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**Final Report on the Evaluation Design of the  
National Science Foundation  
Louis Stokes Alliances for Minority Participation  
BRIDGE TO THE DOCTORATE Initiative**

**April Boyd-Melvin  
EHR/HRD 815**

Prepared for the National Science Foundation  
Directorate for Education and Human Resources  
Division of Research, Evaluation and Communication

Program for Evaluation and Equity Research (PEER)

**The Urban Institute**

2100 M Street NW  
Washington, DC 20037



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# Evaluation Design of the National Science Foundation LSAMP Bridge to the Doctorate Initiative

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Clemencia Cosentino de Cohen, Co-Principal Investigator  
Beatriz Chu Clewell, Co-Principal Investigator  
Christina Mancini, Research Assistant  
Robert Santos, Senior Institute Methodologist  
with assistance from  
Emily Conger, Research Assistant

Program for Evaluation and Equity Research (PEER)

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*Note: Any opinions, conclusions, or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation or The Urban Institute.*



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# EVALUATION DESIGN

## LSAMP BRIDGE TO THE DOCTORATE

### Final Report

#### INTRODUCTION

##### Bridge to the Doctorate Description

The Bridge to the Doctorate (BD) activity of the Louis Stokes Alliance for Minority Participation (LSAMP) Program was created to address the long-term goal of increasing the number of students successfully completing science, technology, engineering and mathematics (STEM) doctoral degrees and entering the workforce in these fields. As a supplement to LSAMP, which aims to increase the completion rates of STEM undergraduate majors and promote their entry into graduate programs in STEM, BD extends the reach of the LSAMP initiative. Specifically, BD provides support to selected students who have received baccalaureate degrees through LSAMP to pursue graduate study in STEM fields.

The BD supplement to LSAMP, which was initiated in FY2003, funds the initial two years of graduate study for former LSAMP participants. The reasoning that underlies the establishment of BD is based on sound scientific evidence: a recent evaluation of the first six cohorts of LSAMP baccalaureate degree recipients found that LSAMP graduates were more likely than their national counterpart samples of non-minorities (Whites and Asians) as well as underrepresented minorities, to cite financial burden as a deterrent to continuing on to graduate education. BD was established to address minority students' hesitancy to enter graduate school and their fear of assuming the additional financial debt associated with graduate education.

To date, BD is in its fifth year and has funded approximately 800 students so far at 39 institutions (counting CUNY schools as one institution). Each BD awardee receives \$30,000 per year for two years; the institutions they attend receive funding for each BD awardee to cover tuition, health insurance, and other fees. Awardee institutions may also receive a flat allowance per award in lieu of indirect costs.

##### Bridge to the Doctorate Evaluation

In 2005, the National Science Foundation contracted with the Urban Institute to design an evaluation for BD. In addition to the evaluation design, this contract required that

evaluators draw a comparison sample to assess the impact of the BD initiative (see Appendix A); design data collection instruments (see Appendix B); collect baseline data for BD participants (in collaboration with the monitoring grantee, Macro International; see Appendix C); produce an evaluation manual (see Appendix D); and hold workshops with representatives from the grantee institutions to familiarize them with the evaluation requirements (see Appendix D).

This report describes the design of the evaluation and provides the deliverables required by the Urban Institute's contract with NSF.

## EVALUATION DESIGN

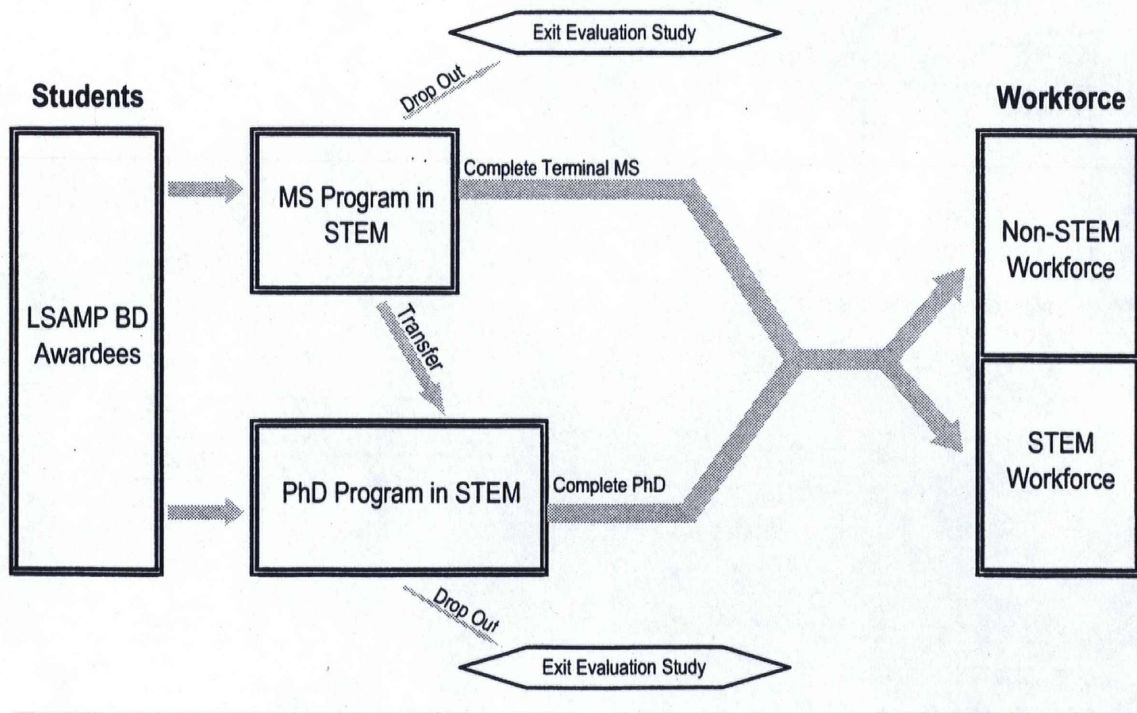
The evaluation of LSAMP BD is a summative evaluation that, based on a quasi-experimental research design, assesses the program's success in achieving its stated goals. These goals are:

- To increase the number of underrepresented minority students (URMs) with baccalaureate degrees in STEM fields who enter STEM graduate programs;
- to increase the number of URMs who complete graduate degrees in a STEM field; and
- to increase the number of URMs with STEM graduate degrees who enter the STEM workforce.

## Conceptual Framework

The conceptual framework guiding the evaluation, shown below in Figure 1, illustrates how the evaluation envisions LSAMP BD awardees' progress through the graduate education pipeline on their way to entry into the STEM workforce.

### Conceptual Framework



## Evaluation Questions

Based on the goals of the BD program, the specific questions that the evaluation is designed to answer are the following:

**1. Enter graduate programs:**

Are URM students entering STEM graduate programs at a greater rate since the BD program was established? How many of these students are BD awardees?

**2. Complete master's degrees:**

Do BD awardees in STEM Master's programs complete their degrees at a greater rate than a matched comparison sample of non-BD students?

**3. Enroll in doctoral programs:**

Are BD awardees in STEM Master's programs more likely to enroll in STEM Ph.D. programs than a matched comparison sample of non-BD students?

**4. Complete doctorates:**

Are BD awardees in STEM Ph.D. programs more likely to complete their degrees than a matched comparison sample of non-BD students?

**5. Enter the STEM workforce:**

**a.** Are BD awardees who complete STEM *Master's* terminal degrees more likely to enter the STEM workforce than a matched comparison sample of non-BD students?

**b.** Are BD awardees who complete STEM *Ph.D.s* more likely to enter the STEM workforce than a matched comparison sample of non-BD STEM Ph.D. completers?

## Outcome Measures

The following are the major evaluation questions, also listed above, with their corresponding outcome measures.

1. Are URM students entering STEM graduate programs at a greater rate since the BD program was established? How many of these students are BD awardees?

*Measures:* Percent of URMs nationally in STEM graduate programs before BD compared with percent of URMs in STEM graduate programs since BD (using national data from SESTAT). Percent of URMs in STEM graduate programs who are BD awardees.

2. Do BD awardees in STEM Master's programs complete their degrees at a greater rate than a matched comparison sample of non-BD students?

*Measure:* Percent of BD students completing terminal Master's programs compared to matched comparison sample of non-BD students.

3. Are BD awardees in STEM Master's programs more likely to enroll in STEM Ph.D. programs than a matched comparison sample of non-BD students?

*Measure:* Percent of BD STEM Master's students who enroll in STEM Ph.D. programs compared to a matched comparison sample of non-BD students.

4. Are BD awardees in STEM Ph.D. programs more likely to complete their degrees than a matched comparison sample of non-BD students?

*Measure:* Percent of BD STEM Ph.D. students who complete STEM Ph.D.s compared to a matched comparison sample of non-BD students.

5. a. Are BD awardees who complete STEM Master's terminal degrees more likely to enter the STEM workforce than a matched comparison sample of non-BD students?

*Measure:* Percent of BD STEM Master's terminal degree completers entering the STEM workforce compared to a matched comparison sample of non-BD Master's terminal degree completers.

5. b. Are BD awardees who complete STEM Ph.D.s more likely to enter the STEM workforce than a matched comparison sample of non-BD completers?

*Measure:* Percent of BD STEM Ph.D. completers who enter the STEM workforce compared to a matched comparison sample of non-BD Ph.D. completers.



## **Quasi-Experimental Research Design**

While an experimental design is not a viable option in this instance, as the program is already in place and students may not be randomly assigned to BD participation, a quasi-experimental design is possible and will allow us to make inferences about the impact of program participation. A sample of non-BD recipients may be selected by matching them on key factors to the BD recipients, and following their progress longitudinally. In addition, national data sets may be used for certain comparisons.

Three samples will therefore be constructed. One will consist of the population of BD awardees, all former LSAMP students who received BD awards to continue on to graduate studies. The second will be a matched sample of non-BD students in the same programs of study as the BD recipients (details on matching are provided below). The third sample, or second comparison sample, will be a non-matched, nationally-representative sample of students in the SESTAT database. This second comparison group will allow us to compare the outcomes of the BD program to those observed at the national level. (Note that the data collection instruments, discussed below, contain questions already keyed to national surveys to ensure comparability.)

### **Matched Sampling**

To assess the impact of the BD intervention, the comparison to other students in similar programs of study is critical. As discussed above, this comparison will be achieved by collecting data on a sample of students who entered the same program of studies, in the same year and field as the BD students. Three criteria are therefore used for matching BD to non-BD recipients: year of entry into the graduate program, field of studies, and type of degree sought (MS versus Ph.D.)

