



University of Colorado **Boulder**

2020 Program Review

Institute of Behavioral Science

Academic Review and Planning
Advisory Committee Report

Approved

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Contents	AY 2020-21 ARPAC Members – 3
	Process Overview – 4
	Unit Overview – 4
	Past Reviews – 16
	Analysis – 17
	Recommendations – 22
	Required Follow-Up – 25

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Process Overview

The Academic Review and Planning Advisory Committee (ARPAC) review of the Institute of Behavioral Science (IBS) was conducted in accordance with the 2020 program review guidelines. Self-study responses were prepared by the unit and checked by an internal review committee composed of two University of Colorado Boulder (CU Boulder) faculty members outside of the unit. The internal reviewers submitted a summary of findings derived from the self-study and from interviews and/or surveys with faculty, staff, and student unit members. An external review committee, consisting of three experts from outside of CU Boulder, visited the unit over March 2 and 3, 2020 and submitted a report based upon review of relevant documents and interviews with faculty, staff, and student unit members and university administrators. Internal and external reviewer comments and recommendations are shared when relevant throughout this report.

Unit Overview

The campus' standardized description of the Institute of Behavioral Science is available on the website of the [Office of Data Analytics \(ODA\)](#). ODA updates the profile annually in the fall semester. This report cites data posted in October 2019, reflecting the state of the Institute of Behavioral Science as of the academic year (AY) 2018-2019.

Disciplinary Context

The Institute of Behavioral Science's mission is defined by its commitment "to advancing knowledge of society's most pressing challenges, and to pursuing solutions to those challenges through innovative and interdisciplinary research, education, and engagement in the world." According to its self-study, the institute's work brings together the expertise of personnel who represent at least 15 academic units including 68 research fellows, 43 research associates, six postdoctoral fellows, 67 graduate and undergraduate students, and 15 support staff members, making it one of the university's largest research-focused enterprises. IBS is home to five interdisciplinary research programs including environment and society; health and society; international development; population; and problem behavior and positive youth development. Nested within three of the institute's programs are its research centers, including the Natural Hazards Center, the Center for the Governance of Natural Resources, the

University of Colorado Population Center, and the Center for the Study and Prevention of Violence. Research activities across these programs and centers are supported and enhanced by the institute's in-house computing and research services.

Beyond the institute's umbrella of programs and centers, a consortium of regional universities founded the Rocky Mountain Research Data Center (RMRDC) in 2017 to provide local access to confidential federal statistical data to the research community across the Front Range. IBS was given the responsibility of overseeing RMRDC, which is part of a national network of 30 federal statistical research data centers.

The external reviewers note that IBS enjoys "an excellent reputation nationally and internationally for its centers and programs." To cite a few examples:

- The Problem Behavior and Youth Development Program is widely recognized as "one of the strongest research efforts on problem behavior in the U.S. and internationally."
- The National Science Foundation (NSF) designated the Natural Hazards Center as the information clearinghouse for the societal dimensions of hazards and disasters.
- The CU Population Center is nationally recognized for "its scientific leadership in the fields of biodemography and environmental demography."

Research and Scholarship

The Institute of Behavioral Science conducts research with diverse themes in social and behavioral sciences. As described previously, the institute is structured into five interdisciplinary research programs and a group of centers for specific projects. The self-study provides a thorough description of the scope and scholarship of each research program, highlighting the following:

- The Environment and Society Program seeks to understand human responses to natural hazards, natural resource governance, and climate change adaptations.
- Researchers with the Health and Society Program investigate the social, economic, behavioral, and biological determinants of health.

- Researchers with the Program on International Development study economic, political, and social development as it relates to themes of political violence, economic and political governance, and globalization.
- The Problem Behavior and Positive Youth Development Program focuses on understanding “the nature, course of development, and later life consequences of behaviors that put young people's health and development at risk.”
- The Population Program, which includes the CU Population Center, focuses on migration and population distribution, health disparities and health behaviors, and environmental demography, among other interests.

