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Physical Health, Medical Care Access, and Medical Insurance Coverage of Youth Returning Home After Incarceration: A Systematic Review

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Abstract

Youth reentry following incarceration is a subject of active healthcare policy innovation and debate. We systematically searched PubMed, CINAHL, Cochrane Library, and Google Scholar for research articles on physical health status or medical care access related to youth reentry (i.e., under 18 years of age). A total of 2,187 articles were identified in the search. After applying exclusion criteria, 10 articles remained. Those included covered: general physical health (4 articles), medical insurance coverage (5), non-insurance barriers to care and care utilization (5), and reentry youths' prioritization of needs (4). Despite vulnerable health status, the literature on youths' physical health status and medical care access during reentry is sparse, signifying a disconnect in current research priorities. The findings suggest that intervention studies on youth reentry and health are needed, and that that policymakers should be concerned with Medicaid policy reform.

Keywords

reentry youth; youth incarceration; juvenile justice; health care access; insurance; physical health

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INTRODUCTION

Incarcerated Youth: Demographics and Disparities

In 2016, United States (U.S.) juvenile courts processed over 80,000 delinquency cases and over 65,000 youth were sentenced to juvenile justice residential facilities (Sickmund, Sladky, Kang, & Puzzanchera, 2015). The racial and ethnic disparities in the U.S. juvenile justice system are profound (Laub, 2014). Juvenile incarceration rates have significantly declined over the past 10 years, but youth of color are increasingly overrepresented. African-American and Hispanic youth comprise more than two-thirds of juveniles in custody, despite making up less than one-third of the U.S. youth population (Acoca, Stephens, & Van Vleet, 2014; Hockenberry, 2016). Additionally, poverty strongly predicts juvenile justice system contact (Laub, 2014). Recidivism rates are also high—some studies have shown that up to 75% of youth are re-arrested within 3 years of release from juvenile incarceration—creating a system that effectively traps poor, minority youth into cycles of incarceration and contributes to many youths' eventual involvement in the adult criminal justice system (The Annie E Casey Foundation, 2013).

Incarcerated Youth: Physical Health Status

Detained and confined youth represent a large, high-risk group of adolescents with disproportionately high morbidity and mortality compared to their non-incarcerated peers (Barnert, Perry, & Morris, 2016; Braverman & Morris, 2011). Health professional societies such as the American Academy of Pediatrics and the Society of Adolescent Health & Medicine have issued peer-reviewed policy statements highlighting the high morbidity and mortality in the incarcerated youth population (Committee on Adolescence, 2011; Joseph-DiCaprio et al., 2000). A nationally representative survey of incarcerated youth in the U.S. found that two-thirds reported having a physical health condition, including 28% with acute illness and 25% with an injury (Sedlak & McPherson, 2010). A sentinel study of newly detained youth (n=3,353) identified urgent medical need. The study found that 46% had an urgent medical issue requiring immediate attention. Diagnostic categories for primary diagnoses at intake included acute infection (54%), most commonly respiratory; metabolic (6%), most commonly diabetes-related; traumatic (12%); neoplastic (1%); toxic (12%); congenital (0.5%), most commonly cardiac; allergic (2%), most commonly asthma; and other (12.5%) (Hein et al., 1980). In some instances, chronic conditions such as diabetes, asthma, seizure disorder, or sickle cell disease may be undiagnosed or poorly managed upon arrival to detention (Barnert et al., 2016).

Why do incarcerated youth have such high health needs? Underlying disparities in social determinants of health and access to care, combined with youths' engagement in high-risk behaviors, are likely explanations (Barnert et al., 2016; Joseph-DiCaprio et al., 2000). Also, some conditions observed in incarcerated youth at higher rates than in the general adolescent population, such as fetal alcohol syndrome and several behavioral health conditions, likely predispose youth to delinquent behavior and incarceration (Barnert et al., 2016). Further, although detention represents an opportunity to provide healthcare, including to perform health maintenance functions such as delivery of immunizations, the literature suggests that incarceration during adolescence may have deleterious effects on health into adulthood; the

exact mechanism for this pathway is unclear (Barnert et al., 2017; Schnittker & John, 2007). However, it is notable that the mortality rate among formerly incarcerated youth is 4 times higher than the general adolescent population, with African-American males facing the highest risk (Teplin, McClelland, Abram, & Mileusnic, 2005).