To draw a sample, we collected data directly from the BD grantee institutions. Each institution was provided with a list of data on the BD awardees (the information is published by NSF) and asked to provide comparable information on other students in their programs who are not BD recipients. The specific data points collected were: student name (or unique ID number), year obtained a BS, year entered graduate program, degree sought (MS, Ph.D.), field and department of graduate studies (a summary of data collected, sent to grantee institutions seeking clarifications, is included in Appendix A). Because few programs were able to report the year in which students obtained a BS, this potential control factor could not be used for sampling purposes.

Data were merged and response categories harmonized across institutions, as there was significant variation in the department and field names reported by grantee institutions. When needed, institution responses were recoded to match the department and field categories used by NSF in national surveys. The resulting data set was used to design the sampling strategy proposed below.

## BD Sample

Every student receiving a BD award and entering a BD graduate program between 2003 and 2006 (four years) should be included in the BD sample. This constitutes the population of BD awardees to date, with a few exceptions. There are 13 students who entered their programs of studies in earlier years and likely received BD funding to continue their graduate studies (see Figure 2).

These few students are an anomaly and, in order to ensure an adequate match in terms of time of entry into graduate studies, they need to be excluded from the sample. Similarly, students entering in 2007 are excluded, as data are incomplete. Since data collection took place between July 2007 and January 2008, programs did not report information consistently for 2007. These exclusions yield a total of 726 BD recipients for inclusion in the BD sample.

**Figure 2**

Year Entered Graduate Studies		
	N	%
2000	4	0.52
2001	1	0.13
2002	8	1.03
2003	95	12.27
2004	216	27.91
2005	213	27.52
2006	202	26.1
2007	35	4.52

## Non-BD Comparison Sample

*Sample Size.* To ensure an adequate comparison sample, we propose drawing a stratified sample based on a 4:1 ratio of Non-BD to BD students—i.e., four comparison students for every BD student. The goal will be to ensure that we will achieve, at a minimum, a 2:1 ratio over time, as significant losses are expected due to attrition (some students may decline to participate in the study, while contact for others may be lost as they transition in the STEM pipeline). Drawing a large sample, in this case essentially oversampling by a factor of 2:1, will allow us to take these factors into account and still achieve a sample size large enough to draw adequate inferences and, depending on the distribution of responses, disaggregate analysis by factors of interest, such as field of studies.

*Stratification.* The sample drawn will be stratified by three key dimensions: year of entry, department/field of studies, and type of degree pursued. These are critical dimensions influencing the outcomes under study and it is therefore important to control on these factors in selecting the comparison sample. Ideally, other important influential factors, such as race and gender, should have been incorporated, but this is not possible because those data are unavailable.

To protect against potential biases introduced by the exclusion of these factors, the sample will be drawn with a 4:1 ratio overall and for each individual sampling dimension. While controlling on any other factors is not possible, given that the requisite data are unavailable, drawing a large enough sample size (even oversampling in some instances)

will provide protection against potential demographic disparities between the BD and the comparison samples, providing sufficient cases to control on demographic factors in the analysis. Given the distribution of enrollment at BD institutions, obtained from a detailed analysis of the data reported by institutions, we can achieve the desired ratio in most marginal distributions (the distributions of each stratification dimension), approaching an overall ratio of 3.8:1.

*Census and Random Sampling.* To achieve the desired sampling ratio, it will be necessary to draw a census of comparison students in some categories and to oversample in others. All sampling, whether 4:1 or greater (oversample), will be drawn by sampling randomly from the relevant students. On the other hand, in a few cases, there are no comparison students to be drawn. The BD students for whom no matched comparison is present will be retained in the sample, and the decision of whether to exclude them or collapse them with a broader analysis category will be left for the analysis phase, after the completion of data collection. A detailed quantitative analysis of the sampling strategy to be pursued taking all sampling dimensions into account is provided in Tables 1 and 2, found in Appendix A.

*Drawing the Sample.* To conclude, a stratified probability sample of students who enrolled in the same programs of study and same year as the BD grantees will be drawn. The sample will be stratified by year of entry, type of degree and field of studies. Once the sample is drawn, institutions will receive a list with the names or ID numbers (whichever was provided) of selected students. In those institutions that do not have student consent, students will be asked to sign a consent form to participate in the study.

## **Data Collection Plan and Instruments**

The data to be used in this evaluation will come mainly from the institutions. For each cohort of BD students and selected comparison students, BD institutions will be asked to report three types of data: *Baseline*, *Progress*, and *Follow-up*.

*Baseline* data consist of background information on students and do not change over time; they will be collected only in the first year of the student's BD participation. This information includes students' year of entry, graduate program, intended degree and major, etc. *Progress* data change from year to year and are thus collected once a year until the student graduates or drops out. These data include information such as number of graduate credits completed, status of theses and dissertations, transfer from a Master's to a Ph.D. program (as appropriate) and the year degrees are awarded. Lastly, *follow-up* data are used to track a student after he or she has finished a terminal Master's or a Ph.D. program to determine whether the student has entered the STEM workforce. ***These data—baseline, annual and follow-up—will be the basis of a longitudinal, student-level data set of BD and non-BD comparison students.***

Data collection will be guided by separate instruments developed by the evaluators and included in Appendix B. These instruments were developed in consultation with BD grantee institutions, and adapted in response to their comments, to ensure that data requested are available. Macro International, the agency contracted by NSF to collect monitoring data for the BD program, has adapted the instruments for use in a web-based system of data collection. Macro International is responsible for collecting the raw data, validating it, creating a data set, and delivering the data set along with a codebook and documentation files to the evaluators for analyses.

Also established in consultation with grantee institutions, the deadlines for submitting data were selected to coincide with the IPEDS schedule (October of each year).

### **Future Reassessment of the Evaluation Design**

As the BD program will continue funding new students, an analysis of the population of BD students should be conducted every year to see if it has changed over time. If it has not, conclusions from the current evaluation should be representative of the BD program as a whole. If, however, the student population has changed, and future cohorts of students do not resemble those funded in the 2003-2006 period covered by the evaluation, then a new comparison sample should be drawn to make inferences about these cohorts of BD students. The analyses necessary to make this determination should be conducted yearly and, depending on the results, evaluators should discuss with NSF the possibility of expanding the evaluation to include additional comparison data for the relevant BD cohorts that do not resemble those included in the evaluation already.

## **Recommendations**

Our experience in conducting this as well as other evaluation and research studies leads us to make the following recommendations:

### **1. Data set to be created by data collection contractor**

The contractor carrying out data collection activities for the BD program should be responsible for producing, each data collection year, a final data set constructed following standard validation checks and adjustments to ensure the quality and internal consistency of the data reported. These should include checks of skip patterns, non-applicable records (which should be so coded), and missing values. Every attempt should be made to prevent possible discrepancies by careful programming of the data entry system (e.g., a skip pattern should move the respondent to the appropriate question, and automatically code skipped items non-applicable). After institutions submit data, validation checks should be conducted to ensure the quality of the data reported. Lastly, institutions with discrepant data should be contacted in an attempt to correct errors and fill in missing information.

### **2. An adequate response rate should be required**

The contractor collecting the data should be responsible for ensuring an adequate response rate by institutions, individual participants (within institutions), and data items (requested of each participant). Item non-response can severely inhibit our ability to conduct analyses, and can prove to be as serious of a problem as individual or institutional non-response.

### **3. Institutions should continue to be reminded of their contractual obligation to cooperate with the evaluation**

Grantee institutions are contractually obliged to respond to the NSF request for data, whether conveyed directly by NSF or indirectly through its contractors. It is important to continue to emphasize that it is the responsibility of grantee institutions to comply with data reporting requirements, *as this has proven to be critical to the success of data collection efforts*. It should also be noted that, in designing the evaluation, every effort was made to take institutional limitations into account, as we sought feedback and advice from institutions via a survey and during workshops and presentations. Their concerns led to the exclusion of items that would create a serious burden (such as reporting of publications or abstracts of dissertations), retaining instead only those items considered critical and available at all institutions.

## **APPENDIX A:**

### **DEFINITION OF THE SAMPLES**

The attached tables, listed below, provide descriptive statistics of the key variables used for sampling. Also included, after the tables, is a summary sent to institutions seeking clarifications regarding the data to be submitted for sampling purposes; this summary clearly indicates the data points collected.

#### **Table 1. Frequency Distributions of Stratification Variables**

This table presents frequency distributions of the three stratification, individual-level variables used for sampling (year entered graduate program, type of degree sought, department/field of studies) by BD status.

#### **Table 2. Sample Sizes for BD and Matched Non-BD Recipients**

This table provides the recommended sample sizes, overall and by each of the stratification variables.



**Table 1. Frequency Distributions of Stratification Variables**

	<b>BD</b>		<b>NON-BD</b>	
	<b>(N=726)</b>		<b>(N=5296)</b>	
<b>Year Entered BD Graduate Program</b>				
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
<b>2003</b>	95	13.09	443	8.36
<b>2004</b>	216	29.75	1636	30.89
<b>2005</b>	213	29.34	1334	25.19
<b>2006</b>	202	27.82	1883	35.56
<b>Graduate Degree Sought</b>				
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
<b>MS</b>	437	60.19	3645	68.83
<b>PhD</b>	289	39.81	1651	31.17
<b>Department / Field of Studies</b>				
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
<b>Agricultural Sciences</b>	9	1.25	26	0.49
<b>Biology + Cell and Molec + Microbiology</b>	102	14.21	624	11.78
<b>Biology Other Fields</b>	99	13.79	437	8.25
<b>Computer and Information Sciences</b>	60	8.36	975	18.41
<b>Bioengineering + Biomedical + Chemical</b>	40	5.57	186	3.51
<b>Electrical and Computer Sys Engineering</b>	80	11.14	1037	19.58
<b>Materials/Mech/Aerospace/Sc. Engineering</b>	59	8.22	429	8.1
<b>Engineering Other fields</b>	61	8.5	680	12.84
<b>Mathematics</b>	65	9.05	189	3.57
<b>Physical Sciences</b>	143	19.92	713	13.46

