

Supplementary File B. Rapid review on whole system approaches for community-centred public health: included studies

Study	Setting	Study design	Summary of overall intervention	Description of community engagement
Group 1 = represents a sub sample of included studies (n=10) drawn from Bagnall et al's (2019) systematic review 'Whole systems approaches to obesity and other complex public health challenges'				
Amed et al (2016) [1]	CANADA 2 large cities	Mixed-methods evaluation	Live 5-2-1-0 was a multi-sector multi-component childhood obesity prevention initiative informed by systems thinking and an innovative knowledge transfer model.	Rooted in principles of Community-Based Participatory Research (CBPR) Intensive community engagement and formation of multi-sectoral partnerships in communities. Supported by central organisation coordinating efforts. Community specific action plans are tailored to local strengths, needs and priorities.
Kegler et al. (2009) [2]	California, USA. 20 cities	Mixed methods evaluation; case study	California Healthy Cities and Communities (CHCC) initiatives based on a common set of principles including community ownership and participation.	CHCC coalitions are major mechanism for resident involvement. Multi-sectoral coalitions formed with community membership. Overall aim of CHCC to empower local communities/ organisations to improve health at a local level whilst also working to influence policy change. Residents and community partners involved from start in identification of local priorities and joint action plan.
Larson et al. (2009) [3]	Nashville, USA	Mixed methods evaluation	REACH initiative aimed to educate, raise awareness and promote smoking cessation, targeted towards African Americans. Programme worked across policy, community, and individual levels.	Health education and awareness raising across communities and in range of community settings. Education and training of community volunteers to deliver health messages and smoking cessation classes in community. Community engagement in design of intervention not reported.
Liao et al (2010) [4]	42 US communities with high proportion of BAME groups	Prospective cohort study	Racial and Ethnic Approaches to Community Health (REACH) initiative: a nation-wide project that empowers local communities to actively participate in the improvement of their own health.	REACH supported development of community coalitions to design, deliver and evaluate 'community-driven' strategies. Culturally-specific health education campaigns through media and community settings. Links to community leaders and local change agents. Community & systems change focused on reduction of barriers to health, including building 'culturally competent' health care

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Lieberman et al (2013) [5]	Rockland, New York City, USA	Cross-sectional survey	Put It Out Rockland (PIOR): strategic planning process to build multi-sectoral, multi-level theory-based intervention. Essential Public Health Model – Community mobilisation is one of 9 elements.	Community engagement mostly focused on partnership working with community organisations and 'non-traditional providers' eg schools, businesses PIOR offered group support for smoking cessation, including in community organisations.
Mead et al. (2013) [6]	Northwest territories, Canada (Canadian Arctic)	Natural experiment	Healthy Foods North is a community based, multi-institutional nutritional and lifestyle intervention. Aims to improve food-related psychosocial factors and behaviours among Inuit and Inuvialuit.	Community involvement in design, delivery and evaluation throughout the development of intervention and research study. Some mass media communication and health education in community settings; however, materials etc designed with community involvement. Community members recruited to deliver intervention and as community researchers.
Schulz et al. (2005) [7]	Detroit, USA	Case Study	HEED (healthy eating and exercising to reduce diabetes) was a community-based participatory diabetes intervention. Goal to reduce the risk, or delay the onset, of diabetes by encouraging moderate physical activity and healthy eating.	HEED project developed from a community partnership and through using CBPR. Diabetes identified as a community priority through CBPR. Recruited and trained community residents including youth leaders and community organisers. Reflecting community experiences of discrimination, segregation and diabetes.
Schwartz et al. (2010) [8]	Rural and deprived regions of California USA	Mixed methods evaluation	Central California Regional Obesity Prevention Program (CCROPP) aimed to promote safe places for physical activity; increase access to fruit & veg; and support community and youth engagement.	Community engagement seen as an 'essential strategy' for environmental change. Community residents and youth at each locality engaged in environmental assessments and identifying priorities for action then becoming advocates for local change. Multi-sectoral approach. Partnerships between community and other sectors key.
Simos et al. (2015) [9]	European Healthy Cities Network	Mixed methods evaluation	Use of the Health Impact Assessment in phase V of European Healthy Cities Network.	Involvement of citizens in a municipality (and wider stakeholders) was one of 5 factors increasing acceptability of intervention.