Reentry Youth: Physical Health Status

The number of U.S. youth released each year from juvenile justice facilities is not well-quantified. The most recent approximation, in 2004, estimated that 88,000 youth were released annually from juvenile justice facilities to their home communities (Snyder, 2004). Due to the decline in the juvenile delinquency cases, while the number has undoubtedly decreased, the population is still sizable and of public health importance. On average, youth in juvenile residential placement facilities remain in custody for 3 to 6 months (Sickmund & Puzzanchera, 2014). We term the group transitioning home after incarceration *reentry youth*. Reentry is an extremely challenging period when youth are abruptly forced to make many transitions, including transitioning from correctional to community health systems.

Reentry may be a critical juncture for impacting youths' health in the short and long-term. Given the documented high morbidity among incarcerated youth, many reentry youth likely have a high burden of disease or risk for disease. Health conditions may become exacerbated with the multiple stresses of reentry, and youth often have other priorities besides their health during reentry, such as reconnecting to school and staying out of trouble when returning to home and neighborhood environments that are largely unchanged (Abrams & Terry, 2017; Fields & Abrams, 2010). Understanding youths' health status during reentry can shed light on the needed interventions to promote success during this critical period.

Reentry Youth: Healthcare Access

While the law ensures that all youth in detention have access to medical care, there is no such requirement after release (Acoca et al., 2014). Gaps in healthcare coverage and continuity can exacerbate the emotional and logistical challenges of reentry. Often correctional health records are not transferred to primary care providers in the community. Additionally, youth and families may feel confused about diagnoses and care received in detention (Aalsma, Brown, Holloway, & Ott, 2014). Disconnects in care continuity can greatly dampen any improvements in health status achieved while incarcerated (Barnert et al., 2016).

Within the U.S., gaps in healthcare coverage may be particularly extreme for youth reliant on Medicaid. Many youth who enter juvenile justice facilities are eligible for Medicaid (Acoca et al., 2014). However, federal law disallows Medicaid funds to be used to cover services for an "inmate of a public institution." This statute, known as the federal "inmate exclusion," effectively disallows Medicaid from covering most services for incarcerated individuals. In order to comply with the "inmate exclusion," most states terminate or suspend youths' Medicaid coverage during stays in juvenile detention centers, often creating a forced disruption in care post-release (Acoca et al., 2014). The resulting gap in healthcare coverage after release signifies a missed opportunity that may contribute to steep recidivism rates (The Annie E Casey Foundation, 2013).

Reducing gaps in health insurance coverage during youth reentry is a subject of active policy debate and innovation. The U.S. Congress has considered several proposals to eliminate gaps in youths' Medicaid coverage during reentry, such as the At-Risk Youth Medicaid Protection Act (2016). Despite the likely high burden of disease among reentry youth, the recognized challenges with care access and Medicaid during reentry, and the policy relevance of the topic, no studies have summarized the medical literature on health status and care access of reentry youth. Thus, the objective of this systematic literature review is to describe what is known about the physical health status of reentry youth and their access to medical care during community reentry, including health insurance status.

METHODS

Search Strategy

The search strategy entailed identifying peer-reviewed original research studies published in the English-language by searching the databases PubMed, CINAHL, Cochrane Library, and Google Scholar. The databases PubMed, CINAHL, and Cochrane library were searched from their inception to January 20, 2017. Data were analyzed from 2017-2018. The Google Scholar search included articles published between January 1, 1990 – January 20, 2017. The search terms included keywords pertaining to the following three concepts: (1) justice-involved, (2) child or adolescent, and (3) reentry. This allowed us to capture all articles pertaining to health in these databases. We selected the search terms in consultation with a trained biomedical librarian, testing several combinations of search terms to identify the most inclusive search. Although the search we developed did not miss any articles that we knew *a priori* to be relevant, to identify any additional articles the search may have missed, we also searched the Reentry Clearinghouse "What Works" database available through the U.S. National Criminal Justice Reference Service using the terms "reentry" and "youth." To further ensure completeness, we manually searched the bibliographies of review articles relevant to the study. Finally, to validate the search, an expert academic reviewer independent of the research team reviewed and provided feedback on our list of included articles.

