After the relocation gutted its workforces, USDA research agencies struggle to rebuild," February 8, 2021. Retrieved from <https://federalnewsnetwork.com/workforce/2021/02/after-the-relocation-gutted-its-workforces-usda-research-agencies-struggle-to-rebuild/>.

⁴ U.S. Census Bureau, Retrieved from <https://www.census.gov/quickfacts/fact/table/US/PST045219>.

⁵ "Analytical Perspectives, Budget of the United States Government, Fiscal Year 2020," March 18, 2019, p.77. Retrieved from <https://www.govinfo.gov/content/pkg/BUDGET-2020-PER/pdf/BUDGET-2020-PER.pdf>.

- Data also shows major diversity challenges in the federal workforce, which grow even greater at the higher echelons of service. For example, only 35.5% of the career Senior Executive Service are female, and only 22.6% of the career SES are people of color.
- The 2019 [Best Places to Work in the Federal Government](#)⁶ employee engagement score was 61.7 out of 100, lagging behind the private sector by more than 15 points and suggesting that more can be done to cultivate a highly engaged, high-performing federal workforce.
- It takes the government an average of 98 days to bring new talent on board – more than double the time in the private sector.⁷
- About 83% of major federal departments and agencies struggle with staffing shortages and 63% report gaps in the knowledge and skills of their employees.⁸
- According to the [Survey on the Future of Government Service](#),⁹ just 32% of respondents say their agency has a strategic recruitment plan that is aligned to its workforce needs.

The Importance of Strengthening Government’s STEM Workforce

The COVID-19 pandemic has affected the country in unprecedented ways, upending traditional ways of working, living and governing. What has not changed is the public’s need for essential services, and federal agencies are providing them: The government has remained open, and the federal workforce has stayed on the job. Throughout the pandemic, the work of our federal scientific community has been showcased to the world – from developing a vaccine in record time to collaborating across government on treatments for COVID-19 patients – and we should leverage the moment to bring a new bench of talent into public service. Federal jobs offer mission-driven work with opportunities to help solve the biggest challenges facing our nation, including a pandemic.

Our government needs STEM talent, not only to replace those nearing the end of their careers, but also to bring new skills that will help the country rise to the significant challenges of the day and prepare for what lies ahead. In particular, the dearth of young civil servants represents a lost opportunity for our federal government as well as the nation’s young professionals.

The federal government not only needs to work harder to recruit and hire great talent, but also create an environment that retains high-performing employees. Even within the constraints of the federal pay system, the government can pursue multiple strategies to make the government the employer of choice not only for entry-level talent but also for mid- and senior-level talent.

There are many reasons why government is failing to recruit and retain talent, especially young people, and the problems are deep-seated:

⁶ Partnership for Public Service, [Best Places to Work in the Federal Government](https://bestplacetowork.org/)[®]. Retrieved from <https://bestplacetowork.org/>.

⁷ Office of Personnel Management, “OPM Issues Updated Time-to-Hire Guidance,” February 2020. Retrieved from <https://www.opm.gov/news/releases/2020/02/opm-issues-updated-time-to-hire-guidance/>.

⁸ Office of Personnel Management, “2018 Federal Workforce Priorities Report,” February 2018. Retrieved from <https://www.opm.gov/policy-data-oversight/human-capital-management/federal-workforce-priorities-report/2018-federal-workforce-priorities-report.pdf>.

⁹ “Survey on the Future of Government Service,” October 13, 2020. The survey is a collaborative effort by the Partnership for Public Service, the Princeton School of Public and International Affairs at Princeton University, the Center for the Study of Democratic Institutions at Vanderbilt University and Georgetown University. Retrieved from <https://ourpublicservice.org/publications/survey-on-the-future-of-government-service/>.

The federal government’s brand is damaged. Government shutdowns, hiring freezes, and negative rhetoric have hurt the image of government and the people who serve. An Axios Harris poll in March 2019 examined the reputation of America’s 99 most high-profile companies and the federal government, and the government ranked dead last.¹⁰ That was before a pandemic further eroded public confidence in government. And in the scientific community, several high-profile instances of political interference with scientific results have left doubts about whether the integrity of the work of federal scientists will be protected.

