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Health Impact Assessment and City Council Policy: Identifying Opportunities to Address Local Social Determinants of Health & Place-Health Relationships, 10 Years Later

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HEALTH IMPACT ASSESSMENT AND CITY COUNCIL POLICY: IDENTIFYING OPPORTUNITIES TO ADDRESS LOCAL SOCIAL DETERMINANTS OF HEALTH & PLACE-HEALTH RELATIONSHIPS, 10 YEARS LATER

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Abstract

Background: Health Impact Assessment (HIA) can be used to assess any type of policy/program related to social determinants (SDH). However, local public health departments (LHDs) have been slow to adopt formal use of HIA in efforts to address local SDH, even with growing evidence linking SDH and place-health relationships. Ten years ago, we completed a review of Baltimore City Council policies to advance this conversation within the LHD. Our goal here is to revisit this review and, again, outline a process by which LHDs can: a) monitor local policies in regard to SDH and b) identify opportunities for potential HIA use.

Methods: We reviewed all policies introduced into Baltimore City Council in calendar years 2008 and 2009 to identify and assess those with potential health impacts. We then categorized these policies as: a) "explicitly health-related" or b) "related to SDH." We then tabulated the number and sub-types of these policies that were referred to the LHD legislative director for review/comment, i.e. submission of formal LHD assessment/comment for the legislative record.

Results: We assessed 597 total policies. In total, 89 policies (15%) were identified as "explicitly health-related," 34 (38%) of which were referred for LHD review/comment. In addition, 208 policies (35%) were identified as "related to SDH," 13 (6%) of which were referred for LHD review/comment. Overall, 297 (50%) policies were identified as having potential health impacts, 47 (16%) of which received LHD review/comment.

Conclusion: This policy review effort represents a potentially replicable process to identify HIA opportunities, and potential launch point for health-in-all-policies efforts. In Baltimore, this review work facilitated dialogue with Baltimore City officials and led to the LHD's first HIA grant.

Keywords: health impact assessment, social determinants of health, health in all policies, local health departments, place and health, policy

Background

Health Impact Assessment, Social Determinants of Health, and Place

The World Health Organization recognizes that "the social determinants of health are mostly responsible for health inequities" (WHO, 2016). The distribution of social determinants of health, or SDH, is largely determined by policy decisions, and experts emphasize the importance of understanding that "every aspect of government and the economy has the potential to affect health and health equity" (WHO, 2008, p.10). As such, leading public health organizations have increasingly turned attention towards addressing factors that shape the social, economic, political, and environmental conditions in which we live, learn, work, play, and age (CDC, 2015; DHHS, 2011; NACCHO, 2011; Prevention Institute, 2008; Ramirez et al., 2008). In focusing attention on addressing SDH, local health agencies have begun developing public health strategies that engage policies and practices that traditionally have been viewed as "non-health" related, including those concerning transportation, housing, zoning, education, and land use (BARHII, 2015; BPHC, 2015; Schaff et al., 2013; Schaff & Dorfman, 2019).

One analytic tool that has facilitated this work is Health Impact Assessment, or HIA (Bhatia, 2011; Harris-Roxas et al., 2012; Heller et al., 2014). HIA is commonly understood as:

> *"a systematic process that uses an array of data sources and analytic methods and considers input from stakeholders to determine the potential effects of a proposed policy, plan, program, or project on the health of a population and the distribution of those effects within the population." (National Research Council, 2011, p.5)*

Use of HIA has been increasing in the US (Dannenberg et al., 2006; Ross et al., 2014), with recent reviews showing that they have been conducted on a wide range of projects and policies (Bourcier et al., 2015; Dannenberg et al., 2014; Dannenberg et al., 2008; NCHH, 2016). However, HIA is not used regularly at local levels to assess potential health impacts of policy decisions as part of standard practice. Rather, it is used mostly on a voluntary basis by only a few city/county agencies, usually in collaboration with non-profits, universities, and the private sector. For example, based on our 2016 review of publicly available data tracking all HIAs conducted in the US, just 53 city/county health agencies had served as the lead/authoring partner for an HIA since 1999, with 90 total HIAs completed among them. This represents just 2% of the 2,532 city/county agencies defined by the National Association of City and County Health Officials as local health departments, or LHDs (NACCHO, 2013). Based on a more recent review of these data (Health Impact Project, 2020), 71 city/county LHDs—3% of all LHDS—have now served as lead/authoring partner, with 134 total HIAs completed among them. San Francisco Department of Public Health has led the way, serving as a lead partner on at least 19 HIAs. Douglass County Health Department, NE has been a lead partner on at least 9 HIAs, and a handful of other LHDs have served as a lead on at least three HIAs, including Maricopa County Department of Public Health, (AZ), Los Angeles County Department of Public Health, and Ingham County Health Department (MI).

