Table A. Summary of Public Health Services and Systems Research (PHSSR) studies about nature and strength of local boards of Health (LBoHs) influence on local health department (LHD) infrastructure, services, and performance

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| **Study** | **LBOH variable** | **Impact domain (the dependent variable)** | **Strength and direction of association**  |
| **Descriptive explanation** | **Type of association** |
| Financial |
| Erwin et al.9 | LBoH with hire/ﬁre authority vs.absence of a BOH altogether | LHD financial resiliency  | Significant in bivariate analyses  | ↑ |
| Erwin et al.9 | LBoH with hire/ﬁre authority vs.absence of a BOH altogether | LHD financial resiliency  | Significant in bivariate analyses; no impact multivariable model | ↔ |
| McCullough et al. 15 | Presence of LBoH  | Financial performance of LHDs  |  | ↑ |
| Mays et al. 16 | Presence of LBoH | Higher public health spending  |  | ↑ |
| Rutsohn et al. 17 | Presence of LBoH | Generation of income and financial benefits for public health  |  | ↑ |
| Willard et al. 18 | Presence of LBoH | Protective effect against budget cuts  |  | ↑ |
| Vest et al. 19 | Presence of LBoH | More resource sharing  |  | ↔ |
| Shah et al.20 | Presence of LBoH | Shared resources such as funding, staff, or equipment with one or more other LHDs on a continual, recurring basis |  | ↑ |
| Service provision |
| Hyde et al. 13 | Presence of LBoH | Provision of certain services  |  | ↑ |
| Hsuan et al. 21 | Presence of LBoH | Provision of certain services  |  | ↑ |
| Avery et al. 22 | Presence of LBoH | Provision of programmatic activities such as immunizations, screening, maternal and child health, and epidemiology.  | Positively associated with 9 of the 13 service clusters | ↑ |
| Savoia et al. 23 | Presence of LBoH | Provision of certain services  |  | ↑ |
| Zhang et al. 24 | Presence of LBoH | Provision of certain services  | Diabetes service provision | ↑ |
| Zhang et al. 24 | Presence of LBoH | Provision of certain services  | Obesity program services | ↔ |
| Shah et al.25 | Presence of LBoH | Provision of certain services  |  | ↔ |
| Luo et al. 26 | Presence of LBoH | Provision of certain services  |  | ↔ |
| Avery et al.27 | Presence of LBoH | Provision of certain services  |  | ↔ |
| Lampe et al. 28 | Presence of LBoH with elected member | Provision of minimum services  | Only when LHD had a board with elected members | ↑ |
| Mays et al. 10 | LBoH vested with policy authority | Availability and perceived effectiveness of public health activities  |  | ↑ |
| Hyde et al. 13 | LBoH with members elected rather than designated or nominated  | Likelihood of performing all 10 essential public health services |  | ↑ |
| Health outcomes |
| Hays et al.6 | LBoH composed of members reflecting diverse perspective | Health outcomes  |  | ↑ |
| Hays et al.6 | LBoH was uniform (i.e., not composed of members reflecting diverse perspectives) | Health outcomes  |  | ↓ |
| Hays et al. 6 | Presence of LBoH | Population health outcomes  |  | ↓ |
| Bhandari et al. 29 | Presence of LBoH | Population health outcomes  |  | ↓ |
| Rodriguez et al. 30 | Presence of LBoH | Rate of sexually transmitted disease incidence |  | ↑ |
| Accreditation |
| Beatty et al. 31 | Presence of LBoH | LHD accreditation engagement  |  | ↑ |
| Chen et al 32 | Presence of LBoH | LHD accreditation engagement  |  | ↑ |
| Mays et al. 33 | Presence of LBoH | LHD accreditation engagement  |  | ↓ |
| Shah et al. 34 | Presence of LBoH | LHD accreditation engagement  |  | ↓ |
