Public Health in Practice 4 (2022) 100340

Contents lists available at ScienceDirect

Public Health in Practice

journal homepage: www.sciencedirect.com/journal/public-health-in-practice

Community health improvement plan: Study protocol for Kansas City's intervention and implementation evaluation

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ARTICLE INFO

Keywords:
Community health improvement plans
Community health
Implementation science

ABSTRACT

Objectives: Community health improvement plans (CHIPs) are foundational public health practice, yet no studies have been conducted to understand implementation of these plans. This evaluation study of the Kansas City CHIP aims to 1) identify implementation strategies used in the CHIP, 2) assess changes in implementation, service, and client outcomes, 3) assess contextual factors associated with implementation, and 4) understand social networks of coalitions who implement the Kansas City CHIP.
Study design: This study protocol uses a unique, mixed methods approach to evaluating process and outcomes of the Kansas City CHIP. This study is supported by Proctor's Model of Implementation, RE-AIM (reach, effectiveness, adoption, implementation, maintenance), and the practical, robust implementation and sustainability model (PRISM).
Methods: Staff and community members involved in implementing the Kansas City, Missouri CHIP will be invited to participate in an annual online survey, a series of focus groups, and quarterly implementation logs to assess implementation and sustainability.
Results: RE-AIM and PRISM constructs are the primary and secondary outcomes of interest. Results of this study will be available from the first year of implementation in 2023, with future results provided annually.
Conclusions: This project will fill a much-needed gap in the literature by understanding how large-scale coalitions implement projects that aim to improve population health and health equity. CHIPs have the potential to improve population health, yet few studies have been conducted on CHIPs, with no studies to date assessing outcomes. To support effective implementation and sustainability as well as improve public health outcomes, researchers need to evaluate CHIPs and develop models of implementation that can quickly be integrated into practice to improve populations' health.

1. Background

Lack of effective interventions to prevent disease and treat community-wide problems pose real and growing threats to public health. Public health agenda setting organizations, such as the Centers for Disease Control and Prevention (CDC), are calling for more efforts to move away from primarily individual level strategies in health care settings, to community-level interventions and policy approaches [1]. Reis et al., 2016 [2] similarly noted the need to increase efforts to "scale up" interventions to address prevention. However, in response to the noted threat, Reis et al., 2016 [2] found that implementation factors were often mismatched and created barriers to "scaling up."

Community Health Improvement Plans (CHIPs) are a foundational part of public health practice. The CDC defines CHIPs as "a long-term, systematic effort to address public health problems based on the results of community health assessment activities and the community health improvement process." Governmental public health at the local, state, and tribal levels are encouraged to assure completion of CHIPs as

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https://doi.org/10.1016/j.puhip.2022.100340
Received 18 September 2022; Received in revised form 24 October 2022; Accepted 1 November 2022
Available online 4 November 2022

part of fulfilling the Ten Essential Public Health Services outlined initially by a consortium of federal public health agencies in 1994 [3] and updated in 2020 [4]. Completion of CHIPs falls under the fifth domain of essential public health service, which calls on local public health systems to "create, champion, and implement policies, plans, and laws that impact health."

Although recommended as a best practice essential to public health, the use of CHIPs was further galvanized by the voluntary public health accreditation movement being undertaken by governmental public health. The Ten Essential Public Health Services influenced the development of standards which are required for governmental public health accreditation through the Public Health Accreditation Board (PHAB). Accordingly, completion of CHIPs every five years is a prerequisite for accreditation. CHIPs completed to meet PHAB accreditation standards must meet several key criteria including: identification of community-driven priorities, selection of measurable objectives which align to national frameworks (e.g., Healthy People 2030), and prioritization of strategies which must include some evidence-based approaches and policy changes. To date (March 2022) local governmental public health agencies serving more than 50% of the United States population are accredited [5], and state and tribal entities further expand the scope of the US population served to 78%. Thus 78% of the US population live in communities which have CHIPs guiding their effort to address priority public health issues. Further broadening the scope of the population for which CHIPs are guiding public health and health care efforts, the federal tax code, established through the Affordable Care Act in 2010 requires non-profit hospitals to complete a community health needs assessment and plan every three years.