The institute has a strong record of extramural funding. Between January 2015 and October 2019, IBS was awarded 118 grants from nearly 50 sources, including from federal and non-federal sponsors. According to the AY 2018-2019 ODA unit profile, the institute’s direct grant expenditures were \$52 million for the five years ending in FY 2019.

As of November 2018, ODA indicates that the seven-year average productivity per IBS-affiliated tenure-stream faculty member is 28.6 refereed articles and chapters, 33.8 conference presentations and papers, 0.5 referred books and monographs, and 0.1 creative works. These productivity measures place IBS-affiliated researchers first for authorship of refereed articles and chapters, and second for conference presentations and papers among the ten social science units in this review cycle. The self-study notes that IBS researchers are not only productive on campus, but they also share their work with a broad audience beyond the university.

Collaborations

As stated in its strategic plan, IBS serves as a hub for interdisciplinary research at CU Boulder, and “has remained at the forefront of the social and behavioral sciences and a powerful force in collaborative engagement for more than half a century.” The institute’s research programs feature collaborations between faculty members with diverse areas of expertise, reaching across the social and behavioral sciences, the arts and humanities, biomedical and environmental sciences, and engineering. As suggested in the self-study, such collaborations open opportunities to gain support from a broad array of external funding sources and to reach a broad academic audience. IBS’ emphasis on collaboration also goes beyond its research

endeavors; its partnerships with other academic units on campus have served to enrich the training and support afforded to graduate students and postdoctoral fellows.

Campus Context

Founded in 1957, the Institute of Behavioral Science (IBS) serves as a focal point for interdisciplinary social and behavioral science research at CU Boulder. Since its inception, the institute has provided a setting for interdisciplinary collaborative research on societal problems and for advancing knowledge through education and engagement. The Institute of Behavioral Science is one of 12 campus institutes, and the only one dedicated to research in the social sciences. IBS-affiliated faculty members represent a broad cross-section of CU Boulder units including Anthropology, Economics, Environmental Studies, Geography, Political Science, and Sociology, as well as the Colorado School of Public Health and the CU Anschutz Medical Campus. The institute has also continued to recruit new fellows whose work broadens the range of interdisciplinary research, drawing from the departments of Integrative Physiology, and Psychology and Neuroscience, the Leeds School of Business, and the School of Education.

Buttressed by the breadth of its research portfolio, IBS is a wellspring for mentoring and training graduate students and postdoctoral fellows for future research work. In partnership with the Center to Advance Research and Teaching in the Social Sciences (CARTSS), the institute has developed and formalized a mentoring program—the Interdisciplinary Training in the Social Sciences program (ITSS)—aimed at “building a supportive and vibrant interdisciplinary research community” through training, professionalization, and support opportunities, as described by the self-study. The launch of this initiative included a panel on “The Future of Training and Mentoring in the Social and Behavioral Sciences.”

True to its mission, IBS offers cross-disciplinary academic activities such as talks, colloquia, and lecture events, most of which are available to anyone on campus. IBS also hosts conferences, workshops, and professional meetings, gathering together researchers, students, practitioners, and policymakers to discuss important issues for the U.S. and the world. One example of these professional activities is the annual Natural Hazards Research and Application Workshop that brings together researchers, practitioners, and policy makers to improve hazards and disaster research, practice, and policy.

Faculty and Research Personnel

According to the AY 2018-2019 ODA unit profile, IBS employs one tenured faculty member as its director and 66 professional researchers who do not hold tenure-track appointments.

According to the self-study, IBS rosters nine faculty full-time equivalents (FTEs), including eight full-time faculty members and two half-time faculty members. As of November 2019, IBS counts as its faculty affiliates 68 institute fellows, 43 professional researchers, and six postdoctoral fellows.

Since 2013, IBS has undergone several leadership changes. After a period of leadership stability that lasted decades, the institute's second director retired in 2014. The institute identified an external hire, and that individual became its director in 2015. Additionally, IBS hired new directors for its health and society, international development, population, and problem behavior and positive youth development programs, as well as for the Natural Hazards Center.