| Yeager et al. 35 | Presence of LBoH | LHD accreditation engagement  |  | ↔ |
| Shah et al. 36 | Presence of LBoH | Completion of community health assessment (CHA), community health improvement plan (CHIP), and agency-wide strategic planning in the last 5 years, and adoption of quality improvement initiatives  |  | ↑ |
| Luo et al. 37 | Presence of LBoH | Completion of CHA, CHIP, and agency-wide strategic planning in the last 5 years, and adoption of quality improvement initiatives  |  | ↑ |
| Partnerships |
| Carlton et al. 38 | Presence of LBoH | LHD likelihood to establish partnerships with nonprofit hospitals  |  | ↑ |
| Rodriguez et al. 39 | Presence of LBoH | Collaborative capacities to improve population health |  | ↓ |
| Luo et al. 40 | Presence of LBoH | Collaboration with other organizations in the provision of personal health care  |  | ↔ |
| Information Systems |
| Shah et al. 41 | Presence of LBoH  | Implementation of electronic disease reporting  |  | ↑ |
| Shah et al. 42 | Presence of LBoH | Implementation of electronic disease reporting  |  | ↑ |
| Shah et al. 42 | Presence of LBoH  | Electronic laboratory reporting  |  | ↑ |
| Shah et al. 42 | Presence of LBoH | Engagement in health information exchanges  |  | ↓ |
| McCullough et al. 43 | Presence of LBoH  | Engagement in health information exchanges  |  | ↓ |
| Shah et al. 41 | Presence of LBoH | Immunization records  |  | ↔ |
| McCullough et al. 43 | Presence of LBoH | Immunization records  |  | ↔ |
| Shah et al. 41 | Presence of LBoH  | Electronic health records  |  | ↔ |
| McCullough et al. 43 | Presence of LBoH  | Electronic health records  |  | ↔ |
| McCullough et al. 44 | Presence of LBoH  | Informatics system usage by LHDs: likelihood of being a low,. medium, orhigh informatics user |  | ↔ |
| Merrill et al. 45 | Presence of LBoH | Information dissemination in a jurisdiction  |  | ↑ |
| Public Health Performance |
| Mays et al. 10 | LBoH vested with policy authority | Availability and perceived effectiveness of public health activities  |  | ↑ |
| Hays et al. 6 | Presence of LBoH | Public health performance  |  | ↓ |
| Scutchfield et al.8 | Presence of LBOH and functions of LBoH | Public health system performance | Presence of LBoH and governing or policy making had significant effect (advisory role of LBoH not effective) | ↑ |
| Bhandari et al.29 | Presence of LBoH | Public health performance  |  | ↓ |
| Mays et al.50 | Presence of LBoH with policymaking authority | Public healthsystem performance |  | ↔ |
| Other |
| Shah et al. 46 | Presence of LBoH | Addressing disparities  |  | ↑ |
| Rayens et al. 47 | Presence of LBoH | Laws concerning a smoke-free environment |  | ↑ |
| Goins et al. 48 | Presence of LBoH | Community-level urban design and land- use policies to encourage physical activity;active transportation options; and expanded access to recreation facilities |  | ↔ |
| DeFriese et al.12 | LBoH and governance type (local, shared, state) used as interaction terms | Establishing LBoH priorities | LHDs with local or shared governance (vs. state governance) had significantly higher influence of LBoHs  | ↑ |
| DeFriese et al.12 | Presence of LBoH | Established LBoH priorities  |  | ↔ |
| Bekemeier et al.11 | Qualitative theme | Policymaking authority can vary in exercising authority, oversight, and activism, thus confounding true associations  | Qualitative data conclusion | ? |
| Lovelace et al. 51 | Presence of LBoH | Evidence-based decision making  |  | ↔ |
| Merrill et al. 45 | Presence of LBoH | Ability to innovate  |  | ↑ |

↑= positive association; ↓= negative association; ↔ = no significant association