With a growing appreciation for how "place" matters for health (Acevedo-Garcia et al., 2014; Diez Roux & Mair, 2010; Kawachi & Berkman, 2003; PolicyLink, 2007; RWJF, 2008, 2011), one would expect LHDs to actively pursue tools and strategies that hold potential to address

elements of local built, social, economic, and political environments. A core feature of HIA is that it can be used to assess any type of policy, program, project, or plan, including zoning, land use, community development, and housing—all elements, for example, that shape distributions and patterns of place-based SDH exposures, experiences, and opportunities (Braunstein & Lavizzo-Mourey, 2011; Frank et al., 2006; Maantay, 2001; Northridge & Sclar, 2003; Pastor & Morello-Frosch, 2014; Rogerson et al., 2014; Wernham, 2011; Wilson et al., 2008). Thus, by its very nature, HIA is a tool designed to address local SDH, improve place, and promote health equity (Heller et al., 2014; PolicyLink, 2013).

HIA, SDH, and Place: A Baltimore Story

Despite connections between HIA, SDH, and place-health relationships, LHDs have been slow to adopt the formal use of HIAs or incorporate the application of its core components and principles in the policy development process. Baltimore City Health Department (BCHD) was one such LHD. A 2010 report on health inequities revealed that, like many large cities, Baltimore has far to go to achieve health equity (BCHD, 2010). Moreover, a 2011 report focused on SDH and health at the neighborhood-level revealed significant inequities within the city (BCHD, 2011). For example, compared to other communities, predominantly black and high-poverty communities have up to 3 times as many liquor stores, 4 times as many tobacco stores, 35 times as many vacant buildings, 2.5 times as many vacant lots, and 3 times as many fast-food and carry-out restaurants (Petteway, 2012). Within this SDH context, the report uncovered a 21-year gap in life expectancy between the city's most- and least-healthy neighborhoods. Another report in 2012 demonstrated a strong connection between historic patterns of racial residential segregation (e.g. from redlining), persistent poverty, and health (Joint Center, 2012). These reports make it abundantly clear that place (and how it is "made") matters for health, and that addressing SDH is integral to any strategy to achieve health equity. Moreover, inequities in these social and environmental conditions are shaped by local policy and practice decisions, and accordingly could benefit immensely from HIA.

Two Baltimore projects that have employed HIA include *The Redline Project*, related to the proposed development of a new light-rail transit route (Ricklin, 2008), and *TransForm Baltimore*, related to a comprehensive zoning code re-write (Thornton et al., 2013). A third HIA related to a proposed community redevelopment plan, the *Downtown-Westside Redevelopment Implementation Plan*, was completed in 2014. However, while HIA is not entirely foreign to Baltimore City, to date there is no standard HIA process to evaluate the potential health impacts of local policy decisions. Moreover, currently there is no general process established to ensure health is considered from the very beginning of the policy development process, e.g. a health in all policies (HiAP) approach (Rudolph et al., 2013). The work presented here describes an attempt to move the needle in this regard, and could prove particularly timely given the iterative releases of updated Neighborhood Health Profiles (BCHD, 2017), which continue to highlight the importance of examining local policy roots of place-based SDH inequities in Baltimore City.

Building Momentum Towards HIA Through Local Policy Reviews: Revisiting a Baltimore Study

In this paper, we revisit and present findings from a policy review of City Council policy for Baltimore City for calendar years 2008 and 2009. We completed this work ten years ago with the following goals in mind:

1. Ascertain the amount, types, and magnitude of policies that may potentially impact the health of Baltimoreans, i.e. a low-level "screening" of all policies introduced
2. Identify policies that were referred to the Baltimore City Health Department (BCHD) for review and those that were not
3. Identify gaps in BCHD referral patterns, i.e. what kind of policy does BCHD not receive that could have potential health impacts?
4. Outline replicable processes that LHDs can use to monitor SDH policies and explore potential HIA opportunities