The self-study, and the reports from the internal and external reviewers, indicate an urgent need to find a successor for the current director, who is planning to retire. The institute hoped to obtain permission to recruit during AY 2020-2021, as a preemptive and precautionary measure to ensure a smoother and more effective succession. The self-study and external reviewers suggest that an incoming director could overlap with the current director for a year so that the two could work closely together. The external reviewers also indicate, "there are some strategic advantages in conducting a national search, foremost among them is the potential" for a more diverse candidate pool.

In addition, the external reviewers note that IBS is likely to see three faculty member affiliates retire over the next five years. The self-study therefore points to a need for the institute to recruit new faculty affiliates.

Staff

According to the AY 2018-2019 ODA unit profile, IBS employs 40 university staff employees covering duties such as finance and accounting, information technology support, and research services support. Of the 40, 28 work in a temporary capacity. The unit also employs two state classified staff in administrative roles, and 21 hourly student assistants. The self-study notes

that additional staff hires might be needed to oversee planned student recruitment efforts, especially plans to engage with more undergraduates.

Undergraduate Education

The institute does not grant undergraduate degrees. It contributes to undergraduate education by hiring students as hourly assistants on various research projects and “is committed to increasing its engagement with undergraduate education in a way that is consistent with [its] research mission.” The institute suggests several ideas for achieving this in its self-study, including the establishment of an annual IBS scholars’ program, the development of internships and cross-disciplinary training for undergraduate students, and encouraging “IBS researchers who are not affiliated with a department to serve as undergraduate research supervisors for honors theses or UROP [Undergraduate Research Opportunities Program] projects.” However, the external reviewers recommend that IBS focus on training for graduate students, postdoctoral fellows, and professional research assistants.

Graduate Education

IBS does not grant graduate degrees. Instead, the institute offers a graduate certificate in population studies through the Population Program and CU Population Center.

There are approximately 55 graduate students officially affiliated with the institute who hail from various departments, including Economics, Environmental Studies, Geography, History, Political Science, and Sociology. IBS-affiliated graduate students and postdoctoral fellows are assigned either research offices or cubicle workspaces, and are invited to partake in institute wellness and social activities. Research-focused opportunities organized by IBS include an annual institute-wide symposium, an annual National Science Foundation (NSF) application-writing workshop, a weekly interdisciplinary proseminar, a dissertation proposal writing workshop, and training in statistics and related software. In partnership with the Graduate School and the College of Arts and Sciences, IBS established the Interdisciplinary Training in the Social Sciences (ITSS) Program in the fall of 2018. The program is jointly coordinated between IBS and the Center for the Advancement of Research and Teaching in the Social Sciences (CARTSS), to provide social sciences graduate students with methods and software training, and opportunities for professional engagement.

IBS also facilitates student research funding opportunities such as competitive small grants and summer funding. Students can also avail themselves of competitive scholarships to pursue statistical studies at the Summer Program in Quantitative Methods of Social Research of the Inter-university Consortium for Political and Social Research (ICPSR). In addition, the institute's training program brings IBS graduate students and postdoctoral fellows together with the IBS director and training director on an annual basis.

Postdoctoral Training

The self-study counts six postdoctoral fellows as institute affiliates, a significant decline since 2013 when IBS had 20. Of the six, two work with the Health and Society Program, three with the Natural Hazards Center, and one with the International Development Program. According to the self-study, the postdoctoral fellows participate in ITSS (described in the previous section). The ITSS director expresses confidence that the program meets postdoctoral fellows' support needs. This confidence and excitement has spurred further goal-setting "for the coming years [...] to strengthen and deepen these offerings and determine how best to communicate them clearly and equitably" to ITSS participants.

The external reviewers identified additional postdoctoral training needs during their March 2020 visit. The reviewers met with and interviewed the IBS-affiliated fellows and noted a desire for training focused on preparing for the academic job market. The fellows also felt that IBS could do more to recognize their work, especially to distinguish news about their contributions from updates about graduate student research. In their report, the reviewers also posed a question about the availability of a fellowship program specifically oriented to recruit participants from underrepresented populations. However, CU Boulder already has such a program in place through the Chancellor's Postdoctoral Fellowship for Diversity.