**Source:** UI analysis of data provided by BD grantee institutions.

**Note:** Department/field of studies information missing for 8 records (BD students).

**Table 2. Sample Sizes for BD and Matched Non-BD Recipients**

**Panel A. Overall Counts**

	Sample Size	
	BD	NON BD
<i>total</i>	718	2728

	Sample Size by Degree	
	BD	NON BD
<i>MS</i>	430	1580
<i>PhD</i>	288	1148

	Sample Size by Field	
	BD	NON BD
<i>Agricultural Sciences</i>	9	26
<i>Biology + Cell and Molec + Microbiology</i>	102	400
<i>Biology Other Fields</i>	99	396
<i>Computer and Information Sciences</i>	60	240
<i>Bioengineering + Biomedical + Chemical</i>	40	166
<i>Electrical and Computer Sys Engineering</i>	80	308
<i>Materials/Mech/Aerospace/Sc. Engineering</i>	59	232
<i>Engineering Other fields</i>	61	261
<i>Mathematics</i>	65	189
<i>Physical Sciences</i>	143	510

**Panel B. Overall Counts by Year**

by Year	2003		2004		2005		2006	
	BD	NON BD	BD	NON BD	BD	NON BD	BD	NON BD
		95	360	216	789	209	818	198

by Year and Degree Sought	2003		2004		2005		2006	
	BD	NON BD	BD	NON BD	BD	NON BD	BD	NON BD
	<i>MS</i>	56	217	140	515	112	412	122
<i>PhD</i>	39	143	76	274	97	406	76	325

by Year and Field	2003		2004		2005		2006	
	BD	NON BD	BD	NON BD	BD	NON BD	BD	NON BD
	<i>Agricultural Sciences</i>			2	0	3	22	4
<i>Biology + Cell and Molec + Microbiology</i>	10	26	25	100	42	174	25	100
<i>Biology Other Fields</i>	23	106	29	83	19	106	28	101
<i>Computer and Information Sciences</i>	5	20	23	92	20	80	12	48
<i>Bioengineering + Biomedical + Chemical</i>	2	24	14	36	16	58	8	48
<i>Electrical and Computer Sys Engineering</i>	10	18	22	100	27	106	21	84
<i>Materials/Mech/Aerospace/Sc Engineering</i>	8	15	13	60	22	78	16	79
<i>Engineering Other fields</i>	13	75	17	68	12	42	19	76
<i>Mathematics</i>	4	9	26	70	17	35	18	75
<i>Physical Sciences</i>	20	67	45	180	31	117	47	146

Source: UI analysis of data provided by BD grantee institutions.



## EVALUATION OF THE NATIONAL SCIENCE FOUNDATION'S

### Bridge to the Doctorate Initiative

#### Overview

The Urban Institute (UI) recently completed an evaluation of the Louis Stokes Alliance for Minority Participation Program (LSAMP). This Program was a precursor to the Bridge to the Doctorate Initiative (BD), a new programmatic activity added to the LSAMP Program in FY 2003. Under this new initiative, 20 LSAMP projects operating in about 40 universities have been funded for follow-up activities that include two years of NSF financial support for selected LSAMP graduates. Because the UI evaluation of LSAMP was designed and carried out prior to the establishment of BD, the National Science Foundation (NSF) requested that the Urban Institute develop an evaluation framework that would guide data collection efforts for current monitoring and future evaluation of the BD initiative. The last task in the design of the evaluation of BD is the definition of the BD and comparison group samples. The Urban Institute has recommended that a sample of comparison students be drawn in order to reduce burden on grantee institutions. To complete this sampling task, the Urban Institute is collecting basic demographic data on BD participants and their program peers.

#### Data to be collected

*BD-Funded Students:* The National Science Foundation publishes information on students funded through BD. This information has been entered into an excel spreadsheet for each grantee institution. The Urban Institute asks that the information be checked for accuracy and, if necessary, modified. The spreadsheet contains the following data fields:

- ✓ first and last name, year obtained BS
- ✓ year entered graduate program and type of program (MA, PhD)
- ✓ field and department of graduate studies
- ✓ whether receive BD funding.

*Non-BD-Funded Comparison Students:* In the case of comparison students, institutions are asked to provide the same information listed above. In many instances, this information is already published in the institutions' websites.

- ✓ Comparison students are defined as follows: any student *not funded by BD* who entered the *same program of studies in the same field and year* as a BD-funded student.
- ✓ Example: if a student enters a PhD program in electrical engineering in 2005 and is funded by BD, then not-funded students who entered the same PhD program in electrical engineering in 2005 are comparison students. The following are examples of students who are NOT to be selected for comparison (under this example): students entering an MA program in the same field in the same year (it's a different program); students entering a PhD program in electrical engineering in 2006 (it's a different year); students entering a PhD program in computer engineering (it's a different field) in the same year. All three fields must match for selection: type of program, field/department of studies, year of entry. This yields a proper match for BD students and reduces data collection.



Program for Evaluation and Equity Research (PEER)

The Urban Institute 2100 M Street, N.W., Washington, D.C. 2003

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## **APPENDIX B:**

### **DATA COLLECTION INSTRUMENTS**

This appendix contains copies of three data collection instruments designed by the Urban Institute (Urban) for use in the BD evaluation. Listed below, they were submitted to Macro International (Macro) for adaptation and use in a web-based system of data collection that Macro designed as BD monitoring contractors. Through meetings and email communications between Macro and Urban, these instruments underwent minor adjustments. Further details on the design and administration of these instruments is found in the report, under Data Collection Plan and Instruments.

**PART A: Baseline Data**

**PART B: Annual Data**

**PART C: Follow-Up Data**

## PART A: BASELINE DATA

**A1. Student Name**

First MI Last

**A1a. Previous Name** (if the student's last name has changed since attaining the bachelor's degree)

First MI Last

(Note: Collected from LSAMP students only)

**A2. LSAMP Institution** (from which the student received a BA/BS degree)

(Note: Collected from LSAMP students only)

**A2a. Bachelor's degree-awarding institution** (if other than the LSAMP institution above)

**A3. LSAMP Alliance** (to which the above institution belongs)

(Note: Collected from LSAMP students only)

**A4. SSN**

**A5. Student ID** (at the graduate institution in which currently enrolled)

**A6. Gender** (choose one)

Male

Female

Not reported

**A7. Ethnicity** (choose one)

Not Hispanic or Latino

Hispanic or Latino

Not reported

**A8. Race** (choose one or more)

American Indian or Alaskan Native

Asian

Black or African American

Native Hawaiian or Other Pacific Islander

White

Not reported

**A9. Disability** (choose one or more)

Hearing impairment

Mobility or orthopedic impairment

Visual impairment

Other (please specify): \_\_\_\_\_

None

Not reported

**A10. Citizenship** (choose one)  
U.S. Citizen/ U.S. National  
U.S. Permanent Resident/Green Card Holder  
Other (please specify): \_\_\_\_\_

**A11. Date of Bachelor's Degree**  
Month/ Year

**A12. Undergraduate Major** (choose one or more)  
Agricultural Science  
Chemistry  
Computer Science  
Engineering  
Geosciences  
Life/Biological Sciences  
Mathematics  
Physics/Astronomy  
Environmental Science  
Other (please specify): \_\_\_\_\_

**A13. Undergraduate GPA**

**A13a. Undergraduate GPA Scale** (choose one)  
4 point scale  
5 point scale

**A14. LSAMP Level I or II Status**  
(Note: Collected from LSAMP students only)

**A15. GRE Scores**  
Verbal : \_\_\_\_\_  
Quantitative: \_\_\_\_\_  
Analytical: \_\_\_\_\_

**A15a.**  Please mark the checkbox if this student did not take the GRE.

**A16. Date entered STEM Graduate Program**  
Month/ Year

(Questions A17-A19 to be answered for BD recipients only)

**A17. When did this student begin receiving BD funding?**  
Month/ Year

**A18. Amount of BD funding awarded**



**A19. Disbursement Method** (choose one)

- Biweekly
- Monthly
- Quarterly
- By semester
- Yearly

**A20. Graduate Institution**

**A21. Graduate Program**

**A22. Intended Major** (choose one)

(Use attached PDF for NSF Education Codes)

If other, please specify: \_\_\_\_\_

**A23. Intended Degree** (choose one)

- No specific degree or certificate
- Post baccalaureate certificate
- Masters (including MBA)
- Post Masters Certificate
- Doctorate (Ph.D., D.S.C., D.Sc., Ed.D.)
- Other professional degree (JD, L.L.B., Th.D., M.D, DDS, etc.)
- Other (please specify): \_\_\_\_\_

**Graduate work prior to receiving LSAMP BD funding**

(Questions A24 - A31 to be answered for BD recipients only)

**A24. Did this student complete any graduate work before receiving LSAMP BD funding?** (choose one)

- Yes
- No

→ If yes, please continue to A25. If no, skip to A40

**A25. Broad field area** (choose one)

(Use attached PDF for NSF Education Codes)

If other, please specify: \_\_\_\_\_

**A26. Field of study** (choose one)

(Use attached PDF for NSF Education Codes)

**A27. Degree** (choose one)

- No specific degree or certificate
- Post baccalaureate certificate
- Masters (including MBA)
- Post Masters Certificate
- Doctorate (Ph.D., D.S.C., D.Sc., Ed.D.)
- Other professional degree (JD, L.L.B., Th.D., M.D, DDS, etc.)
- Other (please specify): \_\_\_\_\_

→ If no degree or certificate, skip to A29



**A28. Date degree awarded**

Month/ Year

**A29. If no prior graduate degree, please provide the number of graduate credits completed prior to receiving LSAMP BD funding**

**A30. Teaching Assistantship awarded prior to receiving LSAMP BD funding? (choose one)**

- Yes
- No
- Not Applicable

**A31. Research Assistantship awarded prior to receiving LSAMP BD funding? (choose one)**

- Yes
- No
- Not Applicable

**Graduate work prior to entering the current graduate program**

(Questions A32 - A39 to be answered for Program Peers only)

**A32. Did this student complete any graduate work before entering the current graduate program? (choose one)**

- Yes
  - No
- If yes, please continue to A33. If no, skip to A40

**A33. Broad field area (choose one)**

(Use attached PDF for NSF Education Codes)

If other, please specify: \_\_\_\_\_

**A34. Field of study (choose one)**

(Use attached PDF for NSF Education Codes)

**A35. Degree (choose one)**

- No specific degree or certificate → If no degree or certificate, skip to A37
- Post baccalaureate certificate
- Masters (including MBA)
- Post Masters Certificate
- Doctorate (Ph.D., D.S.C., D.Sc., Ed.D.)
- Other professional degree (JD, L.L.B., Th.D., M.D, DDS, etc.)
- Other (please specify): \_\_\_\_\_

**A36. Date degree awarded**

Month/ Year

**A37. If no prior graduate degree, please provide the number of graduate credits completed prior to entering the current graduate program**

**A38. Teaching Assistantship awarded prior to entering the current graduate program (choose one)**

- Yes
- No
- Not Applicable



**A39. Research Assistantship awarded prior to entering the current graduate program** (choose one)

- Yes
- No
- Not Applicable

**Permanent Contact Information**

(Questions A40 - A48 to be answered for BD recipients and Program Peers)

**A40. Student's e-mail address at school**

**A41. Student's personal e-mail address** (other than his/her current school address, if available)

**A42. Address**

**A43. Phone Number**

**Other Contact Information**

(of a person likely to know how to reach this student after he/she graduates)

**A44. Name**

**A45. Relationship to this student**

**A46. E-mail address**

**A47. Address**

**A48. Phone Number**

## PART B: ANNUAL DATA

Please provide data for Academic Year 20XX - 20XX

(When appropriate, questions should reference the reporting period)

### B1. Student Name

First MI Last

### B1a. Previous Name (if the student's last name has changed since the previous reporting period)

First MI Last

### B2. Graduate Program

### B3. Intended Major (choose one)

(Use attached PDF for NSF Education Codes)

If other, please specify: \_\_\_\_\_

### B3a. Intended degree (Choose one or more)

No specific degree or certificate

Postbaccalaureate certificate

Master's (including M.B.A.)

