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GATEWAYS TO THE LABORATORY PROGRAM:

ENHANCING DIVERSITY OF *PHYSICIAN-SCIENTISTS*

Shauna-Kay Rhooms
The City College of New York

ABCRMS St. Louis, Missouri
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PHYSICIAN-SCIENTISTS

- MD or MD-PhD: translational biomedical research
 - Bridge gap between basic science & clinic
 - Apply lab results to people: “bench to bedside”
- Health workforce should be diverse
 - Need diverse students training in these fields
- URM: African American, Hispanic, Native American
 - 16% medical students
 - 9% MD-PhD students

GATEWAYS TO THE LABORATORY

- Undergraduate summer program, started 1993
- Mission: to foster diversity among physician-scientists
- Features:
 - 10 wks, 15 students/yr, mostly freshmen/sophomores
 - Run by Tri-I (Weill Cornell/Rockefeller/SKI) MD-PhD
 - Stipend, “big sib”, lab meetings, journal club, conference, presentation, paper, Research Day
 - Weekly meetings with administrators & scientific directors

PURPOSE

- To determine if Gateways adds a diverse group of individuals to physician-scientist pipeline
- To ascertain career trajectories of Gateways alumni
 - Advanced degrees
 - Health-related fields
- To assess alumni satisfaction with program

METHODS: DATA COLLECTION

- Enhance existing Gateways Alumni database
 - Electronic sources: Google, email, LinkedIn, Facebook, Healthgrades
- Created Gateways Alumni Questionnaire
 - Surveymonkey.com link sent via email & Facebook
- Info:
 - **Demographics:** gender, race/ethnicity, disadvantaged status
 - **Undergraduate:** Institution & major
 - **Program:** when participated
 - **Current status:** student, training (intern/resident/fellow), working, faculty
 - **Satisfaction:** with Gateways
 - **Career:** advanced degrees, health careers

RESULTS:

GATEWAYS PARTICIPANTS

Participants (n=218)	# (% of 218)
218 students from >90 colleges:	
1 summer	201 (92)
2 summers	17 (8)
Year completed in college:	
Freshman	95 (44)
Sophomore	115 (53)
Undergraduate major (known):	214 (98)
Life Sciences	132 (61)
Physical Sciences	71 (33)
Social Sciences	11 (5)

DEMOGRAPHIC DATA (n=218)

- Gender: 133 (61%) women, 85 (39%) men
- Race/ethnicity (self-reported, 1 category):
 - African American 126 (58%)
 - Hispanic 66 (30%)
 - Asian/Pacific Islander 19 (9%)
 - Native American 2 (1%)
 - Other 5 (3%)

DISADVANTAGED STUDENTS

- Disadvantaged: 49 (22%) of 218 students
 - Income: 34 (15%)
 - Rural/inner city environment: 11 (5%)
 - Personal/family issues: 4 (2%)

ALUMNI FOLLOW-UP DATA

- Available in 212 (97%) of 218 alumni
 - No follow-up in 6 (3%)
- Of 212, 29 (14%) are still undergraduates
- Follow-up data on 183 college grads
 - $(218 - 6 - 29 = 183)$
- Advanced degrees: 155/183 (85%)
 - 148/155 (95%) in health

ADVANCED DEGREES

Degree	Pursuing (%)	Received (%)	Total (%)
MD	33	62	95 (61)
PhD	10	8	18 (12)
MD-PhD	19	6	25 (16)
Other Health	3	7	10 (6)
Non-Health	1	6	7 (5)
TOTAL	66 (43)	89 (57)	155 (100)

- Of 19 pursuing MD-PhDs, 10 (more than half) Tri-I
- % URM in Tri-I 29/106 (27%), 3x higher than 9% nationally
- MD-PhD or PhD on the rise:
 - Pursuing 29/66 (44%) vs. received 14/89 (16%), $p < 0.001$