CHIPs are important tools driving public health efforts in many US communities and are already integrated into practice. Given their prevalence and integration into standard practice, they offer a critical opportunity for exploring how to increase the implementation and effectiveness of community-level interventions aimed at improving health. Despite its presence as a foundational public health practice for governmental public health, there is a dearth of research or evaluation documenting the impact of CHIPs on population-level outcomes. Similarly, there are exceedingly few published studies examining implementation of CHIPs. Of the limited studies available, some suggest that examination of CHIP implementation may be a rich opportunity for exploration. Within these studies, factors such as organizational culture valuing implementation of best practices, interest in quality improvement, and organizational leadership influenced creation of CHIPs [6,7]. However, these studies also suggest that more can be learned regarding the impact of organizational structures, use of incentives, and community partners available to support implementation [8] of CHIPs.

In addition to the presence of the CHIP, accredited local health departments are fertile ground for exploring the application of implementation science to specific topics. Allen et al.'s study of 350 local health departments found that accreditation was associated with two key features: awareness of and capacity for evidence-based decision making [9]. CHIPs are an already existing tool explicitly intended to guide communities in addressing priority public health issues through a combination of evidence-based and policy strategies. Leveraging CHIPs in a setting (accredited local health departments) which have been identified as potentially predisposed to adopt evidence-based decision-making, the proposed project may contribute significant information about what conditions and factors are essential for communities to "scale up" approaches for addressing health problems [2]. The knowledge yielded from the proposed study has the potential to influence a large practice community which is incentivized, through accreditation and tax code compliance, to establish and implement effective CHIPs.

This study is guided by Proctor's Model of Implementation [10], RE-AIM [11], PRISM [12], and several social network theories [13–15]. Proctor's Model of Implementation suggests that long-term changes in health require evidence-based practice and appropriate implementation strategies that lead to changes in implementation outcomes, service outcomes, and, ultimately, increases in client-level physical activity. In this study, the KCMO CHIP provides the evidence-based strategies that the community is planning to implement. The proposed key implementation outcome is implementation, with sustainability an important indicator. Service outcomes will include effectiveness, equity, patient-centered, and timeliness. Ultimately, we aim to understand what leads to improvements in health and life expectancy as the key client outcomes.

The RE-AIM framework posits that adoption and implementation are outcomes of setting and intervention agents [11]. The implementation strategies used by CHIPs often aim to change the setting and intervention agents for successful implementation. The RE-AIM framework is one of the most widely used, and longest established, implementation science frameworks that has broad impacts to communities and other settings. Additionally, RE-AIM provides a way of evaluating both the quantitative and qualitative aspects of implementation. PRISM is a newer model that expands RE-AIM to account for contextual factors. Specifically, PRISM includes aspects of the intervention, recipients, implementation and sustainability infrastructure, and external environment that may be important for success of an intervention [12].

Social network theory is a broad group of theories based on Diffusion of Innovation Theory [13], Social Cognitive Theory [16], Dynamic Systems Theory [14], and Collective Action Theory [17]. There is broad evidence to suggest that large-scale community interventions to improve health rely on social networks to increase capacity, develop coalitions, change policy, provide funding, and ultimately change health outcomes [18]. In our extensive work with health departments and CHIP implementation, it seems that social networks and partnerships are a key outcome of the development and implementation of CHIPs.

We will conduct the evaluation of a natural experiment to understand the implementation of the CHIP in Kansas City, Missouri. CHIPs in the U.S. seem to be effective in developing coalitions to improve health [6,7]. However, no evidence is available on the implementation or outcomes of CHIPs on community health. Therefore, the aim of the study is to understand the implementation using Proctor's Model of Implementation, RE-AIM, and PRISM in Kansas City, Missouri. We will 1) identify implementation strategies used in CHIP implementation, 2) assess changes in implementation, service, and client outcomes, 3) assess contextual factors associated with implementation, and 4) understand social networks of coalitions who implement CHIP goals.