Post-Master's certificate

Doctorate (Ph.D., D.S.D., D.Sc., Ed.D.)

Other professional degree (J.D., L.L.B., Th.D., M.D., D.D.S., etc.)

Other (please specify): \_\_\_\_\_

## LSAMP Bridge to the Doctorate Award Details

(Questions B4–B6 to be answered for BD recipients only)

### B4. Amount of BD funding awarded during the current reporting period:

### B5a. Disbursement Method (choose one)

Monthly

Quarterly

By semester

Yearly

### B5b. Is the stipend or payment based on academic performance? (choose one)

Yes

No

### B6. Has BD funding ended for this student during the current reporting period? (choose one)

Yes

No

### B6a. If yes, date funding ended

Month/ Year



(Questions B7-B17 to be answered for BD recipients and Program Peers)

**B7. Number of graduate course credits completed during the current reporting period**

**B8. Teaching Assistantship awarded during the current reporting period** (choose one)

- Yes
- No
- Not Applicable

**B9. Research Assistantship awarded during the current reporting period** (choose one)

- Yes
- No
- Not Applicable

**B10. Year entered PhD track** (completed 2 years of graduate coursework, equivalent to MA or MS and entered 3rd year of graduate coursework, i.e. post MS and into PhD track) (choose one)

- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- Not entered into PhD track

**B11. Master's Thesis Proposal-Date Approved**

Month/ Year

*Not applicable; thesis proposal is not required*

**B12. Master's Degree-Date Awarded**

Month/ Year

**B13. PhD Qualifying Examinations-Date Passed**

Month/ Year

**B14. PhD Candidacy-Date attained**

Month/ Year

**B15. Dissertation Defense-Date Passed**

Month/ Year

**B16. Doctoral Dissertation-Date Approved**

Month/ Year

**B17. Doctoral Degree-Date Awarded**

Month/ Year



(Questions B18-B19 to be answered for BD recipients only)

**B18. Has the student received post-BD funding to continue graduate studies** (choose one)

Yes —→  If yes, proceed to B19. If no, skip to B20  
No —→

**B19. Please provide funding source** (choose one)

Institution attending  
Government Fellowship: Federal/State/Local  
Private Fellowship

**B20. Has the student left the program or dropped out?** (choose one)

Yes —→  If yes, proceed to B21. If no, skip to B25  
No —→

**B21. Date the student left or dropped out of the program**

Month/ Year

**B22. If left, did so to continue PhD elsewhere?** (choose one)

Yes —→  If yes, proceed to B23. Else, skip to B25  
No —→   
Don't know

**B23. Transfer Date**

Month/ Year

**B24. Institution Name**

**Permanent Contact Information**

(Questions B25 - B33 to be answered for BD recipients and Program Peers)

**B25. Student's e-mail address at school**

**B26. Student's personal e-mail address** (other than his/her current school address, if available)

**B27. Address**

**B28. Phone Number**

**Other Contact Information**

(of a person likely to know how to reach this student after he/she graduates)

**B29. Name**

**B30. Relationship to this student**

**B31. E-mail address**

**B32. Address**

**B33. Phone Number**



## PART C: FOLLOW-UP DATA

Please mark the checkbox if no followup data are available for this individual

### Post Doctorate Appointment

**C1. Have you received a post doctorate appointment?** (choose one)

Yes



If yes, please continue to C2. If no, skip to C6

No

**C2. Date post doctorate appointment received**

Month/ Year

**C3. Institution**

**C4. Department**

**C5. Field**

### Current Employment

**C6. Are you currently employed?** (choose one)

Yes



If yes, please answer the following questions about your MAIN job. If no, terminate the survey

No

**C7. When did you begin this job?**

Month/ Year

**C8. Is this job full-time?** (choose one)

Yes

No

**C9. Employer Type**

**Which of the following categories best describes your employer in this job?** (choose one or more)

A private, for-profit company, business or individual, paying your wages, salary or commissions

A Private not-for-profit, tax-exempt or charitable organization

Self-employment in own Not Incorporated business, professional practice, or farm

Self-employment in own Incorporated business, professional practice, or farm

Local Government (e.g., city, county)

State Government

U.S. Military Service, active duty, or Commissioned Corps (e.g., USPHS, NOAA)

U.S. Government as a civilian employee

Other (please specify): \_\_\_\_\_



**C10. Employment sector**

Thinking about your employer's main business (i.e. what your employer makes or does), please indicate the single category that best fits your employer's main business. If your employer has more than one type of business, please answer for the type of work primarily performed at the location where you work. (choose one)

- Agriculture, forestry or fishing
- Biotechnology
- Construction or mining
- Education
- Finance, insurance, or real estate services
- Health services
- Information technology or computer services
- Other services (e.g., social, legal, business)
- Manufacturing
- Public administration/government
- Research (please specify)
- Transportation services, utilities, or communications
- Wholesale or retail trade
- Other (please specify): \_\_\_\_\_

**C11. Position/job title** (choose one)

(Use attached PDF for NSF job categories)

Other (please specify): \_\_\_\_\_

**C12. Is job STEM related?** (choose one)

- Closely related
- Somewhat related
- Not related

**Work in Education**

**C13. Is your employer an education institution?** (choose one)

Yes   No  If yes, please continue to C14. If no, terminate the survey

**C14. Type of Education Institution** (choose one)

- Preschool, elementary, or middle school system
- Secondary school system
- Two-year college, community college, technical institute
- Four-year college or university, other than a medical school
- Medical school (including university-affiliated hospital or medical center)
- University-affiliated research institute
- Other (please specify): \_\_\_\_\_

**C15. Faculty Rank** (choose one)

Professor

Associate professor

Assistant professor

Instructor

Lecturer

Adjunct Faculty

Other (please specify): \_\_\_\_\_

Not applicable at the institution

Not applicable for my position

**C16. Tenure Status** (choose one)

Tenured

On tenure track but not tenured

Not on tenure track

Not applicable: no tenure system at this institution

Not applicable: no tenure system for my position

## **APPENDIX C:**

### **BD DESCRIPTIVE STATISTICS**

#### **Contents**

This appendix contains tables with descriptive information about BD grantee students and institutions. The list of tables follows. A brief discussion of the information reported in these tables is found on the next page.

**Table 3.** Enrollment at BD Grantee Institutions  
(in programs funded by BD)

**Table 4.** Carnegie Classification of BD Colleges and Universities

**Table 5.** Demographic Characteristics of BD Recipients

**Table 6.** LSAMP Alliances in which BD Recipients Pursued Undergraduate Studies

**Table 7.** LSAMP Institutions Attended by BD Recipients  
(for undergraduate studies)

**Table 8.** BD Award Information

#### **Methodological Note**

The tables provided in this appendix are based upon the data submitted by institutions to Macro International either as part of the LSAMP or the BD data collections. Macro International, in turn, made the information available to the Urban Institute. Most of the data analyzed and reported herein come from those variables that are available through the MARS data system for all LSAMP students. We only report on two variables from the BD data collection—frequency of award payments and performance-based awards. This is because the data submitted by Macro International to the Urban Institute are the raw data that should be used to construct a data set. Until that work is performed—i.e., a data set is constructed following standard validation checks and adjustments (such as coding non-applicable cases and missing values appropriately)—analyses of the BD data cannot be conducted. Detailed feedback and suggestions will be provided to Macro International to facilitate this work.

## **Brief Summary of Demographic Characteristics of...**

**...BD students.** BD grantee institutions have funded between 10 (North Carolina A&T) and 52 (Jackson State University) graduate students each (treating CUNY schools as one institution). On average, about 20 students have received BD funding at each grantee college or university. About 55% of BD recipients are female students and 57% are African Americans. Most of them completed their undergraduate studies in the past five years, although a few did so in the 1990s (about 5% of BD recipients). BD students tended to major in engineering (30%), biological/life sciences (28%), and physical sciences (23%).

**...BD institutions.** There are a total of 39 institutions that, as of 2007, had received BD grants. This number rises to 46 if the CUNY schools are counted separately. Over 60 percent of BD grantee institutions are doctoral/research universities, while the remaining schools are master's colleges and universities. The vast majority of them are public, mostly located in urban areas. Nineteen of 46 institutions are minority serving, while 7 are HBCUs and 8 are HSIs. There are neither tribal nor women's colleges among BD grantees.

**...LSAMP institutions.** Although BD recipients attended colleges and universities throughout the nation, former attendees of a few schools in the South and Southwest (Jackson State University; New Mexico State University, University of Texas El Paso, Texas A&M and Arizona State) as well as in Puerto Rico (Río Piedras) contributed the largest numbers of LSAMP graduates to the BD pool of awardees (between 22 and 41 students each). Data on the schools from which these students obtained a BS degree cannot be reported due to the large number of missing observations, but the information available (institution attended) is still helpful given that the institution from which students obtain a degree is likely highly correlated with the institution they attended at some point for undergraduate studies.

