
















Table 2. Overview of 29 community health studies.

Outcomes	Populations	Exposures	Findings	Publications	Risk of bias rating ^a
Cardiopulmonary: Diagnoses, hospitalizations, and symptoms	1 national study; 2 regional studies in WV, KY, PA, and IN; 3 in WV; 1 in KY, 1 in VA; (2000–2014)	Coal production by county; MTR mining (present or absent); Appalachia or non-Appalachia area; residence within 3 miles of active surface mine	Associated with adverse cardiopulmonary outcomes in most studies	8 studies (Brink et al., 2014; Hendryx et al., 2007; Hendryx and Ahern, 2008; Hendryx and Zullig, 2009; Hendryx, 2013; Hendryx and Entwistle, 2015; Hendryx and Luo, 2015; Talbott et al., 2015)	<p>Confounding</p>  <p>Exposure</p>  <p>Outcome</p> 
Cancer: Hospitalization, self-reported, lung	1 regional study in WV, KY, and PA; 2 in KY; 2 in WV; (1995–2012)	Coal production by county; MTR mining (present or absent)	Not associated with cancer in most studies	5 studies (Christian et al., 2011; Hendryx et al., 2007; Hendryx and Ahern, 2008; Hendryx et al., 2012b; Hendryx, 2013)	<p>Confounding</p>  <p>Exposure</p>  <p>Outcome</p> 
Reproductive: Birth defects and low birth weight	1 regional study in WV, VA, TN, and KY; 2 in WV; (1996–2009)	Coal production by county; MTR mining (present or absent)	Associated with low birth weight and some birth defects, but not associated with birth defects after adjusting for hospital of birth	3 studies (M Ahern et al., 2011; MM Ahern et al., 2011; Lamm et al., 2015)	<p>Confounding</p>  <p>Exposure</p>  <p>Outcome</p> 

Mortality: All-cause and specific causes	3 national studies; 5 regional studies in Appalachia, WV, VA, TN, KY, and NC; 2 in WV; 1 in KY; (1950–2014)	Coal production by county, per capita, by type, by GIS distance; MTR mining (present or absent) Appalachia or non-Appalachia area	Associated with mortality in most studies (varying by type). Mortality was also associated with Appalachia and poverty in general.	11 studies (Borak et al., 2012; Buchanich et al., 2014; Esch and Hendryx, 2011; Hendryx et al., 2008; Hendryx, 2009; Hendryx and Ahern, 2009; Hendryx et al., 2010; Hendryx, 2013; Hendryx and Holland, 2016; Hitt and Hendryx, 2010; Woolley et al., 2015a)	<p>Confounding </p> <p>Exposure </p> <p>Outcome </p>
General health status: Self-reported scales and serious illness	1 national study; 2 regional studies in WV, TN, NC, KY, and VA; 1 in WV; 1 in KY; (2000 – 2012)	Coal production by county; MTR mining (present or absent); Appalachia or non-Appalachia area; number of mining facilities near residence	Associated with poorer health status in most studies	5 studies (Hendryx and Ahern, 2008; Hendryx, 2013; Woolley et al., 2015b; Zullig and Hendryx, 2010, 2011)	<p>Confounding </p> <p>Exposure </p> <p>Outcome </p>

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Risk of bias for 3 key questions: 1) Did the study design or analysis account for important confounding and modifying variables?, 2) Can we be confident in the exposure characterization?, and 3) Can we be confident in the outcome assessment? Pie charts depict the percent of studies that were rated as (++, dark green) definitely low risk of bias, (+, light green) probably low risk of bias, (-, yellow) probably high risk of bias, or (--, red) definitely high risk of bias.