2. Methods

2.1. Intervention

The Kansas City CHIP was developed in 2021 using the Mobilizing Action through MAPP process [19]. The CHIP development methods, timeline, and next steps can be found elsewhere [20]. Table 1 presents the priority areas and goals of the Kansas City CHIP.

2.2. CHIP implementation infrastructure

Table 2 presents the groups and mechanisms that work collaboratively to oversee and implement the CHIP process. Fig. 1 presents how these are nested within each other to impact population-level health. The Health Commission is a 17-member, mayoral-appointed, governing body that is responsible for implementing the CHIP in KCMO. The Health Commission decides on CHIP priorities, goals, and objectives, members of the committees (CHIP Committee, Budget and Contracts Evaluation, Birth Outcomes, Housing Ad Hoc, Education, Health Policy and Advocacy, Violence-Free KC), and funding. Community partners and organizations are a key component to CHIP implementation, with community members participating in developing and implementing the CHIP. Many of the community partners are the individuals and organizations who implement the CHIP and who are eligible for funding from the RFP mechanisms. The CHIP Committee is a sub-committee of the

Table 1
Priority areas and goals of the Kansas City CHIP.

Priority Area I: Robust Public Health and Prevention Infrastructure
Goal 1: Increase public health capacity of residents of KCMO
Goal 2: Increase local funding for public health with a priority focus on BIPOC communities
Goal 3: Increase federal funding for public health in KCMO
Priority Area II: Safe and Affordable Housing
Goal 4: Adopt, at the Municipal Level, a Health in All Policies (HiAP) Framework
Goal 5: Invest in Truly Safe, Affordable Rental Housing in low life expectancy zip codes
Goal 6: Increase Investment in Zoning Policies to Create More Diverse, Mixed-income Communities in High Priority Zip Codes
Goal 7: Monitor, in Real-time Affordable Housing Stock
Priority Area III: Trauma-informed and Funded Education
Goal 8: Prioritize funding for schools in disinvested areas with lower property values
Goal 9: Increase trauma-informed and anti-racist education and practices in the Kansas City education systems
Goal 10: Improve Kansas City, MO student graduation rates for BIPOC students
Priority Area IV: Implementation of Medicaid Expansion
Goal 11: Remove Barriers to Equitable Enrollment for Newly Expanded Medicaid Population
Goal 12: Support Expanded Capacity for Service Providers to Provide Equitable Access to Care for Expanded Medicaid Population
Priority Area V: Violence Prevention
Goal 13: Ensure that experiences between citizens and police are just and rehabilitative, residents and their families must be able to trust that their humanity is fully recognized, and that the justice system will work equitably for all residents
Goal 14: Expand community-based restorative and transformative justice programs within education, community, and law enforcement
Goal 15: Change the way overall self-directed, interpersonal, and collective violence data are collected to overturn inequities
Goal 16: Decrease community violence through application of Crime Prevention through Environmental Design (CPTED) strategies

Health Commission that is responsible for the direct oversite of all aspects of the CHIP to include: development, implementation, evaluation, funding, and more. Members of the CHIP committee include Health Commissioners, community partners, funders, and staff from various organizations who implement the CHIP. The CHIP manager is the central staff member responsible for the development, coordination, implementation, oversite, and evaluation of the CHIP. There are two annual funding mechanisms to fund implementation and evaluation of the CHIP. The CHIP Request for Proposals (RFP) is designed to fund community partners to implement a project or program that leads to fulfillment of one or more of the CHIP objectives. The Health Commission evaluates each proposal and awards funds. Once awarded, the organization implements the project, with the assistance and coordination of the CHIP Manager and committee. The Health Levy Innovation Fund RFP is similar to the CHIP RFP. However, only organizations eligible for Health Levy funding (local general hospital and federally-qualified health centers) are eligible to apply. The Health Department