We have previously shared the results of the 2008 review with various LHD officials and practitioners (Petteway, 2010). We shared both the 2008 and 2009 reviews within the LHD and with various Baltimore City officials as part of our efforts to scale-up and deepen local efforts to address local SDH, and to build interest and capacity for HIA and, potentially, HiAP. These reviews were foundational in local efforts related to addressing SDH and led to the BCHD's first HIA grant in 2011. We revisit this work now as an opportunity to again highlight it's potential value in outlining a way forward for LHDs to make inroads towards HIA use and HiAP considerations in local practice to address SDH and place-health relationships. Given the pace at which public health discourse regarding SDH and health equity has grown over the last decade, we believe this "excavation" of sorts could present as timely and potentially instructive.

We briefly describe the review process and present summary review data. We then discuss major findings, limitations, and potential practice impacts and implications for LHDs.

Methods

Legislation Search

For the 2008 policy review, the online legislative database for Baltimore City Council was searched for *Resolutions* and *Ordinances* with legislative file numbers beginning with "08." In addition to an overall search, separate searches were performed for legislation sponsored by each of the 15 active City Council members for both types of legislation, and by legislative status. Only legislation introduced between 1/1/2008 and 12/31/2008 was included for the 2008 searches. All searches were performed between 2/25/2009 and 4/15/2009. This same procedure was repeated for 2009 City Council policy using "09," with all searches being performed between 4/1/2011 and 6/24/2011.

Legislation Review and Classification

Summaries for all policies, including both Resolutions and Ordinances, were evaluated to ascertain basic degree of health-relatedness. Entire legislative files were read only if health-relatedness of summary content was unclear or insufficient to make a determination. Polices that were determined to be health/safety-related—directly or indirectly, and regardless of magnitude or degree of explicitness—were collated, re-evaluated, and categorized based on if they were: a) Explicitly Health/Safety-Related, or b) Related to SDH. Policies categorized as "explicitly health/safety-related" (EHR) explicitly mentioned health, safety, and/or health-related topics (e.g. asthma, smoking, trans fats), or otherwise pertained to matters commonly recognized as being related to health/safety (e.g. child welfare, firearms, sanitation, animal control) (**see Table 1**).

Policies involving topics commonly considered SDH, or that influence SDH (directly or indirectly), were categorized as Related to SDH. Considerations for which policies constituted/

affected SDH were rooted in SDH literature and core guiding documents within health equity and HIA work (PolicyLink, 2007; Ramirez et al., 2008; RWJF, 2008; WHO, 2008). These included policies that are traditionally outside the scope of "health" policy, e.g. policy regarding homelessness, parks, green buildings, affordable housing, transportation, vacant housing/ lots, living wages, zoning and community development (**see Table 1**).

Legislation that was reviewed and did not fall into the EHR or SDH categories was excluded in the remaining analysis. The EHR and SDH policies were then sorted based on their current or final legislative status: Enacted (for Resolutions), Adopted (for Ordinances), Withdrawn, Failed, or In Committee. These categorized and sorted policies were then compared to a list of policies that were forwarded from City Council to BCHD for comment and review of potential health concerns. These policies were forwarded at the discretion of each City Council subcommittee, i.e. committee members determined whether or not formal assessments/comments would be sought from various agencies for each pending policy, including BCHD. Policy review results were then tabulated—stratifying by year, type of policy, EHR or SDH, policy status, and BCHD review status.

Findings Summary

We identified and assessed 179 Resolutions and 418 Ordinances—597 total policies—across the 2008 and 2009 calendar years (**Figure 1**). Again, a total of 89 policies (15%) were identified as "explicitly health-related," 34 (38%) of which were referred for LHD review. 208 policies (35%) were identified as "related to SDH," only 13 (6%) of which were referred for LHD review. Overall, 297 (50%) policies were identified as having potential health impacts, only 47 (16%) of which were reviewed and commented on for potential health considerations by BCHD (**Figure 2**).