Opportunities for young people are hidden and scarce. Many students do not know about compelling career opportunities in government or how to apply for them. In addition, government hiring processes have historically shown a disproportionate preference for experienced professionals, limiting opportunities for promising young talent. For instance, internships are underused across the federal government and just 4% of new hires are drawn from federal programs employing current students and recent graduates.

Barriers to entry abound for job candidates. An unintuitive online jobs portal, a 70-year-old compensation system, and a time-to-hire average of nearly 100 days all make it difficult for government to attract top talent. Government may always struggle to match private sector salaries, but it must do better on multiple human resource fronts in the competition for mission-critical talent.

We are failing to adapt to the needs of a more mobile workforce. Our federal personnel system is geared to the model of the lifetime federal employee. We value and need those who want to dedicate their whole careers to federal service. But we also must seize opportunities to recruit those who want to serve for shorter durations, especially as younger workers increasingly want more mobility in their careers. Just 35% of millennials expect to stay with their current employer for five or more years, but there were notable correlations between those who did plan to stay and those who believe their employers perform well on issues related to financial performance, community impact, talent development, and diversity and inclusion.¹¹

Undergirding these challenges is the need for a heightened commitment to diversity, equity and inclusion. While the federal government outperforms many private sector organizations on this front, there is room for improvement in federal leadership ranks. Among career leaders in the government’s Senior Executive Service (SES), just 36% are female and only 23% are people of color. And among SES leaders in STEM, just 26% are female and only 18% are people of color. Federal agencies need to do more to provide opportunities to underrepresented communities and ensure that our government mirrors the communities it serves.

Altering the status quo will not be easy but it will be critical to the nation’s future. And this moment in time offers a rare convergence of opportunity: a federal workforce which has dramatically changed the way it works over the past year and is primed for adaptation amid the staggering health, social, and economic challenges it must take the lead in tackling; and the rise of Generation Z, which is technologically adept and hungry to make a difference.

¹⁰ The Harris Poll, “Axios Harris Poll 100,” 2019. Retrieved from <https://theharrispoll.com/axios-harris-poll-100-2019/>.

¹¹ Deloitte, “The Deloitte Global Millennial Survey 2020,” June 25, 2020. Retrieved from <https://www2.deloitte.com/global/en/pages/about-deloitte/articles/millennialsurvey.html>.

The past year has shown the dedication, resiliency and resourcefulness of the federal workforce. At many agencies, most federal employees shifted quickly to telework as the pandemic spread, while others bravely remained on the front lines in jobs that cannot be performed remotely. On all fronts, federal workers have found innovative ways to serve the people during the pandemic.

Thus, out of crisis comes opportunity. We have a once-in-a-generation moment to transform the workforce and the way it works, and to inspire Americans to enter public service. To be clear, this is not about a larger workforce; it is about a workforce that is more efficient and effective on behalf of the public it serves.

The Partnership has collected [stories](#)¹² and [case studies](#)¹³ of bright spots from the federal pandemic response that demonstrate the resilience, resourcefulness and mission commitment of public servants. A few examples:

- The Department of Energy built a virtual biotechnology laboratory to connect national laboratories and provide researchers with remote access to the technical and scientific capabilities of the labs so they could respond to COVID-19.
- A branch of the National Institute of Mental Health is using artificial intelligence and machine learning to advance research to target COVID-19, shaving years off the front end of therapeutic drug discovery development for the virus.
- In just three weeks, the Veterans Affairs Department created a COVID-19 chatbot to handle the rapid increase in call volume from veterans with questions about health care and benefits.
- A new, high-pressure ventilator the National Aeronautics and Space Administration engineers created in 37 days, tailored to treat COVID-19 patients, was approved by the Food and Drug Administration under an emergency use authorization specifically for people with the coronavirus.
- Artificial intelligence is helping the Walter Reed Army Institute of Research study potential drugs for fighting the coronavirus.
- An institute within the National Institutes of Health launched a database with medical images from tens of thousands of COVID-19 patients, which researchers can use to develop and test AI tools for fighting the virus.