Selection Criteria

The team systematically identified English-language, peer-reviewed research articles on the physical health status or medical care access of reentry youth. Youth up to 18 years of age who had been incarcerated and were in the reentry period were the population of interest. Age 18 was chosen as a cutoff because the intent was to understand juvenile justice reentry research and youth older than 18 are generally processed in the adult criminal justice system. We defined the reentry time period as 1-month pre-release from incarceration (to incorporate studies addressing pre-release reentry planning) and 18 months post-release (given the pattern of decline in data collection after 18 months in reentry intervention trials). Our goal was to identify youth reentry studies on: (1) any aspect of general physical health; (2) access to medical care; (3) utilization of medical services; and (4) medical insurance coverage. Appendix 1 provides Boolean search terms used for each database.

Exclusion Criteria

Exclusion criteria were: 1) study focus was on individuals 18 years or older; 2) data collection did not occur during the reentry period (1 month pre-release and 18 months post-release); 3) study did not address general physical health (i.e., focused only on mental health, substance abuse, or reproductive health), medical care access, or insurance status; 4) not a research study (e.g., opinion articles or letters to the editor); and 5) data was collected in a country not belonging to the Organization for Economic Co-operation and Development (given the literature review emphasis on youth justice in developed countries); and 6) abstract was not available or was not in English. Although many medical providers address issues of reproductive health, studies only on reproductive health were beyond the scope of this review as our intent was to understand general physical health status and access to general medical care. Although reproductive health is an important component of general physical health status, reproductive care is often accessed among the juvenile justice population at specialty facilities such as Planned Parenthood (Ijadi-Maghsoodi, Bath, Cook, Textor, & Barnert, 2018).

Data Extraction

Guided by the content in the emerging literature, we used the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist (von Elm et al., 2014) and the *Cochrane Handbook* (Higgins & Green, 2011) to develop a structured instrument for data extraction. We then systematically extracted the following information from each included article: title; authors; study type; study population; intervention design; study population (age, gender, race/ethnicity, and inclusion and exclusion criteria); duration and frequency of data collection; measures of physical health status; measures of access and/or utilization of medical services; measures of health insurance status; and measures of prioritization of needs.

Study Quality Assessment

We used a published checklist developed to systematically appraise the methodological strength of the articles (Hawker, Payne, Kerr, Hardey, & Powell, 2002). Domains within the checklist were: abstract and title; introduction and aims; method and data; sampling; data analysis; ethics and bias; results; transferability, or generalizability; and implications and usefulness. Each domain was assigned a numerical score of 1 to 4 (1-very poor to 4-good), for a summed score ranging from 9-36 for each article (Hawker et al., 2002).

RESULTS

The initial search resulted in a total of 2,187 articles, not counting duplicates. We then applied exclusion criteria and 9 articles remained. Figure 1 details our search and extraction process. With the additional steps of expert review and hand-searching the reference lists of relevant review articles, one additional article was added for a total of 10 articles included for systematic data extraction. The 10 articles addressed: general physical health status (4 articles), medical insurance coverage (5 articles), healthcare utilization and additional barriers to care (5 articles), and prioritization of reentry-specific needs (4 articles). The methodologic strength of the articles varied, with assigned Hawker scores ranging from

25-35 (out of 36). Table 1 provides summary information on the identified articles, including authors, study population, study location, type of study, and Hawker score. Appendix 2 includes a summary of all the screened articles. Nine of the 10 articles described studies conducted in the U.S.; one study was conducted in Australia.