Figure 1: Summary of 2008 & 2009 Polices Referred for Health Review

2008 & 2009	Resolutions	BCHD Reviewed	Ordinances	BCHD Reviewed	R&D	BCHD Reviewed
Total 2008 and 2009	181		433		614	
Total Reviewed (on file)	179		418		597	
Total Health/ Safety-Related	93 (52%)	16 (17%)	204 (49%)	31 (15%)	297 (50%)	47 (16%)
Explicitly Health/ Safety	44 (47%)	13 (30%)	45 (22%)	21 (47%)	89 (30%)	34 (38%)
Related to SDH	49 (53%)	3 (6%)	159 (78%)	10 (6%)	208 (70%)	13 (6%)

Figure 1: BCHD is Baltimore City Health Department. Note that a total of 17 policies were not on file in the database and were therefore not included in this review.

Figure 2: Summary of 2008 & 2009 Polices Referred for Health Review

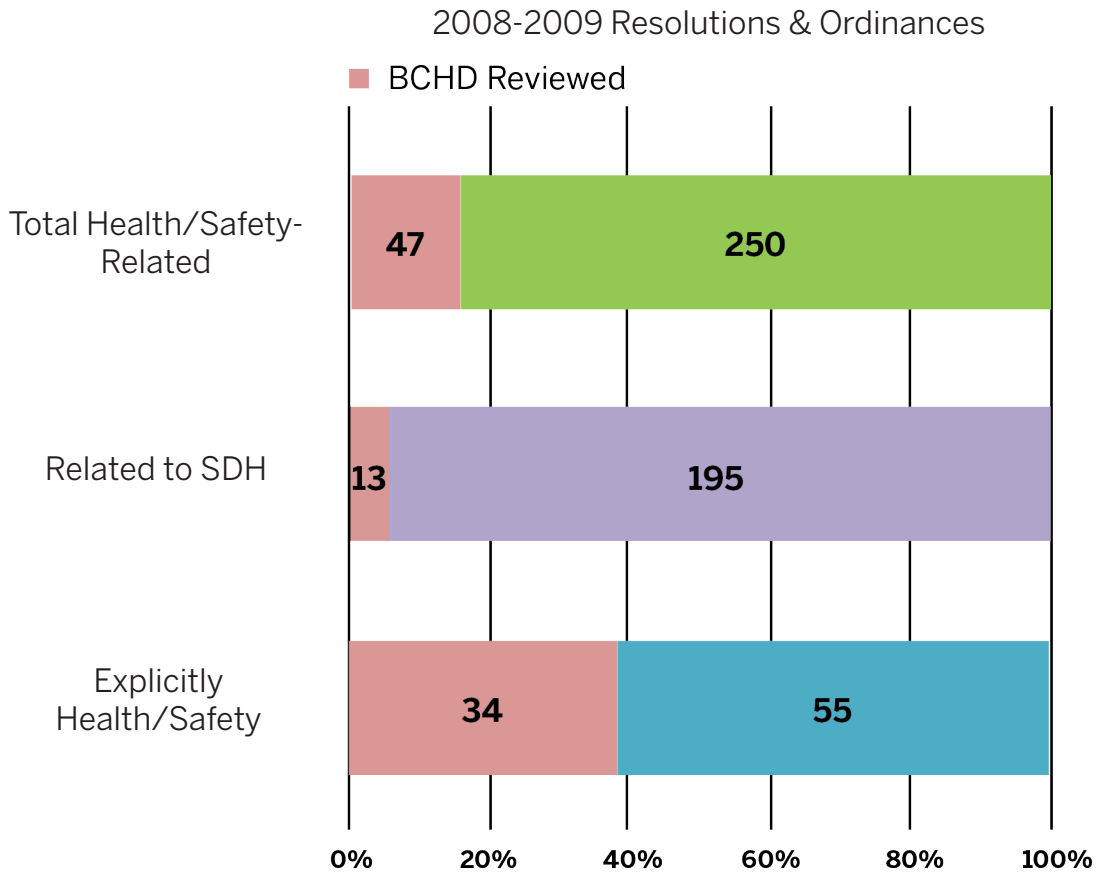

Figure 2: BCHD is Baltimore City Health Department. Note that a total of 17 policies were not on file in the database and were therefore not included in this review.

Table 1 provides an illustrative overview of the types of policies that were identified as having potential health impacts, distinguishing those that were "explicitly health-related" and those that were "related to SDH." **Table 2** highlights some major SDH-related policies that were not reviewed for potential health impacts, thus representing significant missed opportunities to potentially improve place-health relationships in the city.