Both the world and the workplace are rapidly changing. In the post-pandemic era, we must not go back to the old ways of doing business when the new ways make more sense. We should seize this moment to modernize the ways in which government operates, which in many instances are predicated on laws and practices that are decades old and out of sync with today's fast-paced digital economy, and invest in a scientific workforce for the future that can expand upon recent innovations.

¹² Partnership for Public Service, "Bright Spots in the Federal Government's Response to the COVID-19 Pandemic," February 21, 2021. Retrieved from <https://ourpublicservice.org/publications/bright-spots-federal-government/>.

¹³ Partnership for Public Service, "Bright Spots: Federal Success Stories from the COVID-19 Pandemic," February 21, 2021. Retrieved from <https://ourpublicservice.org/publications/bright-spots/>.

Solutions for Revitalizing the Scientific Workforce: What Can Congress Do?

Here are ten ways that Congress can accelerate this revitalization and transformation of the federal scientific workforce:

1) Create high expectations for federal leaders.

A transformation of the workforce and how federal employees do their jobs will not be possible without also reimagining leadership in the federal government. Good leaders motivate and advocate for their employees, build trust and create the conditions necessary for employees to perform at their best. The civilian side of government should take a lesson from the military side, where people are viewed as an asset, not a cost, and where investments in leadership development are critical to the strategy for success.

In 2019, the Partnership developed the [Public Service Leadership Model](#),¹⁴ recognizing the unique nature of leadership in government, centered on stewardship of public trust and commitment to public good. We believe this model should be the standard for leaders – both career and political – across the federal government. The model identifies the core values that leaders must prioritize and the critical competencies they must master to achieve their agencies’ missions and desired impact. These include setting a vision, empowering others and being accountable for results. We were proud to create this model with a nonpartisan group of distinguished leaders from across sectors, and in the months to come we hope to work with Congress, the executive branch and others to improve and measure overall leadership effectiveness.

Congress also should hold political and career federal leaders accountable not only for owning policy but also for the organizational health of their agencies. With respect to the workforce, Congress should hold political appointees responsible for recruiting and retaining highly qualified talent, developing future leaders, engaging employees, and holding subordinate managers accountable for addressing performance. Congress should urge agency leaders to use the annual Federal Employee Viewpoint Survey and the Best Places to Work in the Federal Government® rankings to drive better results in their agencies. Employee engagement is not just about happy employees. Higher scores in employee engagement equate to better performance and higher-quality service, which in turn become valuable recruiting tools. For example, in a recent analysis of performance data from nearly 150 Department of Veterans Affairs hospitals across the country, the Partnership for Public Service found that higher patient satisfaction, better call center performance and lower nurse turnover were all associated with a more satisfied and committed workforce.¹⁵

Congress and the administration should also embrace the bold goal of closing the over 15-point gap between the government and the private sector in the Best Places to Work in the Federal Government® engagement index, and even increasing the federal score over the private sector score. The government has a powerful asset in having a mission-driven workforce. This purpose-driven work, if combined with

¹⁴ <https://ourpublicservice.org/our-work/public-service-leadership-model/>

¹⁵ Partnership for Public Service, “Employee engagement is more than just a survey,” March 2, 2020. Retrieved from <https://ourpublicservice.org/blog/employee-engagement-is-more-than-just-a-survey/>.

excellent leadership, will lead to much more engaged employees and better outcomes for the American public.

Additionally, Congress should create a separate promotional track in the Senior Executive Service for technical expertise. This technical track would mitigate the current problem of experts being promoted into the SES in recognition of their technical expertise while lacking the managerial skills that are expected in the current SES structure. A separate and prestigious technical track could be a strong recruiting and retention tool for agencies and would be particularly effective in increasing STEM leadership.

2) Promote government's mission.

Both the world and the workplace are rapidly changing. Our government needs a new generation of young people to serve in a data- and technology-driven environment, with expertise in such sectors as science, technology, engineering, finance, cybersecurity and health care. Making the federal government an “employer of choice” requires greater awareness by the government of what employees want in the workplace, coupled with improved public perception of opportunities in federal service. As the federal government struggles to attract students and recent graduates, it is clear that more must be done to improve the government’s “brand.” Government shutdowns, hiring freezes and negative rhetoric damage the image of government and the people who serve.