General Physical Health Status and Needs

Of the 4 articles addressing general health, 2 were quantitative studies, 1 was qualitative, and 1 was mixed-methods. A prospective cohort study by Freudenberg et al. in 2005 reported prevalence rates of asthma (22%) and any STI (4%) among adolescent boys approximately 15 months after release (Freudenberg, Daniels, Crum, Perkins, & Richie, 2005). The other quantitative study did not report prevalence rates but showed that there was no statistically significant difference in reported “health problems” between an aftercare group and a control group for reentry youth (Sealock, Gottfredson, & Gallagher, 1997). The qualitative study was a description of an ideal aftercare program for health promotion for African-American girls. The authors postulated that daily physical activity, such as team-based sports or dance classes, would be an appropriate way to promote healthy behaviors and nutrition (Woodson, Hives, & Sanders-Phillips, 2010).

Gender-Specific Health Needs

The single mixed-methods study in our review described gender-specific health concerns as a major finding from their evaluation of the Massachusetts Health Passport Project, a program serving recently incarcerated adolescents re-entering their communities (Jacobs, Oliveri, Greenstone, & Miranda-Julian, 2009). Females were most concerned with hygiene, sexually transmitted infections, pregnancy, trauma from prior sexual abuse, and involvement in sex trafficking. Males also reported sexually transmitted infections as a top health concern, but diverged from females on their other health priorities, which included violence-related and sports-related injuries, mental health, and substance use (Jacobs et al., 2009).

Reentry Youths’ Prioritization of Needs

Identifying and acknowledging the specific and often competing needs of reentry youth was a consistent recommendation across the articles. In 2007, Freudenberg et al. reported that reentry youth did not consider their health or healthcare needs as a major concern (Freudenberg, Moseley, Labriola, Daniels, & Murrill, 2007). Only 3% of respondents (23 out of 706 youth) ranked healthcare as a need. In contrast, participants ranked reemployment (86%), education and vocational training (82%), and providing financial support to their families (26%) as their highest needs. Fields et al.’s cross-sectional study (2010) of 75 incarcerated young men and women echo these findings; youth reported obtaining healthcare as a relatively low concern (with a numerical score of 1.7 on a scale of 1-5), while completing an education and “staying out of trouble” were ranked as moderately high concerns (both at 3.1). Youth reported that they were more likely to use an education or job training program than a health-related service during reentry, with over 90% specifying employment upon release as an immediate need (Fields & Abrams, 2010).

Medical Insurance Coverage (Table 3)

Lack of medical insurance coverage emerged as a major hurdle preventing youth from seeking services. Three articles addressed reentry youths' medical insurance status during the transition from incarceration to their home communities. Researchers reported that a significant portion of the reentry youth population relies on Medicaid or lacks any medical insurance. Freudenberg et al.'s (2005) prospective cohort study compared the behavioral characteristics of male adolescents during and after incarceration; 23% of 16- to 18-year-old adolescents reported having Medicaid, an expected under-representation of those that were actually eligible for Medicaid. At 15 months post-release, having health insurance was correlated with less re-arrest on any charge [OR 0.31, CI (0.18, 0.54), n=491]. Moreover, White et al.'s (2016) cross-sectional study found that at 2 months post-release, over 51% had no health insurance reported. Similarly, a cross-sectional study by Golzari et al. reported that 62% of respondents cited lack of insurance as the reason for not seeing a provider post-detention, despite wanting to do so. Almost twice as many respondents reported having medical insurance prior to detention, suggesting that incarceration created disruptions in insurance status (Golzari & Kuo, 2013).

Evans Cuellar, Kelleher, Rolls, & Pajer (2005) conducted a nationally representative, cross-sectional survey on practices regarding Medicaid dis-enrollment of detained youth, which the authors argue contributes to reentry youths' high rates of lack of medical insurance. The authors surveyed personnel from juvenile justice facilities and Medicaid offices across all 50 U.S. states. Only 4% of local juvenile justice facilities confirmed that youth who enter facilities with Medicaid become dis-enrolled, which sharply contrasts with 46% of local Medicaid agencies confirming the practice. The discrepancy between confirmation of the dis-enrollment practice reported by state juvenile justice facilities and state Medicaid agencies was noticeably smaller, but still significant; 33% of state juvenile justice facilities compared to 46% of state Medicaid agencies confirmed that dis-enrollment of youth from Medicaid occurs. Additionally, only 7% of state juvenile justice agencies provided at least a 2-day supply of prescribed medications (Evans Cuellar et al., 2005).