Table 1: 25 Illustrative Examples of Policies Reviewed & Categorized for Potential Health Impacts

Illustrative Examples of Policies Reviewed & Categorized for Potential Health Impacts				
Policy Category	**Policy Type**	**Policy Topic**	**Status[1]**	**BCHD-Reviewed**
Explicitly Health-Related (EHR)	Resolution	Asthma Awareness Month acknowledgment	Adopted	No
	Resolution	Baltimore Green Week acknowledgment: Healthy Cities & Healthy Lives	Adopted	No
	Resolution	Informational Hearing; Public Wellness and Disease Prevention Program; request for BCHD to discuss available practices/resources for Baltimore City	Adopted	Yes
	Resolution	Informational Hearing; Vector Control; request for City Council briefing on effectiveness of efforts	Adopted	Yes
	Resolution	Investigative Hearing; Decommissioning, Dismantling, and Closure of Hazardous Material Sites	In Committee	Yes
	Ordinance	Trans Fats; exempting certain bakeries from the provisions governing food containing trans fat	Enacted	Yes
	Ordinance	Repeal ban, sale of contraceptives to minors	Enacted	Yes
	Ordinance	Zoning ; Conditional Use; Nonprofit Home and Transitional Housing Facility for the Care and Custody of Homeless Persons	Enacted	Yes
	Ordinance	City Streets - Bike-Safe Grates; requiring that all City street paving and repaving contracts require that drainage grates be installed in a bike-safe alignment	Enacted	No
	Ordinance	Flavored Tobacco Wrappings; Sale or Distribution; prohibiting the sale or distribution of flavored tobacco wrappings	Enacted	Yes
	Ordinance	Tobacco Products; strengthening the prohibition against the sale or transfer of unpackaged cigarettes	Failed	Yes

[1]At time of review

Illustrative Examples of Policies Reviewed & Categorized for Potential Health Impacts

Policy Category	Policy Type	Policy Topic	Status[1]	BCHD-Reviewed
Explicitly Health-Related (EHR)	Ordinance	Baltimore City Sustainability Plan; establishing a Sustainability Plan for the City of Baltimore	Enacted	Yes
	Ordinance	Food Service Facilities - Suspension or Non-renewal of Licenses; authorizing the suspension or non-renewal of a license for a food service facility that has received multiple environmental or civil citations	Enacted	Yes
Related to SDH	Resolution	Urging Baltimore City Public Schools CEO to adopt Non-Violent Conflict Resolution Curriculum (Education)	Adopted	No
	Resolution	Informational Hearing; Revocation of Federally Subsidized Housing Assistance; to keep housing free of "criminals" and those "associated with criminals or persons with criminal intent" (Housing; Criminal Justice)	Adopted	No
	Resolution	Celebration/acknowledgment of Bike to Work Week (Transportation)	Adopted	No
	Resolution	Task Force on Noise Laws and Enforcement (Environment)	Adopted	No
	Ordinance	Plastic Bags; imposing a surcharge on certain bags provided by dealers to customers (Environment)	Enacted	Yes
	Ordinance	Zoning ; Conditional Use; Nonprofit Home and Transitional Housing Facility for the Care and Custody of Homeless Persons (Housing)	Enacted	Yes
	Ordinance	Urban Renewal; Greenmount West (Community Development)	Enacted	No
	Ordinance	Zoning; Condition Use; Incinerator (Community Development)	Enacted	No
	Ordinance	Speed Monitoring Systems (Transportation)	Enacted	No
	Ordinance	Planned Unit Development; The State Center, Transit Oriented Development Business Planned Unit Development (Transportation; Community Development)	Enacted	No
	Ordinance	Transit and Traffic; Bike Lanes for the purpose of allowing the creation of bike lanes (Transportation)	Enacted	No
	Ordinance	Westport Waterfront Development District (Community Development)	Enacted	No

Table 2: 25 Missed Opportunities to Inform Policy Decisions Related to SDH: Illustrative Examples of Place and Health-Impacting Policies Not Reviewed by BCHD