The federal government, because of budget constraints, will always have a hard time competing with the private sector on pay, but agencies almost always have an advantage in offering employees a sense of mission. Our Best Places to Work[®] rankings regularly show that the match between employee skills and agency mission is a key driver of employee engagement, second only to effective leadership. Too often, though, federal job announcements are dry, confusing and fail to inspire. The Partnership has identified bright spots in marketing, such as NASA’s custom-built career website, which supplements USAJOBS and showcases their mission, including through videos from current employees sharing their stories.¹⁶ NASA understood that, to attract professionals in STEM fields, the agency needed to set itself apart from other employers by focusing on its unique mission and impact. Other agencies, such as the Department of the Interior, leverage social media platforms to promote their missions and the work of their agency.

The federal government needs to do more to showcase the incredible array of professional opportunities it offers and to recognize the accomplishments and innovation of the current workforce. Without compelling and shared stories of success in government, government will struggle to become an employer of choice for the tech-savvy, STEM-minded, and other forward-looking talent that government needs to attract. The Partnership’s annual [Service to America Medals](#) (Sammies) program helps address this lack of recognition by highlighting the unique accomplishments of those in our federal workforce. Below are just a few examples of what honorees have accomplished:

¹⁶ Partnership for Public Service and Salesforce, “Tech to Hire: Transforming Federal HR Beginning with Recruiting and Hiring,” October 3, 2018. Available at <https://ourpublicservice.org/wp-content/uploads/2018/10/Tech-toHire.pdf>.

- Created a game-changing technology that removes carbon dioxide from power plant emissions and absorbs heavy metals, such as lead, from municipal water supplies.
- Identified the chemical compound in vaping products that caused life-threatening lung injuries among young adults, communicating the danger to public health and saving lives.
- Pioneered innovative research that could lead to a cure for sickle cell disease, an illness that affects more than 20 million people worldwide.
- Built the world's largest and most influential repository of genetic sequence data now being used by biomedical researchers around the world, including those studying infectious, autoimmune and cardiovascular diseases.
- Revolutionized scientific research and our understanding of the long-term effects of concussions, including chronic traumatic encephalopathy, in veterans and athletes.
- Conducted important research on the harm that commonly used chemicals have on eyesight and the central nervous system, leading to new standards to protect the public from overexposure to toxic substances.

This subcommittee can also play an important role in encouraging colleagues to recognize the successes of the federal workforce. Federal employees are often blamed for policy failures, and rarely acknowledged when things go right. One way to revitalize the workforce is simply to change the tone and get away from the demeaning rhetoric that frequently characterizes discussion of the federal workforce. Political leaders should celebrate outstanding contributions, such as the remarkable achievements of the nominees and winners of the annual Service to America Medals¹⁷ and the Presidential Rank Awards.

3) Improve recruiting and hiring.

Congress should start the hard process of updating the legal framework for the civil service, much of which dates back to laws passed in 1949 and 1978. The federal government needs doctors, economists, emergency response specialists, and cybersecurity experts, but we have a personnel system designed for phone operators. The antiquated system is an impediment to the government's ability to meet the needs of today's interconnected, technology-driven world and prepare for the challenges of the future. A government-wide initiative could help agencies improve the hiring process so they can more easily attract, assess, hire and onboard highly qualified applicants. This effort should include simplifying and demystifying the application processes, including the USAJOBS portal.

As a starting point, Congress should enact the civil service recommendations of "[Inspired to Serve](#)," the final report of the National Commission on Military, National and Public Service.¹⁸ On a bipartisan and consensus basis, and after studying the federal civil service for over two years, the Commission issued last year a bold and thoughtful set of recommendations for improving talent management, including proposals to make federal hiring more efficient. We urge Congress to move forward as quickly as possible to enact these proposals. Some key Commission recommendations – and ideas the Partnership has long supported – include:

¹⁷ <https://servicetoamericamedals.org/>

¹⁸ National Commission on Military, National and Public Service, "Inspired to Serve," March 25, 2020. Retrieved from <https://inspire2serve.gov/reports>.