Budget

IBS receives the majority of its funding from a mix of university monies and external grants. The university's contribution covers the salaries of nine institute-rostered faculty members (eight full-time and two half-time) and stipends for the institute director, the Population Program and CU Population Center director, and the Natural Hazards Center director. The university also contributes to funding for the institute's research computing services, programmatic activities, faculty member startup costs, and faculty retention packages.

As stated in self-study, and by the internal and external reviewers, it is critical for IBS to develop and maintain specialized computing capabilities in support of social sciences research. The institute's computing services fill a gap between desktop computing and supercomputing resources. However, due to its unique and specific mid-level computing needs, IBS has had to bear the burden and costs internally. The costs of the institute's computing environment and of its technology staff is paid for by the university general fund, the IBS administrative budget, and direct-cost contributions from IBS research projects. The internal reviewers believe "it is reasonable that some resources [from the university] would be afforded to IBS to support these efforts," since the institute avoids offloading their computing needs to the Office of Information Technology.

The Rocky Mountain Research Data Center (RMRDC) was established through a three-year NSF grant, along with additional financial support from the Research and Innovation Office and the provost. Funding will be exhausted over the next two years and will need to be renewed for RMRDC to survive. The institute does not have any funds in its own budget to maintain the data center's operations and is looking to work with campus leadership to secure the needed funds.

Grant revenues constitute a second significant funding source for IBS, providing salaries for some IBS administrative staff members and covering general operating costs, such as for equipment, physical plant upgrades, and day-to-day needs. In collaboration with its affiliated faculty members' tenure home units, the departmental allocation of indirect cost recovery (DAICR) also permits the institute to organize faculty member startup and retention offers. The self-study indicates that IBS projects have netted an average of \$2.12 million per year in the last three years, and approximately 28.2% of the amount was returned to IBS.

A decline in federal research funding was noted at all stages of this year's review as a serious challenge requiring funding diversification to make the institute more resilient. In this spirit, IBS has sought funding possibilities among state and local governments and from private foundations. While these awards typically incur a relatively low indirect cost rate, IBS has also proactively addressed this with the Office of Contracts and Grants by establishing a standard set of direct costs for administrative and technology services, to be applied to all grants in order to shore up needed resources for core activities. Finally, IBS has built up a few small

endowments. For the most part, these are employed to fund institute conferences and to support student activities.

Space and Infrastructure

The institute's home, the IBS building, was completed in fall 2010. The five-story building includes nearly 56,000 gross square feet. From 2010 to 2019, IBS occupied the building's upper four floors and part of the basement. IBS was granted full use of the building in September 2019.

The IBS building includes offices, cubicle workstations, meeting and conference rooms, secure data spaces, and common areas including a kitchen, lounge space on the third floor, and workrooms with copying, scanning, and printing facilities. Since the 2013 review, the institute has had to find new ways to accommodate its growing research enterprise, including to create additional workstations and common workspaces, renewing audio visual equipment and outdated computers, updating the Natural Hazards Center Library space, and converting and renovating storage rooms to accommodate the security needs of the Rocky Mountain Research Data Center.

As noted in the self-study, IBS provides social science computing services for the entire campus. These services include computational servers, file sharing, and a computer laboratory.

Governance

The institute revised its bylaws in September 2018. The bylaws describe an administrative structure consisting of a director and a board of directors. Under the current bylaws, all of the institute's constituent groups are represented on the institute's board of directors and meet at least once a month. The board is composed of the institute director, the research program directors, the training director, and one representative from each of the following IBS groups:

- Research center directors
- Research professors, senior research associates, and research associates
- Professional research assistants
- Administrative and computing and research services staff

- Fellows who are CU Boulder tenure-track faculty members

The bylaws also describe voting rights, the organization of programs and centers, the responsibilities of directors, and procedures governing the selection of new hires and appointing individuals into institute, program, or center leadership roles. Policies and procedures distinct from the bylaws address rules for determining faculty compensation, tenure-stream faculty member reappointment and promotion, and student and faculty grievances.