25 Illustrative Examples of Place and Health-Impacting Policies Not Reviewed by BCHD			
Policy Type	**Year**	**Policy Topic**	**Status[2]**
Resolution	2008	Informational Hearing; Revocation of Federally Subsidized Housing Assistance; to keep housing free of "criminals" and those "associate with criminals or persons with criminal intent" (Housing; Criminal Justice)	Adopted
Resolution	2008	Allowing students to use MTA transfers until 8PM on school days (Education; Transportation)	In Committee
Resolution	2008	Request for State Legislation; increase penalty for all felony gun crimes (Criminal Justice)	Adopted
Resolution	2008	Request for development & implementation of gang-related violence training for Baltimore City Public School teachers (Education; Criminal Justice)	Adopted
Resolution	2009	Baltimore City Youth Development Task; establishing a citywide task force to provide substantive direction on how to expand and allocate resources on positive youth-centered activities (Education; Community Development)	Adopted
Resolution	2009	Requesting the Baltimore City Police Department to implement online reporting systems to disclose the final internal investigation results of officer-related shootings provide a greater level transparency to the citizens of Baltimore (Criminal Justice)	Adopted
Resolution	2009	Informational Hearing; inviting the Baltimore Police Commissioner to report to the City Council on the recent mass dismissal of internal misconduct cases (Criminal Justice)	Failed
Resolution	2009	Request for Budget Action; requesting the Mayor to restore funding for recreation centers, childcare centers, Police Athletic League Centers, and City pools (Recreation; Education)	Adopted
Resolution	2009	Informational Hearing; requesting the Senior Vice President of Customer Relations and Account Services for BGE to report to the City Council on efforts to help low-income customers manage energy costs (Energy Security)	Adopted

[2]At time of review

Policy Type	Year	Policy Topic	Status[2]
Ordinance	2008	City Trees; extending certain laws for the protection of trees along public ways to apply also to trees in parks, squares, and other public places (Natural Environment; Climate)	Enacted
Ordinance	2008	Planned Unit Development; The State Center, Transit Oriented Development Business Planned Unit Development (Transportation; Community Development)	Enacted
Ordinance	2008	Planned Unit Development; The State Center, Transit Oriented Development Business Planned Unit Development (Transportation; Community Development)	Enacted
Ordinance	2008	Westport Waterfront Development District (Community Development)	Enacted
Ordinance	2009	Urban Renewal; Harlem Park II (Community Development	Enacted
Ordinance	2009	Urban Renewal; Park Heights (Community Development	Enacted
Ordinance	2009	Urban Renewal; Greenmount West (Community Development	Enacted
Ordinance	2009	Zoning; Conditional Use Permit; Incinerator (Zoning; Land Use)	Enacted
Ordinance	2009	Speed Monitoring Systems (Transportation)	Enacted
Ordinance	2009	Urban Renewal; Belair-Erdman (Community Development	Enacted
Ordinance	2009	Urban Renewal; Reistertown Plaza Transit Station (Transportation; Community Development)	Enacted
Ordinance	2009	Bike-Safe Grates; requiring that all City street paving and repaving contracts require that drainage grates be installed in a bike-safe alignment (Transportation)	Enacted
Ordinance	2009	Transit and Traffic; Bike Lanes for the purpose of allowing the creation of bike lanes (Transportation)	Enacted
Ordinance	2009	Land Bank Authority; for the purpose of establishing the Land Bank Authority of Baltimore City (Community Development)	Withdrawn
Ordinance	2009	Newly Constructed Dwellings; reauthorizing and extending for a certain period the property tax credit for newly constructed dwellings (Community Development)	Enacted
Ordinance	2009	Downtown Management District; extending the Downtown Management District to encompass an area bounded by Franklin Street to the north, Howard Street to the east, Saratoga Street to the south, and Eutaw Street to the west (Community Development)	Enacted

Discussion: Implications for Policy and Practice

There are perhaps three major takeaways from the work we summarized here. First, based on our review, BCHD reviewed/commented on just 16% of potentially health-impacting policies introduced during 2008 and 2009 calendar years (**Figure 2**). In other words, an overwhelming majority—84%—of Baltimore City Council policies with the potential to impact health were not reviewed accordingly. Moreover, BCHD was much more likely to review policies with explicit connections to health—reviewing 38% of EHR policies vs. just 6% of SDH polices (**Figure 2**). This means that dozens of opportunities to address local SDH were missed (see some major examples in **Table 2**). Overall, the pattern of BCHD reviews during these two years suggests a pronounced "downstream" perspective regarding what constitutes "health" policy, e.g. policies related to tobacco, trans fats, vector control, and contraceptives (**Table 1**).