- Amending the criteria for direct hire authority to enable agencies to use this authority when they face a shortage of highly qualified applicants.
- Expanding direct hiring authority for students and recent graduates.
- Allowing agencies to noncompetitively re-hire federal employees at any grade for which they are qualified.
- Modernizing the veterans' preference rules, which are currently confusing for both agencies and veterans alike.
- Improving the Pathways programs, which include the Presidential Management Fellows and intern and recent graduate programs.

4) Get young people in government.

Today's college students are interested in making a difference, but those considering the federal government as a place where they can do so face challenges in getting hired. Programs that Congress should reinvigorate include the Pathways programs, which provide younger, early career talent with exposure to and positive experiences working in government. Needed improvements include ensuring internships are paid and easing agencies' ability to convert interns into full-time positions. In addition to lifting the caps on the expedited hiring authority for students and recent graduates, Congress should also consider a ROTC-like program for federal service and encourage agencies to recruit on campuses.

The need to improve the hiring process is especially urgent for STEM jobs, where government must compete with private sector companies developing emerging technologies. The federal government's antiquated hiring system is not designed to compete at the speed of private sector companies who can actively recruit and quickly hire young STEM talent. Dr. Elizabeth Kolmstetter, NASA's Director of Talent Strategy and Engagement, gave an example of one Texas A&M student who met a SpaceX recruiter and was offered a job the same day, finalized the offer over the weekend and moved to California the next week to begin work.¹⁹ Kolmstetter also noted that in fiscal year 2018 about 61% of NASA's engineering vacancies, 87% of scientist vacancies, and 86% of mathematics vacancies had fewer than three qualified (not most qualified)²⁰ applicants. The talent is out there, and government's mission remains more compelling than ever, but agencies are losing out because the federal hiring system isn't nimble enough to compete with the private sector.

While internships are a critical component of the talent pipeline and agencies should strategically recruit and hire college students, government should also aim to reach future scientists earlier in their lives. STEM education and exposure to the work of federal employees can be foundational experiences for students as early as elementary school. Finally, representation matters and if government hopes to recruit more women and people of color to the scientific workforce, it would be well served to share their stories with the next generation.

¹⁹ Testimony before the National Commission on Military, National, and Public Service, "Public Service Hearing: Critical Skills and Benefits," May 15, 2019. Retrieved from https://inspire2serve.gov/sites/default/files/2020-09/Kolmstetter%20Testimony_Public%20Service%20Hearing_Critical%20Skills%20and%20Benefits.pdf

²⁰ Qualification standards are "a description of the minimum requirements necessary to perform work of a particular occupation successfully and safely," according to [OPM](#).

5) Promote innovative talent models.

To attract talent at all levels, Congress and the administration should work together to create new and innovative pathways – and expand existing ones – for diverse mission-critical talent to join public service through fellowships, talent exchanges and service corps.

In 2019, the Partnership collaborated with Mastercard, Microsoft, Workday and a dozen federal agencies to establish the [Cybersecurity Talent Initiative](#), which aims to build the next generation of cyber leaders for our country. This innovative cross-sector opportunity enables recent graduates to spend two years working for and receiving training in the federal government in a cyber-related position. At the end of two years, they will have an opportunity to apply for a position with one of the corporate partners and, if hired, will be eligible to receive student loan assistance up to \$75,000 from their private sector employer. This model is the first of its kind. The inaugural class of eight future cybersecurity leaders brings a variety of academic and professional experience to five federal agencies.

One benefit of these efforts is that we are educating young people about cyber careers across sectors and helping them learn about organizations and missions they may have never heard of before. Other federal programs like the U.S. Digital Service, 18F, and Presidential Innovation Fellows allow “technical tours of duty” with the federal government and are unique in helping promote and respond to an increasing desire for the next generation to be more mobile in their careers. The programs provide a model for filling other “hard-to-fill” positions in government.

6) Overhaul the pay and classification system.