As previously detailed, IBS is organized into five research programs. The centers exist to host focused research activities within a program. A director leads each research program; likewise, the centers are led by their own directors. The IBS executive committee, which is responsible for personnel decisions, comprises the IBS director and the five research program directors.

Inclusive Excellence

According to the AY 2018-2019 ODA unit profile, 11 of the institute's affiliated tenure-track faculty members identify as women (45%), 10% as belonging to a minority group, and 10% as belonging to an underrepresented minority group.

In an attempt to outline the current state of IBS diversity, the self-study tabulates an approximation of the institute's gender and race/ethnicity distributions. Of the 246 employees included in its assessment, about 60% identify as women, 15% identify as belonging to a minority population (i.e., Asian American, African American, Hispanic/Latinx, Native American), and 18% did not respond and were categorized as "unknown." The self-study further notes that its tenured and tenure-track affiliated faculty and postdoctoral fellow populations are the least diverse in the institute.

The external reviewers, perhaps also drawn to this observation, and unaware about the existing Chancellor's Postdoctoral Fellowship for Diversity Program, suggested that IBS pursue more diverse hires and establish a fellowship program to attract postdoctoral fellows and assistant professors from underrepresented populations to join CU Boulder.

In an effort to further the institute's culture of inclusive excellence, the self-study notes that IBS will consider creating a director of inclusive excellence position. The institute intends to select internally for the role and to have that individual serve on its board of directors. In addition, IBS hopes to work more closely with the Office of Institutional Equity and Compliance (OIEC) in pursuit of progress on this front.

Unit Culture

The internal reviewers found that the Campus and Workplace Culture (CWC) Survey conducted by ODA and OIEC in September 2019 supported their own assessment from in-person interviews of institute affiliates that the IBS culture is generally positive and healthy. The culture survey received a 54% response rate, distributed almost equally by gender, with 56% of respondents identifying as women and 53% as men.

A majority of the culture survey respondents indicate that they feel welcome, their work is valued, and have a sense of pride belonging to IBS. However, the survey responses also indicated several areas for improvement. Notably, about half of the professional and postdoctoral employees do not feel a strong sense of belonging within IBS. While most respondents perceived the institute's workplace culture as "collegial, respectful, and supportive," a sizable proportion of research employees and postdoctoral fellows bring up concerns about resource transparency, referring to full disclosure of the reasoning behind allocation decisions. The research employees and postdoctoral fellows also suggest that the institute has room to improve its practices for addressing uncivil behavior. As indicated in the self-study, IBS recognizes the need to have regular communication about resource allocations.

In their assessment of the survey results, the internal reviewers note an apparent disconnect between the graduate students' perceptions of the institute versus their perceptions of CU Boulder writ large, as "only 38% of graduate students felt that the university would take them seriously compared to 89% who felt that IBS would take them seriously." In its self-study, IBS attributes this variation to the institute's success in providing its employees with a safe working environment.

The self-study also conveys the institute's intentions to improve its workplace, including by "developing more transparent administrative practices" and "improving employee support,

management practices, and IBS norms.” IBS also plans to take a studied approach to practices intended to improve its culture; for example, by exploring various methods to make people feel more included and replicating those that work best.

Past Reviews

IBS has made steady and significant progress toward addressing the recommendations of the 2013 ARPAC review. As already noted, the institute successfully replenished its leadership over this time, both from outside of CU Boulder (including new directors for the institute as a whole, the Problem Behavior and Positive Youth Development Program, and the Natural Hazards Center) and internally (including new directors of the Health and Society Program, the Program on International Development, and the Population Program). Progress on several 2013 review recommendations followed these leadership transitions including:

- Completing an actionable strategic plan;
- Improving institute-department relations and communications; and
- Revising the institute's bylaws and making governance policies and procedures more transparent and inclusive.