Additional Barriers to Care (Table 3)

Though several studies noted lack of insurance as a major barrier to healthcare access, they also reported additional obstacles to regular access to and use of medical services. In Golzari & Kuo's (2013) study, lack of transportation was the second most cited reason (26% of respondents) for not seeking healthcare services post-detention. Motivation to seek primary care services varied. Those who sought medical care often relied on sporadic emergency department visits. Medical care seeking behaviors differed by gender. Fields & Abrams (2010) found that females expressed a higher likelihood of using a health clinic during reentry than males. Jacobs et al. (2009) described that males in their study avoided seeking care for violence-related injuries because of fear of apprehension by police and fear of discrimination from health providers. Females reported they would be reluctant to seek care regarding physical or sexual abuse. Challenges with health systems navigation were also described. The authors concluded that case managers could substantially help decrease the burden of accessing healthcare by helping youth and their families connect to the appropriate healthcare providers (Jacobs et al., 2009).

DISCUSSION

This systematic review examined existing knowledge on the physical health status of youth during reentry and their access to medical care during community reentry, including their medical insurance status. Research on access to general medical care among youth re-entering the community following incarceration is sparse, as is data regarding their health insurance status. Nevertheless, several lessons from the extant literature emerge. Overall, it is clear that the youth face many barriers to accessing non-emergency medical care during reentry, including lack of insurance coverage, an issue that, despite the relatively narrow available research, may have some clear policy remedies.

Navigating the Medicaid Maze

The existing literature on youth reentry suggests a variety of factors that contribute to a fragmented pattern of healthcare usage. On an institutional level, the lack of a widely-recognized system for establishing medical insurance coverage for reentry youth can lead to confusion and delays in healthcare. For youth in the U.S., the discrepancy in insurance status before and after incarceration can be largely explained by the common practice of youth dis-enrollment from Medicaid upon detainment (Gupta, Kelleher, Pajer, Stevens, & Cuellar, 2005). Because federal law prohibits the use of Medicaid funds to pay for incarcerated individuals' ambulatory healthcare services (i.e., "inmate exclusion"), many states comply with federal stipulations by suspending or completely terminating youths' Medicaid enrollment. Medicaid dis-enrollment is performed to avoid Medicaid becoming erroneously billed for a detainee's healthcare expenses (Acoca et al., 2014). There has been inconsistency across the country regarding whether Medicaid is terminated or suspended (Gupta et al., 2005). Given that families must often navigate multiple bureaucratic systems during this transition period, the lack of clarity and consistency pertaining to health insurance likely exacerbates the chaos of the tumultuous reentry period. This incongruity has translated into patterns of sparse healthcare utilization; 62% of survey respondents reported lacking health insurance as the reason for not seeing a provider post-detention, despite wanting to do so. Golzari & Kuo (2013) provide evidence that lack of insurance is a dominant barrier to healthcare access.

Cuellar et al. (2005), an article analyzed in this review, offer a path forward. In their nationally representative survey of U.S. juvenile justice and Medicaid agencies regarding Medicaid dis-enrollment practices, the authors find that in many states and facilities, youth are actively dis-enrolled from Medicaid when incarcerated and little is done to re-connect youth to care upon release. This effectively sets youth up for a dangerous gap in care and in needed medications. The authors conclude with a clear policy prescription: (1) end Medicaid dis-enrollment (Medicaid may be suspended rather than terminated); (2) facilitate re-enrollment – all Medicaid-eligible youth should be released with a Medicaid card in hand; and (3) extend medication supplies upon a youths' release.

Several states have taken steps to work around the "inmate exclusion" and limit disruptions in Medicaid insurance status for justice-involved populations. For example, California is one of several states that ended the practice of terminating youths' Medicaid during incarceration in the juvenile justice system; Medicaid is now suspended instead (Golzari, Hunt, &

Chamberlain, 2008). Connecticut has instituted a minimum 60 day-waiting period in custody before an individual's Medicaid is suspended (Ryan et al., 2016). Additionally, Massachusetts systematically supports Medicaid re-enrollment efforts. Through a partnership with the state Medicaid agency and state justice department, re-enrollment activities are carried out in correctional facilities (Ryan et al., 2016). Additionally, individuals are released with a paper copy of their correctional medical record, a supply of medication, and a prescription, thereby facilitating continuity of care and improved health (Ryan et al., 2016). Although several of the above programs are not specific to youth, they exemplify the types of innovations that could greatly ease youths' challenges in navigating the Medicaid maze and effectively connecting to care during reentry.