The government’s 1949 pay and classification system was designed for clerical workers, not for the highly professional, specialized skills that are needed in today’s civil service. The lack of an occupation-specific, market-based compensation system is particularly damaging to the ability of the federal government to recruit and retain scientists, many of whom have far more lucrative opportunities in the private sector. The OPM Handbook of Occupational Groups and Families contains 407 separate job series. The sophisticated cyber, IT, data science and STEM skills that the government badly needs were barely envisioned when the system was created. We need broader pay-banding that allows agencies the flexibilities to set more market-based, occupational-specific salaries. Unique pay systems like that created under the authority of the Financial Institutions Reform, Recovery, and Enforcement Act (FIRREA) of 1989 are an acknowledgement that a rigid pay system does not work. While the federal government will never be able to match private-sector salaries for many positions, broader pay bands would enable agencies the flexibility to attract the most critically needed talent.

The Partnership’s report, “[Building the Enterprise: A New Civil Service Framework](#),”²¹ laid out a new pay-setting process for the federal workforce. The modernized pay system would establish broad pay bands for employees rather than rigid grades, better align salaries and benefits on an occupation-by-occupation basis, set salaries based on those comparisons and give agencies the flexibility to bring talent in at the appropriate salary level. While this is a long-term effort, allowing market-based pay for specific

²¹ Partnership for Public Service, “A Time for Talent: Improving Federal Recruiting and Hiring,” August 26, 2020. Retrieved from <https://ourpublicservice.org/publications/building-the-enterprise/>.

mission-critical occupations in the near term is a place to start and would help attract and retain needed talent. Again, the final report of the National Commission on Military, National and Public Service also endorses a comprehensive modernization of the entire federal talent management system.

7) Invest in the HR workforce.

The Partnership's recent studies reinforce the need for investment in the federal human resources workforce. For example, our "[State of Renewal](#)" report lays out recommendations for improving the State Department's talent management life cycle over six to twelve months, without the need for any additional legislation, as well as changes that will take longer and require Congressional action. Our report "[Time for Talent: Improving Federal Recruiting and Hiring](#)"²² lays out practical approaches that agencies can take within the existing system to attract mission-critical talent. And in "[Rapid Reinforcements: Strategies for Federal Surge Hiring](#),"²³ we identified strategies that can help agencies when faced with circumstances that require a rapid growth in the workforce, such as national emergencies, large-scale attrition, new mission requirements, or the need for emergent skills.

Agencies cannot move forward on these recommended strategies, however, unless their human resource offices have the requisite skills, capacity and tools. There are outstanding and innovative HR professionals across the government, but there are also skills gaps in their offices. They are often overwhelmed by responsibilities and the complexities of federal human capital law. Often, HR specialists are not familiar with the authorities they have available to them, and do not have the technologies, data and analytical skills that would better enable them to recruit and hire while also engaging in strategic workforce planning for the future.

OPM, the White House Office of Science and Technology Policy (OSTP) and agencies with large STEM hiring needs should create a government-wide STEM human-capital strategy to project future needs and develop a list of actions that can address STEM hiring challenges, without diluting the ability of agencies to tailor and innovate on their own. That government-wide strategy should include an integrated, interagency set of special STEM salary rates that keep the government competitive for STEM talent.

Congress should jump-start efforts to increase the skills and professionalism of the federal HR community by requiring OPM to start providing technical training to HR specialists again, conducting a review of overall training needs and how those needs can be met, and funding IT needs of the HR community. Congress should also ensure that agencies undertake strategic workforce planning and make sure that Chief Human Capital Officers have a voice in the strategic and budget planning processes so that agency leaders will be informed of the HR needs necessary to carry out their policies and programs.

²² Partnership for Public Service, "A Time for Talent: Improving Federal Recruiting and Hiring," August 26, 2020. Retrieved from <https://ourpublicservice.org/publications/a-time-for-talent/>.

²³ Partnership for Public Service, "Rapid Replacements: Strategies for Federal Surge Hiring," October 29, 2020. Retrieved from <https://ourpublicservice.org/publications/rapid-reinforcements-strategies-for-federal-surge-hiring/>.

8) Create a workforce culture that embraces technology, innovation and collaboration.

Our new report “[Resilient: Keeping Your Wits – Workforce, Innovation, Technology, Security – About You](#),”²⁴ summarizes a survey of 300 federal leaders and a series of roundtable discussions on the lessons of the pandemic. A key takeaway is that an agile workforce, cutting-edge cybersecurity, modern technologies, and continual innovation are all interdependent in creating resiliency in the federal government. Also, when asked what a resilient federal government looks like, more respondents linked resiliency to an agile workforce than the other issue areas discussed in the report.