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Wagenaar et al (1999) [10]	Mid-West USA	Mixed methods evaluation; RCT qualitative study	Communities Mobilizing for Change on Alcohol (CMCA) Intervention focused on policy change and working with the communities involved to change attitudes toward underage drinking.	Used a community organising approach to achieve policy change in local institutions. Community organisers used 7 stage process in each community; moving from a community assessment and identifying leaders through to action planning and institutionalising change.
Group 2 = Included studies identified from a literature search conducted by PHE Knowledge and Libraries. 14 publications that combined a whole system approach with community-centred strategy/programmes were reviewed.				
Brownson et al. (2015) [11]	49 communities , USA & Puerto Rico	Mixed method evaluation	Healthy Kids, Healthy Communities (HKHC) is national multi-level programme focused on policy, system and environmental changes. Focus on inequalities and children most at risk.	Community partnership/coalition approach. Levels of action: Individual, Community, State/policy. Community capacity seen as the ability to identify problems and to develop solutions and mobilise resources. Evaluation principles based on respecting community knowledge.
Cheadle et al.(2008)[12]	14 health departments 39 community groups. California, US	Mixed method evaluation	Partnership for Public Health (PPH) – comprehensive community initiative (CCI). Involved community and organisational capacity building. Many of partnerships in disadvantaged areas.	Dual focus on building community capacity for residents to engage in community health partnerships and capacity building for health departments to respond to community-driven priorities. Collaborations and partnerships are key to comprehensive community initiatives. Partnerships with community groups are platforms for long term change.
Cohen [13] (2016) Sims & Aboelata [14] (2019)	California US	Expert opinion Later article presents 'System of Prevention' framework.	Prevention Institute (PI) developing prevention strategies for policy and practice at local, state & federal levels. 'System of Prevention' is described as a 'framework for a systems approach to population health that can achieve health equity' Frameworks and practical tools produced. Eg THRIVE tool (Tool for Health and Resilience in Vulnerable Environments)	PI approach is based on a social determinants of health approach. Part of work at PI is supporting community-led initiatives. Building local coalitions that address inequities is key element. THRIVE tool can help a community identify elements that require action. Based on 4 elements: <i>Equitable Opportunity; Medical Services; the Place; People.</i> In the System of Prevention model 'Elevate community voices and leadership' is key strategy.

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Hiatt et al [15] (2018)	San Francisco US	Description of model	Cancer prevention approach based on addressing social determinants of health through multi sector partnerships	Aimed to align cancer partnership with existing community coalitions Community engagement and needs assessment critical part of process of building wider partnership
Jones & Louis [16] (2017)	US a) Georgia and Florida - birth outcomes b) Delaware and Iowa - chronic disease	Comparative case study	State Population Health Strategies – multilevel. Analysis of positive outliers ie four states that had success in health trends 8 elements identified from outliers: 1. Government leadership initiating 2. Goldilocks targets 3. Multisector ownership 4. Measurement 5. Focus on disparities; 6. Get local 7. Balance top down with bottom up 8. Coordinate not control (p.7).	Local focus and involvement of community-based organisations were key. Get local meant involving community-based organisations that have 'close ties with most disadvantaged groups' Recommendation to balance top down with bottom up and customise local initiatives
Karwalajty s & Kaczorowski [17] (2010)	Canada & other Countries	Description of model	Canadian CVD and hypertension population health programme Argues for population health approach.	Community mobilisation and collaborations – methods to develop partnerships and mobilisation can be applied for other conditions/issues Community organisation and mobilisation approaches aid reach. This can include use of Lay Health Workers.
Khare et al. [18] (2015)	Women & girls US	Description of model	Coalition for a Healthier Community (CHC) uses gender-based approach– at multiple levels: individual, family, community, policy.	Unique features of a gender-based approach, with community needs assessment (gender based analysis) and a strategic approach to incorporating grassroots organisations into coalitions. Tailored interventions and programs based on local needs and data. Coalitions are a key mechanism. Supporting coalitions is linked to long term commitment & building empowering partnerships.
Matheson et al. [19] (2009)	NZ – various communities	Comparative case study	Community-based interventions: a) Housing and health intervention b) Intersectoral community-action for health	Applying complex systems thinking to community-based interventions.
Putland et al.[20] (2013)	Australia	Multiple case study design	Looking at how social capital is beneficial for health and how this theory can be supported through practice.	Community development methods used in three projects, linked with other approaches such as urban regeneration and arts initiatives Found that policy/planners viewed community development as 'operational arm of social capital'. Local workers key to translating social capital as an abstract term to practical activities.

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				Collaborations and intersectoral approach essential and support needed at all levels.
Robinson & Elliot [21] (2000)	Ontario Canada	Qualitative study	Community-based heart health initiatives	Distinguishes between community development, community organisation (collaborative approach) and community-based (services implementing in the community). Differences in practice explained by contexts.
Taylor et al. [22] (2013)	Rural communities , Australia	Qualitative – multiple case study design	Community partnerships for primary prevention. These are coalitions between different sectors and communities. 4 types of partnership with varying degrees of community control. <ul style="list-style-type: none"> • Developmental • Instrumental • Empowerment • Contribution 	Community partnerships seen as an essential approach to health promotion. Working on notion of a community of place as a 'field of interaction'. Community action and bonds within a place forms basis of collective/communitarian approach to health. Critique offered that much of community 'resource' is lost to system because health sector lacks capacity/ability to form strategic partnerships
Tung et al. [23] (2018)	Chicago US	Qualitative study	Diabetes intervention	Cross-sector collaboration around diabetes prevention based around an academic medical centre. Collaboration viewed as an opportunity for greater impact but need to start by looking at what community organisations are doing.
Woolf et al. [24] (2011)	US	Expert opinion - learning from projects	Citizen-centred health promotion. Recommendations to support healthy behaviours based on an understanding of need to focus on social and environmental factors and limits of focusing on health education for individuals.	Citizen-centred health promotion described as multisectoral, community-wide action to create healthier conditions. Needs investment and support in partnerships.

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