The federal opioid bill, SUPPORT for Patients and Communities Act (2018), passed by the U.S. Congress and signed into law in October 2018, includes three provisions relevant to gaps in Medicaid coverage during reentry. The legislation, which takes effect in October 2019, establishes that: (1) states cannot terminate Medicaid during juvenile detention and *may* suspend Medicaid, and (2) supports a pathway for correctional facilities to re-enroll detained youth in Medicaid prior to release. Although the legislation aligns with the recommendation emergent from the literature to implement policies that eliminate gaps in Medicaid coverage during reentry, the bills lacks an incentivization or enforcement mechanism. The extent to which the new federal law will translate into state and local policy and practice reform remains unclear. Surveillance of this issue in future studies is warranted. Related to this, given the high proportion of detained youth who qualify for Medicaid (Acoca et al., 2014), Medicaid expansion as prescribed under the Affordable Care Act has the potential to improve the healthcare access of families of reentry youth, which can indirectly increase enrollment rates among these youth, especially if continuity of Medicaid coverage during reentry is promoted (Barnert, Perry, & Wells, 2014). Although Medicaid expansion was not addressed in the literature emergent for this review, future studies examining the degree to which access to medical care has improved in states with Medicaid expansion versus those without would be worthwhile.

Other Barriers to Care During Youth Reentry

At the individual level, social determinants of health hinder regular access to medical care, despite high need (Jacobs et al., 2009). Families affected by juvenile incarceration often have low socioeconomic status and may lack the resources and health literacy required to navigate the complicated path to obtaining regular medical care. The literature indicates that overcoming basic barriers such transportation, is an important task for improving youths' access to care during reentry.

Solutions

Though efforts to directly connect youth to healthcare and improve their health have yielded mixed results, current literature offers alternative methods for establishing healthcare linkages (Freudenberg et al., 2007; Jacobs et al., 2009; Wilson, 2007; Woodson et al., 2010). These innovations include coupling medical care with services that meet reentry youths' specific needs (e.g. employment, education, gender-based needs) and appointing a

designated liaison to aid youth and their families with navigating through multiple complicated systems (Freudenberg et al., 2007; Jacobs et al., 2009; Wilson, 2007).

Lessons from the literature suggest a role for community medical providers. Physicians and other medical personnel can use urgent or emergency department visits as an opportunity to connect vulnerable youth, including during reentry, to primary care. Increased usage of primary care services can help to reduce the number of avoidable emergency department visits and increase engagement in necessary preventive medical and behavioral health care. Regular contact with appropriate health providers may contribute to lower recidivism and increased vocational success (Barnert, Perry, Azzi, et al., 2014). An effective visit can also improve youths' general knowledge of how to appropriately utilize the medical system. Community health professionals can encourage education and vocational attainment, key protective factors for juvenile offending. An additional adult who provides frequent positive attention and guidance can help youth maintain a goal-oriented outlook, thereby increasing their chances of avoiding future incarceration (Barnert, Perry, Azzi, et al., 2014).

Beyond the clinical sphere, the lack of successful intervention studies and lack of research overall suggest a value in encouraging research at the intersection of adolescent health and reentry. Intervention trials should be particularly encouraged. Given the potential policy solutions to improve youths' physical health status during reentry and connections to care, policy-engaged research should be prioritized. Several policy remedies, however, are already clear in the emerging evidence. As a start, to reduce logistical barriers to medical care, the literature supports that Medicaid-eligible youth should enrolled in Medicaid prior to release from detention. For youth to succeed during reentry, making it as easy as possible to do so will help. The available literature, although small, does offer some clear steps forward.