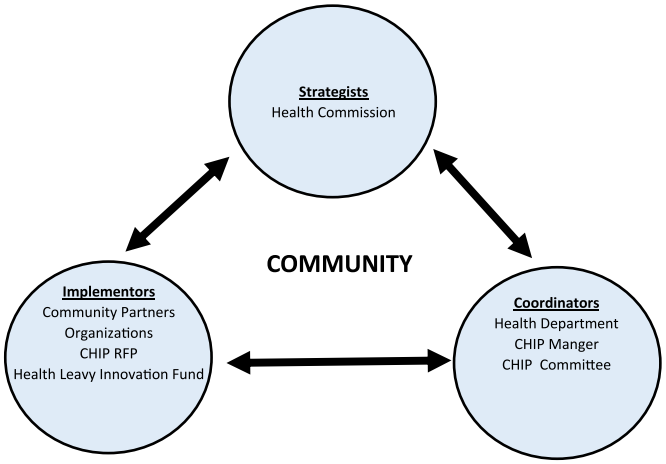

Fig. 1. Strategists- Appointed advisory bodies to CHIP strategic plan and capacity building.
Coordinators- Public Health actors charged with group convening and facilitating action towards the CHIP
Implementors– Groups and mechanisms that contribute to implementation of programs and projects related to the CHIP.

Table 2
CHIP implementation infrastructure.

Component	Description	Potential Implementation Strategies [18]	Potential Implementation Outcomes [10]
Health Commission	17-member advisory board of health in KC. Responsible for overseeing all aspects of health in Kansas City.	- Develop stakeholder relationships - Change infrastructure	- Increase acceptability - Increase reach
Community Partners and organizations	All community members who serve on HC committees and/or participate in the CHIP development or implementation	- Train and educate stakeholders - Support consumers - Provide interactive assistance to all other components of the CHIP	- Increase reach - Increase sustainability - Increase penetration - Increase adoption - Reduce costs
CHIP Committee	Committee within the Health Commission responsible for overseeing all aspects of the CHIP development, implementation, funding, provision of technical assistance and support	- Evaluative and iterative strategies - Interactive assistance to CHIP Manager - Train and educate stakeholders - Change infrastructure	- Increase adoption - Increase penetration - Increase fidelity - Increase sustainability
CHIP Manager	Full-time staff member responsible for the day-to-day implementation of the CHIP	- Evaluative and iterative strategies - Interactive assistance to CHIP Manager - Train and educate stakeholders	- Increase adoption - Increase penetration - Increase fidelity - Increase sustainability
CHIP RFP	Approximately $250,000 annual fund supported by local foundation and city to contract with local organizations to implement goals and objectives in the CHIP	- Use financial strategies - Support clinicians - Support consumers	- Reduce costs - Increase feasibility - Increase adoption
Health Levy Innovation Fund RFP	Approximately $400,000 annual fund supported by special property tax to support CHIP implementation by the local general hospital and federally-qualified health centers.	- Use financial strategies - Support clinicians	- Reduce costs - Increase feasibility - Increase adoption
Health Department	Local health department who participate in CHIP implementation	- Use financial strategies - Support clinicians - Support consumers - Provide interactive assistance to Health Commission, CHIP Committee, CHIP Manager, and RFP process	- Increase acceptability - Increase adoption - Increase penetration - Increase sustainability

collaborates with all other components to aid in coordinating the CHIP from development to evaluation.

2.3. Primary outcomes measure

Table 3 presents the RE-AIM constructs, the operationalization of each construct in this study, and how each construct will be evaluated. With the overarching goal of improving population health, the RE-AIM constructs are measured monthly, quarterly, and/or annually. To improve implementation, the CHIP Committee will conduct rapid-cycle evaluation on all measures. Implementation logs, meeting minutes, focus group results, survey results and other information will be discussed in monthly CHIP Committee and Health Commission meetings and weekly with staff. Meetings will be focused around identifying barriers, opportunities, and actions for supporting progress.