**...LSAMP alliances.** BD recipients originate in LSAMP alliances throughout the nation. Some alliances contributed one student (Tennessee AMP), while others as many as 65 (Puerto Rico AMP). Other alliances contributing more than 40 students are Alabama AMP (53), California AMP / Temple University AMP (47 each), North Carolina AMP (45), Mississippi AMP (44), New Mexico AMP (42) and New York AMP (41).

**...BD awards.** Awards received by students are contingent upon satisfactory academic performance at most institutions. Only nine of 35 institutions providing the requisite information indicated that they do not make awards contingent on performance. Award payments are disbursed monthly to students at the majority of institutions, with the exception of one institution that makes semester payments and five that make them biweekly.

**Table 3. Enrollment at BD Grantee Institutions (in programs funded by BD)**

Includes all BD cohorts reported as of Fall/Winter 2007

	<u>Enrollment</u>	<u>Enrollment by BD</u>		<u>BD Percent</u>	
	<u>TOTAL</u>	<u>BD</u>	<u>Non-BD</u>	<u>of enroll at institution</u>	<u>of all BD</u>
Arizona State University	127	34	93	26.77	4.39
Auburn University	117	15	102	12.82	1.94
CUNY Graduate Center	49	5	44	10.2	0.65
CUNY Baruch College	1	1	0	100	0.13
CUNY Brooklyn College	3	3	0	100	0.39
CUNY City College	14	14	0	100	1.81
CUNY College of Staten Island	3	3	0	100	0.39
CUNY Hunter College	3	3	0	100	0.39
CUNY Lehman College	8	8	0	100	1.03
CUNY MISSING	10	10	0	100	1.29
CUNY Queens College	4	4	0	100	0.52
California State University LA	462	26	436	5.63	3.36
Colorado State University	101	12	89	11.88	1.55
Delaware State University	24	14	10	58.33	1.81
Drexel University	67	14	53	20.9	1.81
Florida State University	47	20	27	42.55	2.58
Howard University	124	29	95	23.39	3.75
Jackson State University	113	52	61	46.02	6.72
Louisiana State University	135	22	113	16.3	2.84
New Jersey Institute of Tech	246	12	234	4.88	1.55
New Mexico State University	53	48	5	90.57	6.2
North Carolina A&T	101	10	91	9.9	1.29
North Carolina Central Univ	25	13	12	52	1.68
Oklahoma State University	48	12	36	25	1.55
Prairie View A&M	83	15	68	18.07	1.94
San Francisco State University	459	27	432	5.88	3.49
Southern Illinois Carbondale	249	28	221	11.24	3.62
SUNY Stony Brook	232	12	220	5.17	1.55
Texas A&M	783	35	748	4.47	4.52
Tuskegee University	64	11	53	17.19	1.42
University of Alabama Birmingham	46	13	33	28.26	1.68
University of Alabama Huntsville	153	19	134	12.42	2.45
University of California Davis	111	12	99	10.81	1.55
University of California Irvine	207	11	196	5.31	1.42
University of California Los Angeles	92	12	80	13.04	1.55
University of California San Die	189	12	177	6.35	1.55
University of Delaware	160	12	148	7.5	1.55
University of Illinois Chicago	212	20	192	9.43	2.58
University of Maryland Baltimore County	116	12	104	10.34	1.55
University of Maryland College Park	174	12	162	6.9	1.55
University of North Carolina Charlotte	288	13	275	4.51	1.68
University of Oklahoma	65	12	53	18.46	1.55
University of Puerto Rico Mayagüez	229	15	214	6.55	1.94
University of Puerto Rico Rio Piedras	45	11	34	24.44	1.42
University of South Florida	591	37	554	6.26	4.78
University of Texas El Paso	37	26	11	70.27	3.36
University of Texas Pan American	13	13	0	100	1.68
<b>Total</b>	<b>6483</b>	<b>774</b>	<b>5709</b>	<b>11.94</b>	<b>100</b>

Source: The Urban Institute (UI). Note: Institutions provided data between July 2007 and January 2008. University of Texas Panamerican did not provide information for comparison students, and New Mexico State University provided incomplete records.

Table includes 47 records excluded from BD sample.

**THE URBAN INSTITUTE**

Program for Evaluation and Equity Research (PEER)



**Table 4. Carnegie Classification of BD Colleges and Universities**

*Selected variables*

<b>OLD CLASSIFICATION SCHEME</b>	<b>Frequency</b>	<b>Percent</b>
Doctoral/Research Universities-Extensive	23	50.00
Doctoral/Research Universities-Intensive	6	13.04
Masters Colleges and Universities I <sup>1</sup>	17	36.96
<b>NEW CLASSIFICATION SCHEME</b>	<b>Frequency</b>	<b>Percent</b>
<b>BASIC2005</b>		
RU/VH: Research Universities (very high research activity)	15	32.61
RU/H: Research Universities (high research activity)	15	32.61
DRU: Doctoral/Research Universities	1	2.17
Masters L: Masters Colleges and Universities (larger programs) <sup>3</sup>	13	28.26
Masters S: Masters Colleges and Universities (smaller programs)	1	2.17
Bac/Diverse: Baccalaureate Colleges--Diverse Fields <sup>4</sup>	1	2.17
<b>CONTROL</b>		
Public	43	93.48
Private not-for-profit	3	6.52
<b>LOCALE</b>		
Large city	20	43.48
Mid-size city	13	28.26
Urban fringe of large city	3	6.52
Urban fringe of mid-size city	3	6.52
Large town	2	4.35
Small town	1	2.17
Rural	1	2.17
Not assigned	3	6.52
<b>HBCU</b>		
No	39	84.78
Yes	7	15.22
<b>HSI</b>		
No	38	82.61
Yes	8	17.39
<b>MSI<sup>2</sup></b>		
No	27	58.7
Yes	19	41.3
<b>Tribal</b>		
No	46	100

**Source:** UI analyses of data downloaded from The Carnegie Foundation for the Advancement of Teaching.

**Notes:** 1. includes two institutions that offer PhD programs (UPR Mayaguez and Tuskegee). 2. MSI includes institutions that are neither HSIs nor HBCUs, but serve a significant share of minority students. This category includes University of California Irvine, University of California Los Angeles, CUNY Baruch College and CUNY Hunter College. 3. Includes UPR Mayaguez, which offers PhD programs. 4. Tuskegee University, now offers PhD program in engineering.



**Table 5. Demographic Characteristics of BD Recipients**

Total N=774

	N	Percent
<b>Gender</b>		
Female	393	54.74
Male	325	45.26
<b>Race/Ethnicity</b>		
Am Indian/AL Native	27	3.77
Asian	1	0.14
Black/Af Am	408	56.98
Hawaian/Pacific Isl	7	0.98
Hispanic	198	27.65
White	75	10.47
<b>Undergraduate Degree Year</b>		
1990	1	0.15
1993	1	0.15
1994	1	0.15
1995	4	0.62
1996	4	0.62
1997	5	0.77
1998	7	1.08
1999	10	1.54
2000	17	2.62
2001	22	3.4
2002	53	8.18
2003	93	14.35
2004	168	25.93
2005	162	25
2006	99	15.28
2007	1	0.15
<b>Undergraduate Major</b>		
Agricultural sciences	9	1.25
Biological/Life scien	199	27.72
Computer sciences	59	8.22
Engineering	218	30.36
Mathematics	63	8.77
Other	4	0.56
Physical sciences	166	23.12

**Source:** UI analysis of data submitted by institutions to Macro International.

**Notes:** Hispanic category underestimates the share of Hispanics, as there are 74 known cases of students in the other categories who are also Hispanics. Missing observations for gender (56), race/ethnicity (58), degree year (126), undergraduate major (56).

**Table 6. LSAMP Alliance in which BD Recipients Pursued Undergraduate Studies***Total N=774*

	<b>N</b>	<b>Percent</b>
<b>Alabama AMP</b>	53	7.43
<b>California AMP</b>	47	6.59
<b>California State University AMP</b>	39	5.47
<b>Chicago AMP</b>	26	3.65
<b>Colorado State University AMP</b>	7	0.98
<b>Florida AMP</b>	29	4.07
<b>Georgia AMP</b>	8	1.12
<b>Heartland AMP</b>	3	0.42
<b>Houston AMP</b>	6	0.84
<b>Louisiana AMP</b>	19	2.66
<b>Metropolitan Detroit AMP</b>	1	0.14
<b>Michigan LSAMP</b>	1	0.14
<b>Mid-Eastern AMP</b>	5	0.7
<b>Mississippi AMP</b>	44	6.17
<b>New Jersey AMP</b>	2	0.28
<b>New Mexico AMP</b>	42	5.89
<b>New York AMP</b>	41	5.75
<b>North Carolina AMP</b>	45	6.31
<b>North East AMP</b>	2	0.28
<b>Ohio Science and Engineering Alliance</b>	3	0.42
<b>Oklahoma AMP</b>	24	3.37
<b>Peach State LSAMP</b>	2	0.28
<b>Puerto Rico AMP</b>	65	9.12
<b>South Carolina AMP</b>	6	0.84
<b>State University of New York AMP</b>	6	0.84
<b>Temple University AMP</b>	47	6.59
<b>Tennessee AMP</b>	1	0.14
<b>Texas A&amp;M AMP</b>	35	4.91
<b>The University of Texas System AMP</b>	33	4.63
<b>University of Maryland System AMP</b>	21	2.95
<b>Washington-Baltimore-Hampton Roads</b>	28	3.93
<b>Western Alliance to Expand Student Opportunities</b>	22	3.09

Source: UI analysis of data submitted by institutions to Macro International.

Note: Missing data for 61 records.