CAREER OUTCOMES

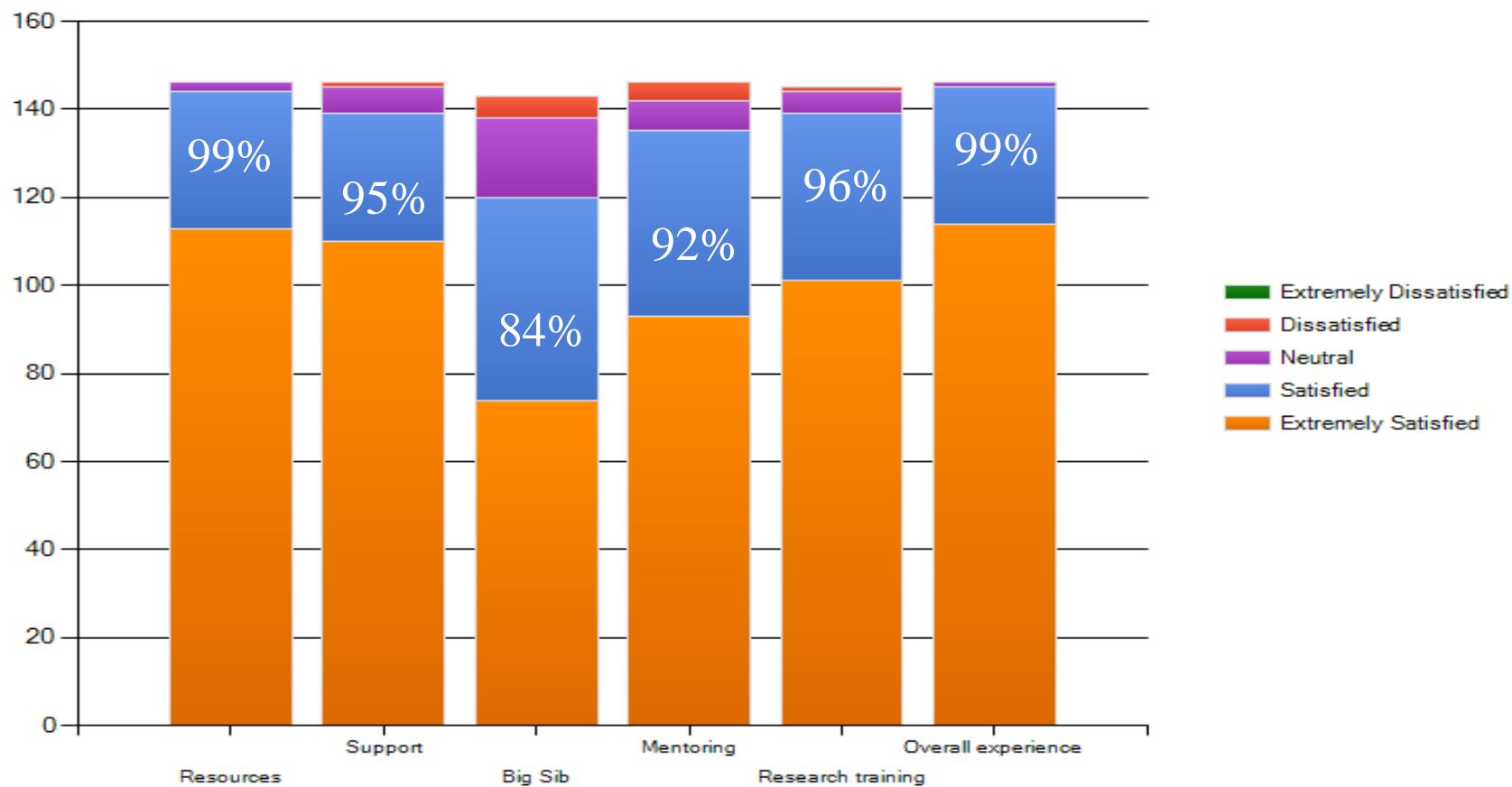
- Of 212 alumni with follow-up:
 - Students 95 (45%)
 - 29 undergrad, 65 health, 1 non-health
 - Training: 37 (17%)
 - Working: Health 59 (28%)
 - Working: Non-health 15 (7%)
 - Faculty: 6 (3%)
- 183 college grads: 161 (88%) health careers

ALUMNI QUESTIONNAIRE (N=148)

Questionnaire Responses	# (%)
Responses:	148/212 (70)
Gateways affected career choice	139/147 (95)
Solidified plan for science/medicine	124/146 (85)
Research helped career	136/145 (94)
Research after Gateways	137/144 (95)
Presented (regional/national)	128/147 (87)
Author/co-author	97/147 (66)
Currently doing research	92/146 (63)
Gateways was valuable	146/147 (99)

SATISFACTION (N=148)

How satisfied were you with the following aspects of the Gateways to the Laboratory Program?



QUESTIONNAIRE COMMENTS

- “Gateways was pivotal for my decision to pursue an MD-PhD.”
- “Prose really can not capture what the Gateways program has meant for my life and career. The amazing relationships I built (in and out of lab!), the great research experience I had and mentorship I received...have been paramount to the way I conduct myself not only as a scientist but an individual... I would relive the '09 summer in a heartbeat, as it truly was the best of my life.”

CONCLUSIONS & FUTURE WORK

- Gateways has an impact!
 - >90% health careers; alumni highly satisfied
 - Diversifies physician-scientist pipeline
 - Of alumni pursuing MD-PhD, ½ are Tri-I
- Long road: after 18 yrs, 2/3 are students/training
 - Appreciate physician-scientists & Gateways
 - Model for other programs
- Alumni directory: resource

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