The institute also put in place formal mechanisms that provide its graduate students and postdoctoral fellows with skills training, improved mentoring, and community-building opportunities. These developments have benefited not only IBS affiliates but also aspiring social scientists across CU Boulder, as evidenced by the Interdisciplinary Training in the Social Sciences (ITSS) program that emerged from the institute's efforts. IBS now organizes annual meetings for graduate students and postdoctoral fellows with the director and training director, NSF grant workshops, and includes a student/postdoctoral representative to its board of directors.

IBS has revised the Population Graduate Certificate Program since the last review. A Population Center webpage is dedicated to the certificate, and describes the program's requirements, courses, extracurricular activities, and participating faculty members.

Additionally, IBS studied its hiring practices, particularly for faculty and postdoctoral positions, to make these more inclusive. Its work on strategic planning and improved governance policies and procedures likewise reflects this awareness, even as opportunities remain to make further strides toward a more inclusive institute environment. ARPAC commends IBS for its past accomplishments and sees these as a solid foundation for further excellence.

Analysis

Analysis of the documents and data provided for this review reveals a highly productive unit with a clear vision for building upon its reputation and strengths in order to meet its research mission. IBS is well-positioned to address the challenges described by this report, but doing so will require careful planning and adequate resource allocations.

Strategic Vision and Planning

Building on its strength in interdisciplinary social science research, IBS put in place a five-year strategic plan in 2015. The 2016–2021 plan lays out a strategic vision to help the institute achieve its goal of “advancing knowledge of society’s most pressing challenges, and to pursuing solutions to those challenges through innovative and interdisciplinary research, education, and engagement in the world.” Importantly, at the time of the self-study, IBS updated its strategic plan to include four additional priorities: to develop a more comprehensive inclusive excellence approach; to increase undergraduate research mentoring opportunities; to make policy research more visible; and to broaden the institute’s focus on social change and inequality as cross-cutting research themes. All of these priorities seem promising in building on the institute’s existing strengths and in addressing near- and long-term opportunities for the campus and the broader community. That said, it is not entirely clear that IBS has considered how to fund these priorities, particularly to expand undergraduate research mentoring, except to state that it can initially support such goals using indirect cost recovery (DAICR) monies. Beyond this, IBS argues that the university needs to contribute additional resources.

The self-study and the internal and external reviewers all address the need for institute succession planning. IBS faces the upcoming retirement of its director and other institute faculty at the end of the 2021-2022 academic year. IBS has requested a director search that would include both external and internal candidates. The institute would like this search to begin during the 2020-2021 academic year to allow for a transitional period before the current institute director retires. The director’s pending departure, as well as other upcoming retirements, provide an opportunity for IBS to diversify its faculty. IBS sees a need to recruit both junior and senior rank faculty to help with leadership vacancies while also better aligning the specializations of its personnel with its updated strategic plan.

Graduate and Postdoctoral Training

IBS provides interdisciplinary training and support to graduate students and postdoctoral fellows including those without formal IBS affiliations. Since the 2013 review, the institute has devoted attention and resources to expanding its training and mentoring, as evidenced by its recent partnership with the Center to Advance Research and Teaching in the Social Sciences (CARTSS) in launching the Interdisciplinary Training in the Social Sciences (ITSS) program. The external reviewers urge the institute to further formalize this training and to tailor program offerings and communications to the separate needs of graduate students and postdoctoral fellows. In particular, the institute could expand its training focus beyond research support to offer career development training opportunities to individuals keen on pursuing academic placements. ARPAC urges IBS to explore these opportunities.

Budget

The internal and external reviewers agree with the unit's needs prioritization, as detailed in the self-study. The institute gives first priority to its hiring needs, tying recruitment success to progress in other areas, including succession planning, strategic direction setting, and faculty diversification. Upcoming planned retirements might prompt the institute to pursue some self-funding, but additional general fund monies will be required to enable the institute's near-term hiring priorities.

