Trends in Urban Health Services Research (HSR): Priorities, Gaps, and Collaborations.

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Introduction

The growth of urban populations and the unique health needs of these communities drives the need for innovation in urban public health departments (Hearne, et al. 2015). With input from Big Cities Health Coalition (BCHC), AcademyHealth staff used the National Library of Medicine's Health Services Research Projects in Progress (HSRProj) database to review trends in urban health services research (HSR) within participating BCHC Cities.

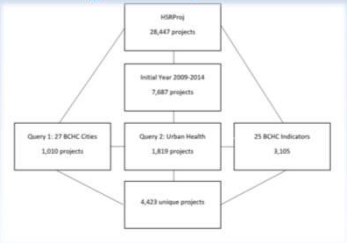
This project contributes to understanding HSR's role in urban health, asking:

1. In which BCHC member cities is HSR conducted?
2. Among which of 25 urban health topics identified by the BCHC is HSR most commonly conducted?
3. Is there evidence of research collaboration among cities to study urban health; and what are the characteristics this collaboration?

Methods

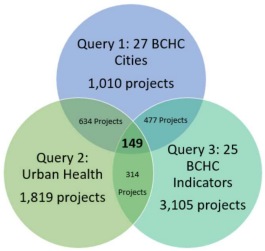
To inform our research questions, HSRProj staff conducted three queries to identify relevant projects. HSRProj staff applied these three queries to projects with an initial start year of 2009-2014 which yielded **4,423 unique projects** (Figure 1).

Figure 1: Query Results



To evaluate the most relevant projects, staff distilled these **4,423** projects to those only at the union of all three queries, resulting in **149 projects** (see Figure 2). HSRProj staff then coded and analyzed these 149 projects, using NVivo 9 software to tag projects by city and BCHC urban health topic.

Figure 2: 149 Projects



Findings

What research topics are addressed in which city?

Most research projects are conducted in the largest cities with many major universities, hospitals and research centers. New York City is host to the most projects by far (n=54), followed by Baltimore (n=17). Boston, Chicago, Philadelphia, and San Francisco each host 12 projects, followed by Los Angeles (10), Seattle (10), and Houston (9).

The five most commonly researched BCHC topics across all cities are obesity (n=32), cancer (n=31), HIV (n=26), physical activity (n=26) and child health (n=21), as shown in Figure 3. E-coli, Healthcare Associated Infections, Laboratory Confirmed Infections and Motor Vehicles are topics that do not come up in any of the 149 projects. Half of all projects look at two or more 25 BCHC urban health topics.

Figure 3: Most Researched BCHC Topics

Topic	Obesity	Cancer	HIV / Physical Activity	Child Health	AIDS	Nutrition / Substance Abuse
Count	32	31	26	21	16	16
Topic	Violence	Infectious Disease / Tobacco	Behavioral Health / Tuberculosis	Opioid	Vaccine / Maternal Health / Alcohol Use	Influenza / Pneumonia / Binge Drinking
Count	8	7	5	4	3	1

Five categories of collaboration were identified:

1. No research collaboration;
2. Local research partnerships only within one BCHC city;
3. Collaboration by researchers within a BCHC city and a U.S. city that is not a BCHC member;
4. Collaboration by researchers within two or more BCHC member cities; and
5. International research partnerships between researchers in a BCHC city and a city outside of the U.S.

Three major patterns emerge:

1. Eight supporting organizations fund all 149 projects: NIH (13 Institutes), RWJF, CDC, AHRQ, PCORI, the VA, HSRA, and the William T. Grant Foundation.
2. The amount of funding per project and per project per year varies by the project length. Longer projects tend to receive less funding per year.
3. The projects that receive the most funding on average involve local partnerships and partnerships between at least two BCHC member cities.

Atlanta, Los Angeles, Seattle, Baltimore, New York City, and San Francisco all have projects with international partnerships. These are related to HIV/AIDS or infectious disease. See Figures 4 and 5 for more details.