Second, BCHD reviews of policy were proportionately similar between resolutions (17%) and ordinances (15%) (**Table 1**). Resolutions tend to be more symbolic and affirmational gestures towards policy values and priorities, or requests for additional information regarding topics that might eventually become a policy priority. They do not in themselves constitute true policies in the manner traditionally understood within the scope of HIA and HiAP, as they do not change laws, budgets, or practices in ways that would fundamentally alter the lived contexts of health opportunity. This suggests, perhaps, a need to better prioritize review energies such that more substantial policies, i.e. actual laws, are subjected to more frequent and rigorous review/comment for health—particularly given the extent to which major SDH-related ordinances were enacted into law without BCHD review or comment (**Table 2**).

And third, from our review, it was clear that most of the major policies that fundamentally alter place-based contexts of health opportunity and risk were not reviewed, many of which were related to zoning, urban renewal, and community development (**Table 2**). Critically, many of these un-reviewed policies directly affected the neighborhoods experiencing the highest burden of health inequities, e.g. Park Heights, Greenmount, Harlem Park (BCHD, 2011, 2017)—communities in which the distribution of health opportunities and risks has been historically shaped by mechanisms of structural racism, like redlining (Joint Center, 2012). There is quite literally no point in completing future iterations, for example, of the Neighborhood Health Profiles if the policies responsible for (re)producing, maintaining, or exacerbating the inequities revealed in these reports continue to be developed and enacted without application of a critical health lens. This suggest a critical need to develop mechanisms so that such polices (e.g. urban renewal, community development) are routinely reviewed in light of potential health impacts—even in the absence of HIA resources. Reviews like the one discussed here could be used to contextualize the outcomes data made available by an increasing number of tools/platforms (CDC, 2020; NAPHSIS, 2020; PolicyMap, 2020; RWJF, 2020), and perhaps allow for more robust and locally actionable assessments of place-health relationships, drawing from—and enhancing the geographic resolution of—legal epidemiology approaches in public health (Burris et al., 2016; Ramanathan et al., 2017).

This review also had several limitations worth noting here. First, we relied on a publicly accessible policy database to identify policies in each of the years included in our review. As indicated in **Figure 1**, a total of 17 policies

were not on file in the database and we were thus unable to include them in our review. This review, while still rather extensive, is incomplete. Second, we relied on a generally imprecise process for categorizing policies in regard to their health-relatedness. As noted above, we relied on our knowledge of SDH and the guidance of core documents related to SDH and HIA in developing our broad categories of "explicitly-related to health" and "related to SDH." Moreover, we did not complete inter-rater reliability testing as part of the policy categorization process, primarily because our intention was to simply complete a rough/cursory examination of what the LHD was reviewing and not reviewing. We were aiming for a quick process that could be applied/adapted in the practical contexts of local practice, wherein many LHDs, like BCHD, do not have the staff resources or technical capacity to more formally structure and evaluate policy categorizations. We thus approached the two years of policy as a sort of test of concept/process, with the intention to enhance/refine in future iterations. We do not discount that separate reviewers more than likely would have made different category allocations for some policies, and likely would have included/retained additional policies at the health-relatedness categorization stage (we excluded 300 policies). Given that we were indeed hoping from the outset to explore/arrive at a process that other LHDs could potentially follow/replicate, formally assessing policy categorization reliability from the beginning would have afforded greater technical guidance for uptake elsewhere.

And third, we also acknowledge that our decision to use two discrete categories—EHR and SDH—presumes that each is mutually exclusive, even though, in effect, many policies have direct health connections and indirect impacts via various SDH mechanisms. Even so, we believe these categories afforded us sufficient direction to complete what we intended as a cursory/exploratory review and assessment of policies. And we accordingly believe that our general process remains transferrable if not fully replicable with the enhancement of inter-rater reliability testing.