Although IBS has a strong record of securing external resources to support its operational costs, a large share of this funding has come from federal grants and these are in decline. Therefore, the institute has come to recognize as a second priority a need to pursue state government and private foundation grants. However, these other sources include a significant caveat in the form of reduced indirect cost rates that can diminish research, administrative, and infrastructure support. In addition to establishing a standard set of direct costs for administrative and technology services to offset these lower rates, the institute might consider outlining and pursuing a business model that supplements its extramural funding sources. Even though the institute does not have a traditional alumni base from which to draw for fundraising efforts, it could build on its extensive outreach and research visibility to pursue fundraising and donor relationships.

Third, the institute emphasizes the need for the university to continue to provide operational funding for the Rocky Mountain Research Data Center. As previously noted, the center serves not only CU Boulder researchers but many others in a large geographic region. The external reviewers equally urge provisioning university funds for the data center, citing this “as part of the necessary research infrastructure for quantitative social science at an R1 university.” ARPAC concurs that it would be in the university’s best interests to support the data center; doing so directly aligns with the campus’ broader mission to further the public good.

Space, Infrastructure, and Support Needs

A key component to any thriving work environment is a physical workspace that optimizes collaboration and encourages productivity. As recognized both in the self-study and report from internal reviewers, “the space in IBS has been instrumental to its success.” The institute has thoughtfully assigned the use of its building space to accommodate its growing research enterprise and is justifiably proud of this coveted resource.

The IBS building is regularly used by outside groups such as the College of Media, Communication and Information (CMCI), the Division of Continuing Education, and the Conference on World Affairs, and on select occasions by other units (such as for special colloquia or job talks). The self-study and the internal reviewers suggest that the regular use of the building and its facilities by external parties would undoubtedly impose costs on the institute that should be offset. According to the self-study, the institute hopes to continue to work with the Facilities Management office and the provost “to share the cost of updating and improving the building.” The institute might also consider exploring avenues for recouping maintenance costs through facility fees and room rental agreements; other buildings on campus that accommodate outside entities typically require cost sharing.

The internal and external reviewers wholly agree with the institute's assessment that it must secure additional campus funding to cover the costs of its computing infrastructure. IBS, of its own accord, has developed storage protection, maintenance, and access protocols, customized to meet privacy regulations in accordance with Health Insurance Portability and Accountability Act (HIPAA), as well as security restrictions required in data use agreements for individual data sets and studies. The IBS information technology support dilemma speaks to a broader campus need for information technology development and support that falls on a

scale between individual desktop support and large-scale research computing (e.g., supercomputing). ARPAC believes that campus administrators should study these mid-level needs, and if the Office of Information Technology is unable to support computing at this scale, an additional computing support model might be required.

Governance

Recent changes to IBS governance policies and procedures, particularly the bylaws update, appear to have had a positive impact on the institute's decision-making transparency and inclusivity. However, as the external reviewers note, there may be opportunities to make policies and procedures pertaining to various types of IBS appointments, particularly for research associates and research professors, more widely understood.

Inclusive Excellence

The IBS self-study affirms the unit's commitment to inclusive excellence across all of its strategic priorities and identifies areas for improvement, including increasing the diversity and representation of its affiliated tenured and tenure-track faculty as well as of its postdoctoral fellows. IBS requests resources for these hiring efforts in the self-study. In addition to implementing diversity-focused hiring strategies, ARPAC commends the IBS plan to create a director of inclusive excellence position as a means to bolster the institute's progress toward inclusive excellence. While the institute is aware that it has much left to do, the results of the September 2019 culture survey are encouraging, with most IBS respondents judging their work environment as inclusive.

Unit Culture

Results from the September 2019 Campus and Workplace Culture (CWC) Survey suggest a generally positive, respectful, and collegial culture within the institute. That said, efforts might be needed to reduce experiences of incivility, especially among research professionals and postdoctoral fellows. The results also indicate that the institute has room to improve on its decision-making transparency, particularly with regard to resource allocation.

The results also point to the aforementioned request by institute postdoctoral fellows for mentoring and training that is differentiated from that provided to graduate students. This request for differentiation may serve as an opportunity to reflect on, and clearly outline, the

unique roles and responsibilities of graduate students and postdoctoral fellows. If such a clarification leads to improved morale, it could, in turn, lead to greater community building between these groups.