Staff logs and observations: Staff logs will be collected monthly from all members implementing the CHIP including the CHIP manager, funded community partners, and others. Logs assess the implementation strategies used, challenges, assets, progress, and future directions for each goal. Additionally, staff will track observations on implementation in the community. Observations are guided by RE-AIM and PRISM constructs [11,12].

Meeting minutes: All meetings will be hosted online and recorded. The Health Commission meets monthly. The CHIP Committee meets weekly. As these are public governmental meetings and are required to be made available to the public, no identifiers will be removed.

Implementation strategies survey: All organizations and individuals responsible for CHIP implementation (CHIP Manager, KCMO staff, funded agencies, Health Commission members, etc.) will be asked to participate in a survey to assess which of the 73 implementation strategies identified by Waltz et al. [18] were used to further CHIP goals.

Implementation staff survey: All individuals who help implement CHIP goals will also be asked to participate in an implementation staff survey to assess RE-AIM and Prism constructs associated with implementation.

Social network survey: Annually, all members of CHIP components will participate in an online survey to identify, describe, and understand how social networks (defined as collaboration connections between members) may change as the CHIP is implemented. Implementation staff will report individuals via survey with whom they professionally collaborated to implement the CHIP goals, how often they interacted, how much they valued their collaboration, and if they shared resources (Supplemental File 1). The goal of the social network survey is to assess the public health network of those implementing the CHIP.

RFP awards: Proposals received from the CHIP RFP will be assessed for common themes of implementation to include: CHIP goals, implementation strategies, funding requests, organizational experience, etc.

RFP survey: All organizations who respond to the RFP will participate in a survey to understand where they learned about the funding opportunity, which CHIP goal they are implementing, policies and practices of funding that support or hinder implementation, and other aspects associated with receiving funding. The Organizational Readiness to Change Assessment instrument [21] will be used to assess implementation by funded agencies. Actual costs of implementation will also be assessed.

City satisfaction survey: Each fiscal year, Kansas City, Missouri administers an anonymous survey to a statistically significant random sample of its residents to determine their level of satisfaction or dissatisfaction with City services. The surveys are collected via mail, phone, and online on a quarterly basis, with full results published each Summer for the prior fiscal year. One key section of the survey is "Perceptions of the Community." Residents are asked about: overall quality of services provided by the City, overall value they receive for their City tax dollars and fees, overall image of the City, overall quality of life in the City, overall feeling of safety in the City, how safe they feel in their neighborhood, overall quality of the education system within the City, and the physical appearance of their neighborhood. Responses for each question are made on a Likert scale of 1–5 with 1 being "Very Dissatisfied" and 5 being "Very Satisfied". A full version of the City Satisfaction Survey can be found online [22].

Focus Groups: Annually, we will conduct focus groups with members of all four broad CHIP stakeholder groups: Strategists, Coordinators, Implementors, and Community Members (Fig. 1). Participants will be recruited through a purposive voluntary response sampling method. Representatives from each of the four stakeholder groups will be contacted via direct communication via email for focus group participation. Upon the receipt of a voluntary participation response, informed consent will be obtained, and participants will be assigned a focus group session. Participants will be assigned to a focus group session based on stakeholder group affiliation (e.g. Strategists, Coordinators, Implementors, or Community Member). The questions will focus on four domains set out by the study aims including: 1) identify implementation strategies used in the CHIP; 2) assess changes in implementation, service and/or client outcomes; 3) assess contextual factors associated with implementation; and 4) understand social networks of coalitions who implement CHIPs. Focus groups will be semi-structured utilizing pre-established focus group guides and will be informed by RE-AIM, and PRISM constructs, and previous studies [11,12,23,24].

Table 3
Measures of RE-AIM constructs [11].