**Table 7. LSAMP Institutions Attended by BD Recipients (for undergraduate studies, N=774)**

N=number of students		%=percent of all BD students							
	N	%		N	%		N	%	
Alabama Agricultural & Mech U.	3	0.39	Johnson C. Smith University	1	0.13	Universidad Metropolitana	4	0.52	
Alabama State University	10	1.3	Langston University	8	1.04	Universidad del Turabo	1	0.13	
Albany State University	8	1.04	Lawrence Technological U.	1	0.13	University of Alabama	2	0.26	
Alcorn State University	7	0.91	Lincoln University	5	0.65	University of Alabama Birmingham	2	0.26	
Arizona State University	22	2.85	Louisiana State U. & A&M College	4	0.52	University of Alabama Huntsville	6	0.78	
Auburn University	7	0.91	McNeese State University	1	0.13	University of Arizona	4	0.52	
Bowie State University	3	0.39	Miles College	1	0.13	University of California-Berkeley	5	0.65	
CSU Chico	1	0.13	Mississippi State University	2	0.26	University of California-Davis	3	0.39	
CSU Dominguez Hills	1	0.13	Mississippi Valley State University	2	0.26	University of California-Irvine	17	2.2	
CSU Fresno	1	0.13	Morehouse College	2	0.26	University of California-LA	9	1.17	
CSU Fullerton	3	0.39	Morgan State University	4	0.52	University of California-Riverside	5	0.65	
CSU Los Angeles	9	1.17	NC Agricultural and Tech St U.	18	2.33	University of California-San Diego	6	0.78	
CSU Northridge	2	0.26	New Jersey Institute of Tech	9	1.17	University of California-Santa Bar	6	0.78	
CSU San Bernardino	1	0.13	New Mexico Inst of Mining & Tech	1	0.13	University of California-Santa Cruz	2	0.26	
CSU San Diego	3	0.39	New Mexico State University	41	5.31	University of Central Florida	2	0.26	
CSU Stanislaus	2	0.26	Norfolk State University	1	0.13	University of Colorado at Denver	1	0.13	
CUNY Bernard Baruch College	1	0.13	North Carolina Central University	10	1.3	University of Delaware	6	0.78	
CUNY Boro of Manhattan CC	2	0.26	North Carolina State University	2	0.26	University of Florida	3	0.39	
CUNY Bronx Community College	2	0.26	Northeastern University	2	0.26	University of Houston	5	0.65	
CUNY City College	17	2.2	Northwestern University	1	0.13	University of Illinois at Chicago	5	0.65	
CUNY Herbert H. Lehman College	6	0.78	Oakwood College	3	0.39	University of MD Baltimore Cty	10	1.3	
CUNY Hostos Community College	1	0.13	Ohio State University	1	0.13	University of MD College Park	5	0.65	
CUNY Hunter College	2	0.26	Oklahoma State University	7	0.91	University of MD Eastern Shore	6	0.78	
CUNY La Guardia Community C	1	0.13	Prairie View A & M University	17	2.2	University of Massachusetts	1	0.13	
CUNY Medgar Evers College	7	0.91	Rutgers - Newark Campus (SUNJ)	1	0.13	University of Miami	1	0.13	
CUNY New York City Technical C	1	0.13	SUNY Albany	1	0.13	University of Missouri-Columbia	1	0.13	
CUNY Queens College	3	0.39	SUNY Binghamton	1	0.13	University of Missouri-Rolla	1	0.13	
CUNY York College	4	0.52	SUNY Buffalo	1	0.13	University of Missouri-Saint Louis	1	0.13	
California State Polyt. U. Pomona	2	0.26	SUNY College at Old Westbury	1	0.13	University of New Mexico	1	0.13	
Cameron University	1	0.13	SUNY Stony Brook	2	0.26	University of New Orleans	1	0.13	
Catholic Univ of PR - Ponce	2	0.26	San Francisco State University	11	1.42	University of Oklahoma Norman	3	0.39	
Cheyney U. of Pennsylvania	9	1.17	San Jose State University	6	0.78	University of PR Bayamon Tech	1	0.13	
Chicago State University	8	1.04	South Carolina State University	2	0.26	University of PR Cayey	3	0.39	
Clafin College	1	0.13	Southeastern Oklahoma State U.	1	0.13	University of PR Humacao	10	1.3	
Clark Atlanta University	2	0.26	Southern Illinois U. at Carbondale	9	1.17	University of PR Mayagüez	20	2.59	
College of Staten Island	5	0.65	Southern Illinois U. at Edwardsville	1	0.13	University of PR Rio Piedras	28	3.63	
Colorado State University	5	0.65	Southern U. & A&M Baton Rouge	6	0.78	University of PR Aguadilla	1	0.13	
DePaul University	1	0.13	Southern U. Sys Coordinator	1	0.13	University of South Florida	7	0.91	
Delaware State University	6	0.78	Southern University, New Orleans	2	0.26	University of Southern Mississippi	1	0.13	
Dillard University	1	0.13	Spelman College	4	0.52	University of Texas at Brownsville	2	0.26	
Drexel University	9	1.17	St. Augustine's College	1	0.13	University of Texas at El Paso	27	3.5	
East Central University	4	0.52	Stillman College	2	0.26	University of Texas-Pan American	7	0.91	
Elizabeth City State University	1	0.13	Talladega College	1	0.13	University of the DC	2	0.26	
Florida A&M System Adm	1	0.13	Temple University	3	0.39	Virginia Polytechnic Inst & State U.	1	0.13	
Florida Agricultural & Mechanical	6	0.78	Tennessee State University	1	0.13	Virginia State University	1	0.13	
Florida State University	12	1.55	Texas A&M U. - Corpus Christi	1	0.13	Virginia Union University	1	0.13	
Fort Lewis College	2	0.26	Texas A&M University	24	3.11	Voorhees College	3	0.39	
Fort Valley State University	2	0.26	Texas Southern University	2	0.26	Wayne State University	1	0.13	
Governors State University	1	0.13	Tougaloo College	6	0.78	William Paterson College	1	0.13	
Grambling State University	1	0.13	Tulane University	2	0.26	Winston-Salem State University	2	0.26	
Hampton University	4	0.52	Tuskegee University	11	1.42	Wright State University	2	0.26	
Howard University	13	1.68	UNC - Chapel Hill	3	0.39				
Inter American Univ. of PR	2	0.26	UNC - Charlotte	9	1.17	Missing data	2		
Jackson State University	33	4.27	UNC - Pembroke	2	0.26				

Source: UI analysis of data submitted by institutions to Macro International. Notes: U=University; Tech=Technical or Technology; PR=Puerto Rico. Information on institutions awarding undergraduate degrees to LSAMP students could not be reported due to the high number of missing observations.

**Table 8. BD Award Information**

	Payment based on Academic Performance		Funds Disbursement Method		
	Yes = 26 institutions		Biweekly 5 institutions	By semester 1 institution	Monthly 29 institutions
	No = 9 institutions	Missing = 4 institutions			
✓ = yes					
Arizona State University	✓				✓
Auburn University	no				✓
CSU Los Angeles	✓				✓
CUNY	<i>missing</i>				<i>missing</i>
Colorado State University	no				✓
Delaware State University	✓		✓		
Drexel University	✓				✓
Florida State University	<i>missing</i>				<i>missing</i>
Howard University	✓		✓		
Jackson State University	✓				✓
Louisiana State University & A&M College	no				✓
New Jersey Institute of Technology	✓				✓
New Mexico State University, Main Campus	no				✓
North Carolina Agricultural and Tech St Univ	both				✓
North Carolina Central University	✓				✓
Oklahoma State University Main Campus	✓				✓
Prairie View A & M University	✓			✓	
San Francisco State University	✓				✓
Southern Illinois University At Carbondale	✓				✓
SUNY Stony Brook	✓		✓		
Texas A&M University, Main Campus	✓				✓
Tuskegee University	✓				✓
University of Alabama at Birmingham	no				✓
University of Alabama in Huntsville	✓		✓		
University of California-Davis	✓				✓
University of California-Irvine	no				✓
University of California-Los Angeles	<i>missing</i>				<i>missing</i>
University of California-San Diego	no				✓
University of Delaware	✓				✓
University of Illinois at Chicago	no				✓
University of Maryland Baltimore County	✓		✓		
University of Maryland College Park	✓				✓
University of North Carolina Charlotte	✓				✓
University of Oklahoma Norman Campus	no				✓
University of Puerto Rico Mayagüez	✓				✓
University of Puerto Rico Rio Piedras	✓				✓
University of South Florida	✓				✓
University of Texas at El Paso	✓				✓
University of Texas-Pan American	<i>missing</i>				<i>missing</i>

Source: UI analysis of data submitted by institutions to Macro International.

## **APPENDIX D:**

### **ACTIVITIES TO DESIGN THE BD EVALUATION**

Throughout the design and development of the evaluation, we sought feedback and input from the grantees. Our main mechanisms for soliciting input were a survey, workshops, and presentations. A product of our interaction with the grantees is the attached Evaluation and Data Collection Manual, which we used in the workshops to obtain input and feedback from them. We intended the manual as a guide for grantee staff who would be submitting evaluation data. A working document, the manual underwent several revisions. The final version, which incorporates all changes to date, is included in this appendix.

#### **Survey of BD Grantees**

In March 2005 we surveyed 21 BD programs (the total number of grantees at that time) to collect information on the availability of student level data, confidentiality requirements at each institution, and program plans for collecting follow up data on BD completers. A copy of the survey is attached. The purpose of the survey was to inform the evaluation design and explore the feasibility of collecting specific types of data for the evaluation. We wished to facilitate the data collection process by limiting our requests to data that were easily available to the grantees and by coordinating the schedule for submitting data with other institutional requirements (such as the submission of data to IPEDS).

#### **Workshops for BD Grantees**

UI evaluation team members conducted two workshops for BD grantees. The first, held during the JAM conference for program grantees in April 2005, briefed all BD representatives on the design and proposed schedule for collecting data. During this first workshop, UI staff clarified program goals with grantees, confirmed eligibility criteria for participants, and explored the feasibility and ease of collecting various data from the programs' perspectives. As a result of this workshop, several changes were made to the original evaluation design.

The second workshop was held during the JAM conference in March 2006. Participants included BD program directors. During the workshop UI staff gave an overview of the evaluation framework, discussed data collection issues and scheduling, and provided tips for building tracking systems to assist programs in conducting longitudinal follow up of BD students. During this workshop programs were asked to share best practices in collecting and maintaining data on BD participants. A draft of the evaluation manual was shared with all program representatives to obtain their feedback and input before finalizing that document.

## **Presentations**

In addition to the survey and workshops, UI evaluation staff participated in meetings and made presentations to grantees over the period of the contract. In May of 2007, UI staff participated in a meeting of the monitoring contractor, Macro International, and program grantees regarding data collection issues. Later that year, as part of the JAM meeting, UI evaluators met with BD grantees to clarify aspects of the evaluation design and answer questions posed by the grantees regarding data collection issues and confidentiality.



## SURVEY OF BRIDGE TO THE DOCTORATE (BD) PROGRAMS

1. What student level data does your institution collect at the graduate level? (Check all that apply.)

- Enrollment
- Progress within a graduate program
- Graduation
- GPA
- Financial assistance (amount and type)
- Assistantships (research, teaching, other)
- Other (please specify): \_\_\_\_\_

2. Which office collects the above data (i.e., the Registrar's Office, Institutional Research, etc.)? Do you have access to these data?