It's important to note here that while this review was partly intended to reveal the potential vitality of HIA as a tool to assess local policy, it was mostly a way to demonstrate the need to simply consider the potential health impacts of 'non-health' policies, i.e. policies that are/affect SDH. Conducting an infinite number of HIAs is obviously not a viable goal or solution. Accordingly, we approached this review as a means to use the discourse and lens of HIA as a vehicle to open discussions regarding long-term, proactive approaches to promote health equity within and through standard policy processes, similar to efforts undertaken elsewhere (Den Broeder, 2003; Gagnon & Michaud, 2008; Wernham & Teutsch, 2015). Thus, we considered the broader aims of this work to support progress towards:

1. Developing a replicable process through which local policies possessing the ability to significantly impact the health are identified and referred for LHD review
2. Expanding the scope of 'health' policy to include all policies that shape residents' built, social, and economic environments and opportunities, including those related to zoning, community development, land use, transportation, education, and housing, i.e. moving LHD review of polices closer to HiAP

As noted above, LHD engagement and uptake of HIAs has been remarkably limited, and in the absence of either interest, resources, or capacity to conduct HIAs, LHDs might benefit from more rudimentary—but ultimately, more

foundational—tools and processes. At the time of our review, the health review process in Baltimore was not proactively led by LHD staff. Rather, City Council committee members made determinations regarding which City agencies should review/comment on each policy (e.g. the Education subcommittee sending school/education-related policies for review by Baltimore City Public Schools leadership). Our review makes it clear that such a process is insufficient. Moreover, it suggests that real-time tracking/monitoring of policy by LHD staff is a viable and more robust way to ensure a health lens is applied. The work presented here, we believe, highlights the potential value of local policy reviews as a low-cost "screening"-like process for LHDs. Such reviews can serve as a tool to identify the most significant policies in need of detailed LHD review as they are introduced. In this way, the reviews serve as a sort of gateway tool to identify potential HIA opportunities (should resources become available) and as a model process to move towards HiAP within local government, with every policy given at least a cursory examination in regard to health equity implications.

In an absence of such a review process in Baltimore City for 2008 and 2009, several significant polices were approved without any analysis of potential health impacts—failing to even be referred to BCHD for a cursory review, comment, or sign-off (**Table 2**). Examples range from transportation policy for public school students and energy security for low-income residents, to transit-oriented development projects and protecting city tree canopy, to the aforementioned community development policies. And, given the emotional and psychological health toll that deaths at the hands police #FreddieGray #KorrynGaines have on families and entire communities (Bor et al., 2018), it's worth noting that there was an entire collection of policies related to police (mis)conduct and criminalization that went unreviewed for potential health impacts, including policies that investigated the mass-dropping of police misconduct cases and called for greater transparency regarding officer-involved shootings and misconduct (**Table 2**). As previously noted, these sorts of policies would not have been referred automatically to BCHD for review. Someone would have had to have been proactively monitoring all policies as they were introduced, then flagged them for review. The fact that these policies were not referred to BCHD, and the fact that BCHD staff either did not see them or feel the need to review/comment on them, speaks rather poignantly to the myopic tendencies of LHDs in regard to health equity efforts, often failing to see the nuanced structural factors driving community and population health risks and outcomes.

Certainly, not all of the 297 policies we identified as having potential health impacts needed a detailed review. Indeed, many did not appear to need much more than a simple acknowledgment, e.g. dozens of zoning policies that modified basic elements of property lines or rights of way. On the other hand, there were dozens of policies that could have benefitted from and been potentially strengthened by a more health-conscious review, some of which possessed the ability to alter the landscape of place-based opportunities and risks for years to come. We believe this could have been averted with a basic commitment to more closely monitor policy development activities across all sectors of local government. In this light, this review could serve as a potential model process for LHDs to move in that direction—generally, the direction of an HiAP orientation and practice among LHD leadership and legislative/policy directors.

Conclusion

The review presented here represents a potentially replicable process to monitor policy with potential health impacts and can serve as a starting point to identify HIA opportunities, or as a foundational process for HiAP. In Baltimore, this work facilitated dialogue around HIA with key City officials, including focused discussion with various City Council members on how to incorporate the principles and core philosophy of HIA into City policy development processes. These discussions strengthened rapport between the LHD and City Hall and engendered additional support/motivation to formally pursue HIA. This work led directly to the first HIA grant for the City health department, which improved prospects for integrating HIA into standard practice, and led to completion of at least 2 HIAs between 2011 and 2015. Moreover, this work was a key element to development/framing of two major LHD reports: one highlighting neighborhood SDH for the first time (the 2011 Neighborhood Health Profiles), and the other outlining the City's strategic plan/vision for health (Healthy Baltimore 2015)—which was the first official LHD report to mention HiAP as policy priority. Other LHDs might benefit from engaging in similar review processes to facilitate movement towards HIA and HiAP as part of standard practice to address local SDH, improve place-health relationships, and promote health equity.

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