Dimension	Operationalized in Study	Measure
Reach – number, proportion, and representativeness of individuals who were recruited to implement the CHIP	- % and representativeness of members who implement the CHIP - % and representativeness of community member target audience	Monthly: Staff logs and observations Meeting minutes Annually: RFP Awards and Survey Social Network Survey
Effectiveness– impact of CHIP on positive and negative outcomes	- Quality of life of community members - Number and type of unintended consequences	Quarterly: Staff logs and observations Annually: Implementation strategies survey Focus Groups Implementation staff survey City satisfaction survey
Adoption – number, proportion, and representativeness of organizations who implement the CHIP	- Number and representativeness of organizations who implement the CHIP - Reasons for and against applying for CHIP funds	Monthly: Meeting minutes Annually: RFP awards RFP survey Social network survey Focus groups
Implementation – level of fidelity to the core components (goals/objectives) of the CHIP	- Number and type of EBP based on CHIP implemented - Number and type of adaptations made to CHIP - Cost of implementation	Ongoing: Staff logs and observations Meeting minutes Quarterly: Implementation strategies survey Annually:Focus groups Implementation staff survey
Maintenance – level of sustainment over time	- Number and representativeness of organizations who continue to participate over the duration of the CHIP	Monthly: Meeting minutes Staff logs and observations Annually: RFP awards RFP survey Social network survey

2.4. Secondary outcome measure

Many studies have suggested that contextual factors are important for implementation. Contextual factors may be essential to implementation across various community partners, governmental organizations. We will also attempt to understand the larger context that may influence CHIP implementation. Table 4 provides a description of PRISM

[12] measures, how each construct is operationalized for this study, how it will be measured, and the source of the data.

2.5. Statistical analysis

Information from focus groups, meeting minutes, implementation logs, staff logs, RFP awards, and observations will be categorized using hybrid deductive and inductive qualitative approaches and analyzed using Dedoose [25]. Major themes will be grouped into coding categories (e.g., policy limits implementation, lack of resources, lack of experience, etc.) and a code map will be developed to allow us (initially two independent coders followed by a 3rd coder) to categorize information that may influence implementation. When possible, themes will be delineated by level of socio-ecologic influence (i.e., individual, social, organizational, community), RE-AIM, andPRISM constructs.

All interviews will be audio recorded and transcribed verbatim. Once transcribed, elements of a thematic analysis process will occur [citation]. This will start with coding a priori categories based on categories within the semi-structured interview guide. A priori findings will then be combined with exploratory findings identified using open coding strategy, to generate final themes [26]. Lastly, data triangulation will occur between existing literature, the REAIM and PRISM constructs, surveys, staff logs, meeting minutes, and stakeholder interviews/focus group to informed final research findings [27] [35, 36].

We will conduct descriptive and multivariate analyses of quantitative survey data to test the hypotheses. Data from the implementation strategies survey will be used to identify implementation strategies used in CHIP implementation. The implementation staff survey will be used to identify implementation, service, and client outcomes, as well as contextual factors associated with implementation. Survey results will be grouped by participant type (Health Commissioner, funded organization, safety-net clinic, health department, etc) and differences between organizations will be identified using *t*-test and chi-squared tests. Longitudinal analyses will be conducted to understand change over time Using paired t-tests.

We will assess social networks similarly to past projects [23,24] with staff and collaborating organizations. Network composition scores (e.g., density, two-step reach, average value of connections, average frequency of interaction) will be calculated. Social network composition scores will be assessed to identify potential mechanisms of change that may inform future interventions. As shown in past studies [23,24], personal network change as well as whole network modeling procedures will be used to determine presence of network structures and change in networks over time.

All study procedures have been approved by the University of Missouri-Kansas City Institutional Review Board (protocol: 379,804).

Table 4
Measures of PRISM contextual factors [12].