Type of Data	Office (please name)	Access? (Y / N)
Enrollment		
Progress within a graduate program		
Graduation		
GPA		
Financial assistance		
Assistantships		
Other (please specify):		

3. When are data for the previous academic year available? (For example, in what month would data for the 2004-2005 academic year become available?)

4. What are the major issues relating to confidentiality requirements of your institution? (Check all that apply.)

- Are you able to share individual student-level data if student not identified?
- Are you able to share individual student-level data if student signs consent form?
- Are you able to share student data in aggregate form only?
- Not able to share student data in any form.
- Other (please specify): \_\_\_\_\_

5. Does your institution (or graduate programs) collect follow up data on BD students once they graduate from the institution? If so, what data are collected? For how long a period? Do you have access to this information?

6. Have you developed an evaluation plan for the BD program?

Yes

No



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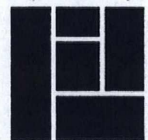
**Bridge to the Doctorate**  
*Evaluation Data Collection Training Manual*

*Prepared by*

Program for Evaluation and Equity Research (PEER)

**The Urban Institute**

2100 M Street NW  
Washington, DC 20037



**March 2006**

*(Last Revised January 2008)*

## **Program Description**

Beginning in FY 2003, the National Science Foundation Directorate for Education and Human Resources announced the Louis Stokes Alliances for Minority Participation (LSAMP) supplemental activity, called “Bridge to the Doctorate” (BD). BD builds on the success of the LSAMP initiative at participating institutions, which graduate approximately 24,000 students with baccalaureate degrees in science, technology, engineering and mathematics (STEM). The goal of BD is to entice larger numbers of these LSAMP-trained underrepresented minorities to attend graduate school and hopefully complete doctorates in STEM. Recognizing that an important barrier to graduate school enrollment among underrepresented minorities is financial constraints, BD provides two years of supplemental funding to students enrolling in graduate programs in STEM. This funding is available to LSAMP Alliances.

## **Purpose of the Manual**

The purpose of this manual is to provide guidance to BD institutions regarding their participation in the external evaluation of the program. The manual provides information on the evaluation design, main research questions, and explanations of the data measures they will be expected to collect as part of their participation in the program. Also included are strategies and tips for the tracking of program graduates for follow-up surveying.



## **Evaluation Design**

The Urban Institute is designing the external evaluation for NSF's Bridge to the Doctorate program. As part of the evaluation, BD institutions will collect information from program participants and be responsible for entering the data in a database, similar to the MARS database collected for the LSAMP program, designed by Quantum Research Corporation (QRC). These data will be collected on a yearly basis, and for each cohort of entering students, to document student progress towards the PhD. Data will also be collected for comparison groups, in order to assess the comparative progress of BD students.

The Bridge to the Doctorate evaluation is a *summative* evaluation. The aim of the evaluation is to determine whether the Bridge program has met the goals of increasing the number of underrepresented minority students completing a STEM graduate and entering the STEM workforce.

## **Bridge to the Doctorate Program Goals**

The goals of the Bridge to the Doctorate program, which guide the design of the evaluation, are as follows:

- Increase the number of underrepresented minority students (URMs) with baccalaureate degrees in STEM fields who enter STEM graduate programs;
- Increase the number of URMs who complete graduate degrees in a STEM field; and
- Increase the number of URMs with STEM graduate degrees who enter the STEM workforce

Next, we will discuss the measures through which we will determine whether these goals have been achieved.

**Major Questions, Desired Outcomes, Data Measures**

Major evaluation questions, desired outcomes, and measures are listed below. The UI-designed evaluation will determine whether the BD program has achieved its stated program goals.

1. Are URM students entering STEM graduate programs at a greater rate since the BD program was established? How many of these students are BD awardees?

Question	Outcome	Measure
1a) To what extent are URMs entering STEM graduate programs since BD was established?	URMs enter STEM graduate programs	<ul style="list-style-type: none"> <li>* Number of URMs entering STEM graduate programs before BD established</li> <li>* Number of URMs entering STEM graduate programs after BD established</li> </ul>
1b) What proportion of URMs entering STEM graduate programs since BD was established are BD awardees?	BD awardees enter STEM graduate programs	<ul style="list-style-type: none"> <li>* Number of BD awardees who enter STEM graduate programs since BD established</li> <li>* Percent of URMs entering STEM graduate programs since BD established who are BD awardees</li> </ul>

2. Do BD awardees in STEM Master's programs complete their degrees at a greater rate than a matched comparison sample of non-BD students?

Question	Outcome	Measure
2a) To what extent are BD awardees obtaining MS degrees in STEM?	BD awardees complete MS degrees in STEM	* Number and percent of BD awardees who complete MS degrees in STEM
2b) Program Peer Comparison	Peer comparison students complete MS degrees in STEM	* Number and percent of peer comparison students entering the MS program at the same time who complete MS degrees in STEM



3. Are BD awardees in STEM Master's programs more likely to enroll in STEM Ph.D. programs than a matched comparison sample of non-BD students?

Question	Outcome	Measure
3a) To what extent are BD awardees in STEM MS programs entering a PhD program in STEM?	BD awardees in STEM MS programs enter PhD programs in STEM	* Number and percent of BD awardees in MS programs who enter PhD programs in STEM
3b) Program Peer Comparison	Peer comparison students in STEM MS programs enter PhD programs in STEM	* Number and percent of peer comparison students who entered the MS program at the same time who enter STEM PhD programs

4. Are BD awardees in STEM Ph.D. programs more likely to complete their degrees than a matched comparison sample of non-BD students?

Question	Outcome	Measure
4a) To what extent are BD awardees who enter PhD STEM programs completing STEM PhDs?	BD awardees who entered STEM PhD programs complete PhDs in STEM	* Number and percent of BD awardees who entered STEM PhD programs and complete PhDs in STEM
4b) Program Peer Comparison	Peer comparison students who entered STEM PhD programs complete PhDs in STEM	* Number and percent of peer comparison students who entered STEM PhD programs and complete PhDs in STEM



5a. Are BD awardees who complete STEM Master’s terminal degrees more likely to enter the STEM workforce than a matched comparison sample of non-BD students?

Question	Outcome	Measure
<b>5a1)</b> To what extent do BD awardees who complete terminal MS degrees in STEM enter the STEM workforce?	BD awardees who completed terminal MS degrees in STEM enter the STEM workforce	* Number and percent of BD awardees who completed terminal MS degrees in STEM and enter the STEM workforce
<b>5a2)</b> Program Peer Comparison	Peer comparison students who completed terminal MS degrees in STEM enter the STEM workforce	* Number and percent of peer comparison students who completed terminal MS degrees in STEM and enter the STEM workforce

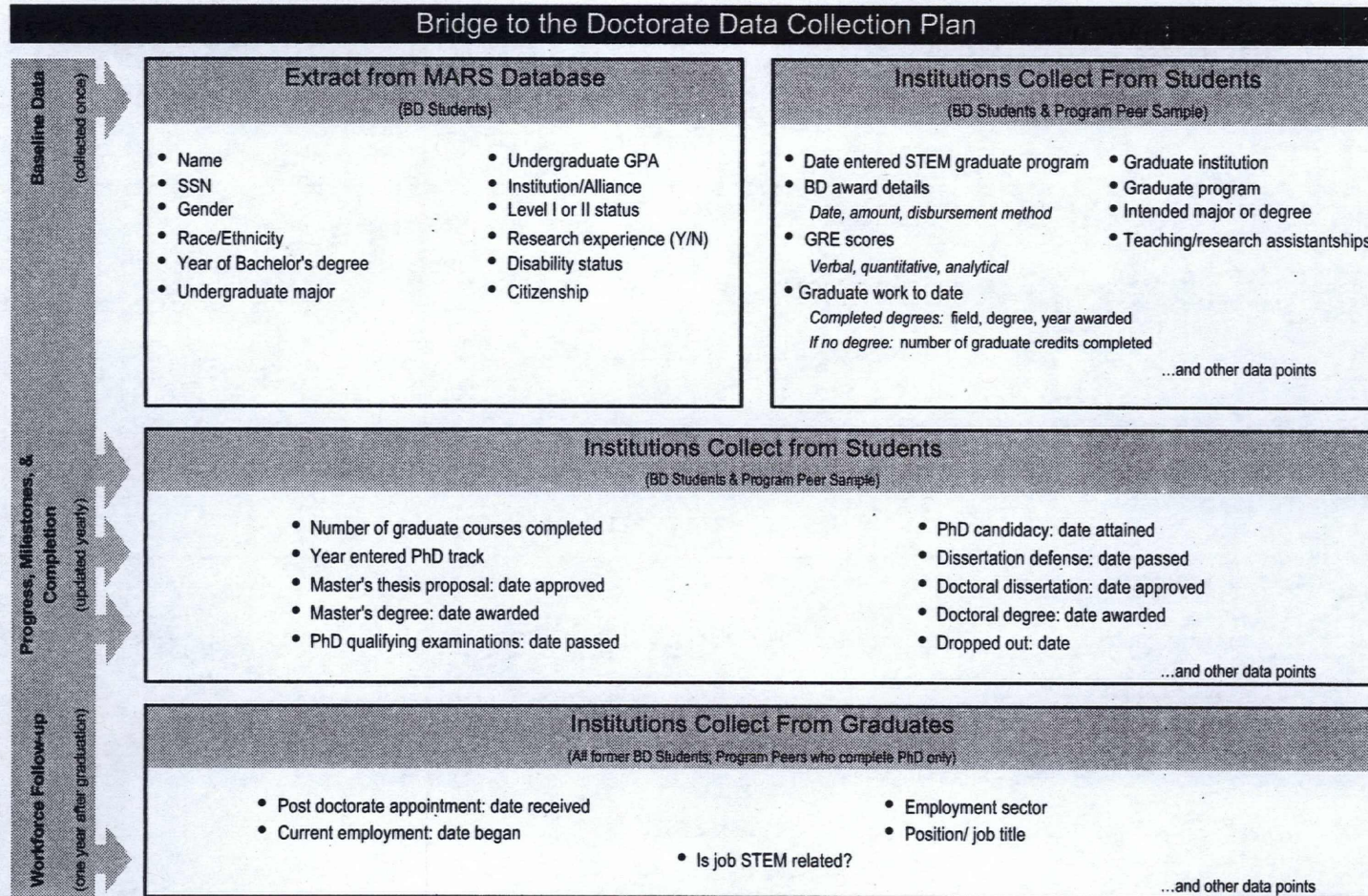
5b. Are BD awardees who complete STEM Ph.D.s more likely to enter the STEM workforce than a matched comparison sample of non-BD completers?