Interestingly, while attitudes about reporting policy violations within IBS are quite positive, nearly half of the surveyed graduate student respondents felt that reporting at the campus level would not be taken seriously. ARPAC is confident that the institute is well-positioned to leverage the goodwill that its personnel feel toward their individual programs and centers to achieve broader, institute-wide community-building.

Recommendations

The members of the Academic Review and Planning Advisory Committee address the following recommendations to the Institute of Behavioral Science and to the offices of responsible administrators. ARPAC notes that some of its recommendations require resources, and the committee wishes to acknowledge that this report is being written during the COVID-19 pandemic when CU Boulder's financial outlook is uncertain. Committee members understand that recommendations requiring monetary resources might not be actionable in the near term. However, it is a part of ARPAC's responsibility to record these recommendations in its report in order to describe and document the department's needs at the point of its 2020 academic review.

To the Unit:

1. Work with the vice chancellor for research and innovation and dean of the institutes, and the provost to develop an institute director succession plan that prioritizes broad recruitment in order to create a diverse candidate pool and to identify candidates who would excel at leading IBS in achieving its strategic planning goals.
2. Develop a diversity recruitment and retention plan for upcoming faculty and research associate hires.
3. Develop a diversity recruitment plan for graduate students and postdoctoral researchers from underrepresented groups.
4. Develop strategies to improve the sense of belonging and community for postdoctoral scholars and other researchers, including more targeted training, mentoring, and communication.
5. Continue efforts to improve transparency and collaborative decision-making models for resource allocation and governance decisions within IBS.

6. Work with the vice chancellor for research and innovation and dean of the institutes to better situate IBS in the event that it must pursue grants with lower indirect cost rates as an alternative to federal grants.
7. Work with the vice chancellor for research and innovation and dean of the institutes, and the provost to explore continued campus funding for the Rocky Mountain Research Data Center and to develop a long-term sustainability plan for the center.
8. Develop strategies for elevating IBS' public profile as the umbrella organization for its well-known centers.
9. Work with the Office of Information Technology (OIT) and the provost to advocate for campus mid-scale computing needs including adequate information technology support and security.

To the Vice Chancellor for Research and Innovation and Dean of the Institutes:

10. Approve a succession plan for the institute director position that prioritizes broad recruitment in order to create a diverse candidate pool and to identify candidates who would excel at leading IBS in achieving the goals laid out in the updated IBS strategic plan. Ensure that funding is available to ensure overlap of the new hire with the existing director for a smooth transition.
11. Collaborate with IBS to better situate the institute in the event that it must pursue grants with lower indirect cost rates as an alternative to federal grants.
12. Work with the provost to explore continued funding for the Rocky Mountain Research Data Center and to develop a plan for the center's long-term sustainability.

To the Senior Associate Vice Chancellor for Information Technology and Chief Information Officer:

13. Work with IBS and other units to advise the provost on a plan to implement adequate information technology support and security for mid-scale computing needs and uses.

To the Provost:

14. Approve an institute director succession plan that prioritizes broad recruitment in order to create a diverse candidate pool and to identify candidates who would excel at leading IBS in achieving its strategic planning goals.
15. Work with the vice chancellor for research and innovation and the dean of the institutes to explore continued funding for the Rocky Mountain Research Data Center and develop a plan for the center's long-term sustainability.
16. Work with IBS and other units to engage OIT in advising on a plan to implement adequate information technology support and security for mid-scale computing needs and uses.

Required Follow-Up

The director of the Institute of Behavioral Science shall report annually on the first of April for a period of three years following the year of the receipt of this report (i.e., April 1st of 2022, 2023, and 2024) to the vice chancellor for research and innovation and dean of the institutes, and to the provost on the implementation of these recommendations. Likewise, the vice chancellor for research and innovation shall report annually on the first of May to the provost on the implementation of recommendations addressed to the program.