Dimension	Operationalized in Study	Measure
Intervention – organizational and community member perspectives of the intervention and those who deliver the intervention	- Perceptions of organizations regarding CHIP goals and strategies - Perceptions of implementation strategies used to implement CHIP goals - Perceptions of staff responsible for CHIP implementation regarding organizational support and resources available for implementation	Quarterly: Staff logs and observations Annually: Implementation strategies survey Focus groups
Recipients – organizational and community member perspectives who receive the intervention	- Characteristics of implementation partners (e.g., competence, motivation) - Perceptions by partners of community input, community member adoption of CHIP goals, and local norms and attitudes of CHIP goals	Annually: RFP awards Implementation staff survey Focus groups
Implementation and Sustainability Infrastructure – long-term resources (funding, personnel, system changes, etc.)	- Funding provided by local sources - Personnel with major CHIP responsibilities - Committees or coalitions who implement CHIPs - System changes related to CHIP implementation	Annually: RFP awards Implementation staff survey Focus groups
External Environment – Federal, state, local policies, funding, community social norms of CHIP goals, politics	- Perceptions of local, state, and federal policy that facilitate or inhibit CHIP implementation - Funding from regional, state, or federal sources	Ongoing: Meeting minutes Annually:RFP awards Implementation staff survey Social network survey

3. Results

Year 1 results of this study will be available in 2023. We expect to identify implementation strategies used in Kansas City to advance CHIP goals, to understand potential changes in implementation, service, and client outcomes, and contextual factors of implementation. Additionally, we expect to identify and understand changes in social networks of individuals and organizations implementing CHIP goals.

4. Discussion

The purpose of this study is to conduct the evaluation of a natural experiment and understand the implementation of the CHIP in Kansas City, Missouri. This study will be guided by three important implementation science theories: Proctor's Model of Implementation [10], RE-AIM [11], and PRISM [12]. Currently, little evidence exists regarding CHIP implementation. This project will fill this much needed gap in the literature by understanding how large-scale coalitions implement projects that aim to improve population health and health equity. CHIPs have the potential to improve population health, yet few studies have been conducted on CHIPS, with no studies to date assessing outcomes. To support effective implementation and improvement in public health outcomes, researchers need to evaluate CHIPs and develop models of implementation that quickly be integrated into practice to improve populations' health.

4.1. Limitations and strengths

This study has several limitations. First, we only include one site in this study. Second, in this natural experiment, we do not conduct any randomization of organizations or community members and thus, we will not be able to identify causation. Third, results of this study may be generalizable to other mid-sized local health departmentss in the US. However, the implementation strategies and outcomes may be different for large or small local health departments across the nation due to the level of resources, expertise, and other essential aspects of implementation. Lastly, we do not measure changes in life expectancy or direct health outcomes of the population in this study. This CHIP is a 5-year plan. Because of the long-term impact of deleterious social determinants on health outcomes, we do not anticipate large-scale changes in only five years.

The major strengths of this study include the high level of external validity, the rigorous mixed methods approach, and potential impact to public health practice. This study will be conducted in a real-world setting, where a coalition of organizations and community members will implement the Kansas City CHIP. This real-world approach provides

us with the opportunity to test theories of implementation and to identify unique aspects of implementation for this site. The mixed methods approach uses quantitative measures and in-depth qualitative measures to fully understand the scope of CHIP implementation.

4.2. Future directions

Public health practitioners need evidence-based strategies to effectively implement CHIPs across the U.S. This study will help initiate and develop a field of implementation science specific to public health practice and CHIPs. The results of this study will be disseminated and potentially integrated into public health practice for local health departments and other key stakeholders. This natural experiment may serve as a model of CHIP implementation and help to develop a framework for other local health departments in implementing CHIPs.

Conflicts of interest

All authors report no conflicts of interest.

Acknowledgements

We would like to thank all of the community stakeholders who have supported population health in Kansas City. This study was approved by the University of Missouri-Kansas City Institutional Review Board (protocol number: 379804). This study was funded by the Health Forward Foundation and the City of Kansas City, Missouri. The contents of this article are solely the responsibility of the authors and do not necessarily represent the official views of the Health Forward Foundation or the City of Kansas City, Missouri.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.puhip.2022.100340.

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