Question	Outcome	Measure
<b>5b1)</b> To what extent do BD awardees who complete PhD degrees in STEM enter the STEM workforce?	BD awardees who completed PhD degrees in STEM enter the STEM workforce	* Number and percent of BD awardees who completed terminal MS degrees in STEM and enter the STEM workforce
<b>5b2)</b> Program Peer Comparison	Peer comparison students who completed PhD degrees in STEM enter the STEM workforce	* Number and percent of peer comparison students who completed PhD degrees in STEM and enter the STEM workforce



## Proposed Evaluation Data Collection Plan

The following figure shows the data on program students (and comparison group) to be collected, as well as the frequency of data collection. The data collected by BD programs will document the degree to which their students achieve desired outcomes.



*N.B. This data collection cycle will be repeated for each evaluation cohort.*

## Data Collection Process

For each cohort of students, institutions will collect three types of data: *Baseline*, *Progress or Annual*, and *Follow-up*. *Baseline* data consist of background information about your students, and do not change over time, which is why they are only collected in the first year of a student's BD participation. This includes information about the students' year of entry, graduate program, intended major, etc. *Progress* data change from year to year, and thus are collected once a year until the student graduates or leaves the STEM graduate track. These data include information such as the number of graduate credits completed, status of theses and dissertations, and the year that degrees are awarded. Finally, *follow-up* data are used to track students after they have finished the program: was the student's first post-graduation employment in STEM? What was the job title and field?

Data will be collected in accordance with the IPEDS reporting schedule. This means that baseline enrollment data will be collected beginning in October of each year, and progress/completion data will be reported for the academic year ending June 30<sup>th</sup>.

## Data Collection Procedures

Because each institution collects data on its students in a different way, it will be up to Bridge grantees to determine the most appropriate sources of data on BD and comparison group students on their own campuses. For example, while students are enrolled in the institution, the required data could be collected from registrar's records and/or the office of institutional research on campus. Some information, such as information on approval dates of dissertation proposals, may need to be collected from academic departments, or from the students themselves. A complete list of required data elements is presented in the following pages.

It is important that you take a look at the specific data items that are required for the evaluation, and complete a thorough and reasonable plan of how you will collect the information. It is probably best to involve administrative professionals in campus offices if they will be required to assist you in your efforts. Investing time up-front in making a plan for data

## **A Note About Collecting Quality Data**

Institutions are responsible for collecting reliable and valid data on the progress of BD students and the students in the LSAMP and program peer comparison groups. Data are *reliable* to the extent that they are collected in the same way, even by different people at different times. In other words, no matter who collects the data or when they are collected, they are collected using the same procedure. Data are *valid* to the extent that they accurately capture what they are intended to represent. For example, if our goal is to measure progression into the PhD track, which we measure as "Entry into 3<sup>rd</sup> year of graduate school," we must collect data from the registrar's office documenting the completion of 2 years of studies and subsequent enrollment in the 3<sup>rd</sup> year of graduate studies. To ensure validity and reliability, however, our definition must be specific—in this case, we mean the number of credits that would be earned in 2 years at full-time status, no matter how long they took to complete (*not* 2 calendar years!) and documented enrollment in the third year of the program of studies (the first year of the PhD track). To enable meaningful data analysis, it is important that all institutions report information according to the same definitions.

There are four components to collecting reliable and valid data: (1) a well-planned, effective *process*, (2) *resources* to implement the process, (3) clearly defined *procedures* for collecting each measure, and (4) clear *definitions* of the data elements to be collected. Attention to each of these components will help to ensure the quality of the data you collect.

[Adapted from American Institutes for Research, (2002)]



collection will make the whole process run more smoothly when the time to gather information rolls around.

**Listing of Baseline, Annual and Follow-Up Data Items on Surveys**

Baseline Data Items	Annual Data Items	Follow-Up Data Items
Student Name	Student Name	Post-doctorate appointment received
Previous Name *	Previous Name	<i>Date received</i>
LSAMP Institution *	Graduate Program	<i>Institution</i>
Bachelor's degree-awarding institution	Intended Major	<i>Department</i>
LSAMP Alliance *	Intended degree	<i>Field</i>
SSN	BD funding *	Date current employment began
Student ID	<i>Amount awarded</i>	Full/ part time
Gender	<i>Disbursement method</i>	Employer type
Ethnicity	<i>Based on academic performance</i>	Employment sector
Race	<i>Funding ended? If so, date ended</i>	Position/Job title
Disability	Graduate course credits completed	Relation to STEM
Citizenship	Teaching Assistantship	Work in education
Date of Bachelor's Degree	Research Assistantship	<i>Type of institution</i>
Undergraduate Major	Year entered PhD track	<i>Faculty rank</i>
Undergraduate GPA	Master's Thesis Proposal-Date Approved	<i>Tenure status</i>
Undergraduate GPA Scale	Master's Degree-Date Awarded	
LSAMP Level I or II Status *	PhD Qualifying Examinations-Date Passed	
GRE Scores	PhD Candidacy-Date attained	
Date entered STEM Graduate Program	Dissertation Defense-Date Passed	
Date BD funding began *	Doctoral Dissertation-Date Approved	
Amount of BD funding awarded *	Doctoral Degree-Date Awarded	
Disbursement Method *	Post BD funding received *	
Graduate Institution	<i>Funding source</i>	
Graduate Program	Date left or dropped out of the program	
Intended Major	<i>Left to continue PhD elsewhere?</i>	
Intended Degree	<i>If so, transfer date</i>	
Previous graduate work	<i>If so, institution name</i>	
<i>Broad field area</i>	Permanent contact information	
<i>Field of study</i>	Other contact information	
<i>Degree</i>		
<i>Date degree awarded</i>		
<i>If no degree, # of graduate credits</i>		
Teaching Assistantship		
Research Assistantship		
Permanent contact information		
Other contact information		

*Extract from MARS*

\* indicates that data item is collected from BD awardees only



## **Tracking Students Once They Have Completed Graduate Degrees**

As you have seen from the material in this manual, it is important to use rigorous methods for collecting data or information that can provide insight into the effectiveness of the program. But the best instruments and forms are of little use if you cannot contact the graduates of your program and have them provide information on crucial BD outcomes beyond the scope of their participation in your program.

The task of tracking program graduates is sometimes a challenging one, but is certainly not insurmountable. It is important that BD programs have complete contact information on their graduates, as they will be followed up if they transfer to another institution as well as a year from graduation to determine their post-graduation employment status. Equally important, the contact information should be (1) *comprehensive*, (2) *standardized* and (3) *easily accessible*. Below we discuss each attribute.

***Comprehensiveness.*** Contact information is comprehensive when several contact sources are provided, spanning a variety of communication media. These include:

### *Address information*

It is critical to record **full address information** if you will be contacting graduates via mail. *Full address* includes the following components:

- Street Number
- Street Name
- Street type (e.g., Ave., Blvd., La., Dr., St., etc.)
- Other street information (e.g., use of NW, NE, etc., in Washington DC)
- Suite or Apartment Number (if applicable)
- City and State (and if appropriate, country)
- Zip Code (include 4 digit extension if known)

***It is better to record and keep track of all of the Graduates' addresses over time (rather than overwrite a new address on top of another).***

A comprehensive address list includes the graduate's:

- a) current address (including date obtained)
- b) permanent address (if different, e.g., parent's address)
- c) current work and/or school address; and if you are ambitious (with date obtained)
- d) alternate contact person's name and address (someone -- relative or friend who will know where to find the graduate at all times and who you can contact when all else fails)



### Telephone Numbers

Telephone numbers are also important to record. Remember to record the *entire number sequence*:

(area code)-(3 digit exchange)-(4-digits) (extension, if applicable)

Example: (202) 261-5991 ext. 52

If the graduate lives outside the U.S., you will need to record the international number including country code. An example for Mexico would be:

Example: (52) 56 61 89 89.

A comprehensive list of telephone numbers includes:

- a) current home number (with date obtained)
- b) cell phone number
- c) permanent address telephone number (if different)
- d) current work and/or school number (with date obtained)
- e) parent/relative name and telephone number

### Email addresses

A very efficient way to keep in touch with your graduates is through email. But nowadays young adults maintain more than one email address. Ideally, you can elicit:

- a) current personal email address (e.g., AOL, Yahoo, hotmail, etc.)
- b) work and/or school email (e.g., xxxx@ui.urban.org; yyyy@umich.edu)

It is a good idea to record dates that these addresses were obtained.

**Standardization.** Having contact information is the first step in being able to access former students. But the data need to be standardized, lest key information may end up missing. Note the seven components that are required to create a full address. If any one of these is missing, the postal service will not be able to deliver mail to that graduate. Similarly, telephone numbers should always include area code, even when the graduate resides in the same city (so that dialing the area code is not required). Finally, it is important to standardize the entry of contact information so that the same elements always appear in the same locations or fields in the electronic data file. That way you can take advantage of auto addressing functions in your word processing software to facilitate the generation of personalized letters, addressed envelopes, etc.

**Accessibility.** It is best to store contact information on graduates in a standardized data base system. But even something as simple as Excel can serve you well. By creating a standardized

comprehensive database of contact information, you will be able to easily keep track of your graduates for years to come.

### **Case Study: How Does One LSAMP Program Track Students?**

Colorado LSAMP has a tracking system in place to keep in touch with its graduates. Information is collected from LS Co-AMP students in the semester they graduate from the program. Students in the tracking database are contacted each Spring to update their information. The goals of the program are to (a) Meet the NSF data collection requirements; (b) Promote accuracy and thoroughness; (c) Develop data collection proficiency at each site; (d) Provide ongoing support to sites; and (e) Make data collection as easy as possible for sites.

#### *Important Components of the Tracking Form:*

- Student's signature giving you permission to contact them
- A non-college email address
- Phone number of parent, close friend, or other relative who will know where the student is.

#### *How long to track?*

Students are kept in the Co-Amp tracking system for four years after their B.S. unless they have begun graduate school. Otherwise, they are tracked until a year after their graduate degree.

### **Works Cited**

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