Figure 4: Funding and Length of Projects by Category

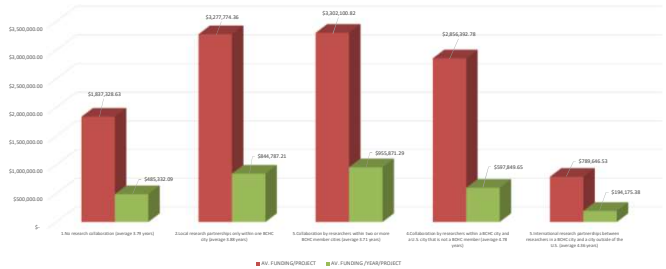


Figure 5: Research Collaboration Categories and Characteristics

COLLABORATION CATEGORY	NUMBER OF PROJECTS (%)	AV. YEARS PER PROJECT	AV. FUNDING/ PROJECT	AV. FUNDING /YEAR/ PROJECT	MOST RESEARCHED TOPIC	FUNDING INFORMATION UNAVAILABLE?
1.No research collaboration;	85 (57.05%)	3.79	$ 1,837,328.63	$ 485,332.09	Obesity, Cancer, Physical Activity	1 project
2.Local research partnerships only within one BCHC city;	25 (16.78%)	3.88	$ 3,277,774.36	$ 844,787.21	HIV, Cancer, Obesity	N/A
3.Collaboration by researchers within two or more BCHC member cities.	14 (9.40%)	3.71	$ 3,302,100.82	$ 955,871.29	Physical Activity, Obesity, Substance Abuse	3 projects
4.Collaboration by researchers within a BCHC city and a U.S. city that is not a BCHC member.	11 (7.38%)	4.78	$ 2,856,392.78	$ 597,849.65	Cancer, Child Health, Obesity	2 projects
5.International partnerships between researchers in a BCHC city and a city outside of the U.S.;	14 (9.40%)	4.26	$ 789,646.53	$ 194,175.38	HIV, Tuberculosis, AIDS	N/A
	149 (100.00%)	3.88	$ 2,168,918.22	$ 554,839.55	Obesity, Cancer, HIV, Physical Activity and Child Health	6 projects

Discussion

The existence of a forum like BCHC demonstrates that there is already significant knowledge sharing and practice collaboration between member cities. However, the findings from this sample indicate only modest health services *research* collaboration among member cities. There is much more research collaboration between BCHC cities and non-member cities. Research collaboration between organizations in BCHC member cities focused on physical activity, obesity and substance abuse; topics that reflect current country-wide public health concerns.

It is notable that there are only eight organizations or agencies funding all of the urban public health research in the sample of 149 projects. Overall, HSR projects on urban health within the BCHC cities are supported by a small proportion of the more than 365 supporting organizations in HSRProj, which may put these projects at risk for future sustainability.

Apparent gaps in research topics prioritized by the BCHC (E-coli, Healthcare Associated Infections, Laboratory Confirmed Infections and Motor Vehicles) may be due to a small number of practice-based research networks (PBRN) projects in HSRProj. PBRNs may represent a growing proportion of research engagement with major public health concerns. Understanding whether PBRNs are under-represented is a future area of investigation for the HSRProj team.

Further research should be conducted on the nature of multicity collaboration. Additional research could consider the role of the BCHC and other similar organizations in fostering collaboration and research among its members. The degree to which existing data on urban health is available may also influence whether collaboration occurs.

Implications for Health, Policy, and Practice

The findings support the observations of Hearne et al. (2015) that the U.S. urban health agenda is responding to the need to understand chronic diseases (e.g. a focus on cancer and obesity).

Given the importance of the urban health agenda for public health in the U.S., the findings suggest further study to assess opportunities for multicity collaboration, and opportunities to engage public health departments.

HSRProj may be a useful tool to further inform policy and build an evidence base of health services research for urban health policy.

References & Acknowledgements

References

Hearne, S, Castrucci, BC, Leider, JP, Rhoades, EK, Russo, P, and Bass, V. The Future of Urban Health: Needs, Barriers, Opportunities, and Policy Advancement at Large Urban Health Departments. Journal of Public Health Management Practice, 21, S4–S13, 2015.

Resources

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For more information about the Big Cities Health Coalition, visit http://www.bigcitieshealth.org/