The success of the federal workforce depends not only on the quality of its talent and its leaders, but also on a culture where employees are encouraged to try new ideas and make smart technology investments. The new workplace environment must also involve more collaboration between federal, state, local and tribal governments and the private and non-profit sectors, a frequent lapse that is on full display now with the uneven rollout of the coronavirus vaccines.

Recognizing that revitalizing the government requires attention to leadership and stewardship, talent, innovation and technology, and collaboration, the Partnership’s “[Roadmap for Renewing the Federal Government](#),”²⁵ launched last fall, describes the challenges the government faces in each of these areas, bright spots showing improvements, and needed solutions. The Roadmap provides a checklist of actions that the new administration can take in the first 100 days to begin to lay the groundwork for renewing the federal government, and the issue pages on the website summarize proposals that we believe should have the support of both Congress and the administration.

9) Make diversity, equity and inclusion a central part of workforce strategy.

A commitment to diversity, equity and inclusion must be a cornerstone in the transformation of how the government recruits, hires, develops and retains talent.²⁶ The Partnership hears consistently from current and former agency leaders that it is critical to address this issue in the scientific community. This commitment ultimately leads to higher organizational performance by ensuring the door is open for top talent and by enabling new and creative ways of thinking that empower better decision making. Also, a government that better reflects its people also will increase public trust in our democratic institutions.

President Biden has issued a memorandum prioritizing diversity, equity and inclusion as a national security imperative, in order to ensure that critical perspectives and talents are represented in the

²⁴ Partnership for Public Service, American Council for Technology and Industry Advisory Council, and Meritalk, “Resilient: Keeping Your Wits – Workforce, Innovation, Technology, Security – About You,” January 25, 2021. Retrieved from <https://ourpublicservice.org/publications/resilient-keeping-your-wits-about-you/>.

²⁵ Partnership for Public Service, “Roadmap for Renewing the Federal Government. Retrieved from <https://ourpublicservice.org/roadmap-for-renewal/>.

²⁶ For example, see Jennifer Miller, “For young job seekers, diversity and inclusion in the workforce aren’t a preference. They’re a requirement,” Washington Post, February 18, 2021. Retrieved from <https://www.washingtonpost.com/business/2021/02/18/millennial-genz-workplace-diversity-equity-inclusion/>.

entire national security workforce.²⁷ Congress should support these efforts, and should help ensure that diversity, equity and inclusion are in the DNA of every department and agency in the federal government.

10) Continue oversight and get to know federal employees.

The subcommittee today is helping to identify challenges facing the federal scientific workforce and find solutions. We encourage you to make this hearing an annual occurrence. The subcommittee could follow up by holding a hearing on scientific agencies and subcomponents that are doing well with STEM recruiting, hiring and employee engagement, to help celebrate success and encourage replication.

Members of Congress should also get out to visit agencies and their employees and hear from those on the front lines. Visiting federal employees where they work, whether at headquarters or in the field, is one of the best ways to understand both the deep challenges facing the federal scientific workforce and the incredible work that the federal government does on behalf of the American people every day. Better yet, the vast majority of federal employees are located outside of Washington, in every state and congressional district – so they are also your constituents.

Finally, policymakers should remember that they are stewards of government’s brand. How Members of Congress discuss public servants matters, especially when communicating with the next generation. When speaking to students – in formal settings like commencement speeches or simply in conversations with constituents – take the opportunity to share government’s unique, mission-focused work and the vital role of federal employees.

Conclusion

Thank you again for holding this hearing. Revitalizing the scientific workforce is a complex but necessary endeavor, and this testimony only scratches the surface of the efforts that are needed across the executive and legislative branches. We look forward to working with you and your staff as you move forward with your legislative and oversight agenda for the federal scientific workforce in the 117th Congress.

²⁷ President Joseph R. Biden Jr., “Memorandum on Revitalizing America’s Foreign Policy and National Security Workforce, Institutions, and Partnerships,” February 4, 2021. Retrieved from <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/02/04/memorandum-revitalizing-americas-foreign-policy-and-national-security-workforce-institutions-and-partnerships/>.