Limitations

This systematic review has some limitations. First, we excluded articles that covered only reproductive health or only behavioral health. Notably, we did not exclude any other areas of physical health, such as oral health. Interestingly, despite oral health being a known high health need of incarcerated youth, no articles emerged on this topic. Our initial search did uncover several articles on behavioral health topics and, to a lesser extent, on reproductive health. Cataloging articles on these aspects of health were beyond the scope of this review but worthy of future endeavors. Regardless, the literature review identifies clear gaps and strengths of the current literature, and areas for future focus.

Conclusion

Youth reentry is a crucial opportunity to break cycles of incarceration, and may be an important contributing factor to success. The state of the current medical literature, however, seems to reflect a glaring absence of attention to this critical period. The overall lack of published data on these topics demonstrates a disconnect between youths' high medical needs during reentry and current research priorities. This disconnect should arouse attention in the research community, among both those who investigate and those who fund the work. Youth face many challenges when navigating community reentry. Exacerbating their burdens by creating Medicaid insurance gaps seems counterproductive. More research in many areas

is indicated, but in some areas, policy and practice solutions seem both obvious and urgently needed.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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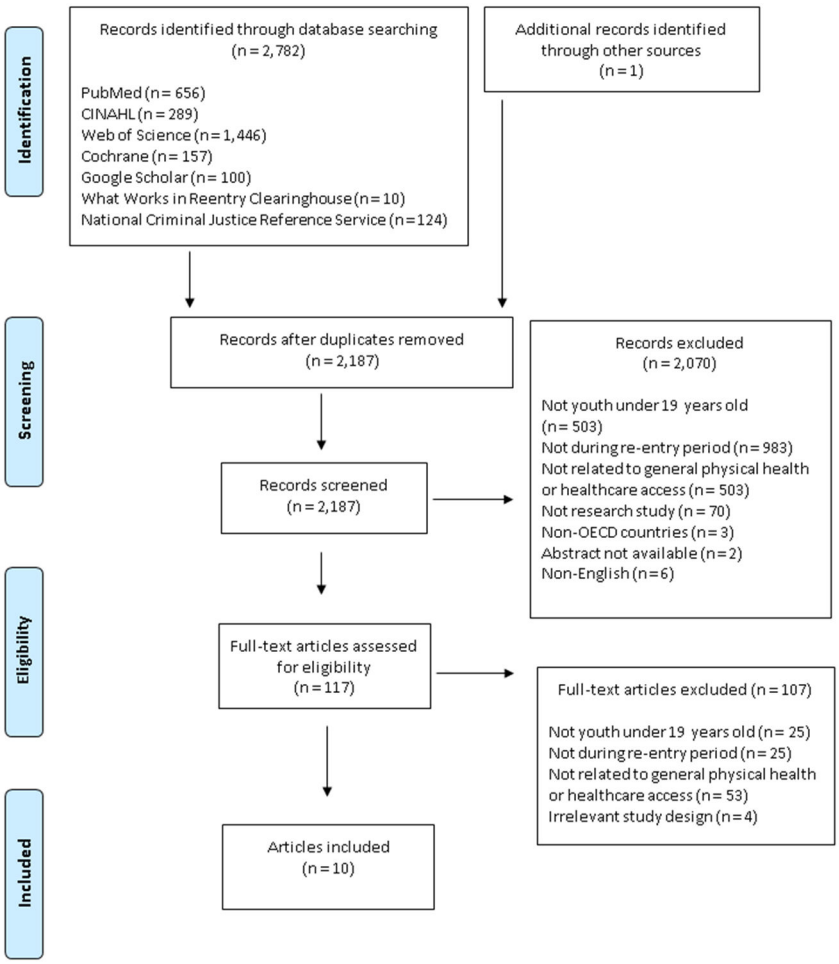

Figure 1:
PRISMA Diagram of Article Exclusion and Inclusion

Table 1:

Summary of Articles on Youths' Physical Health Status and Medical Care Access During Community Reentry

First author, year	Years of data collection	Number of follow-ups after release	Study population	State (country if not in U.S.)	Number of participants	Type of study	Hawker Score
Freudenberg, 2005	1997-2001	1, average 15 months post-release	Males, ages 16-18	New York	491	Prospective cohort study[a]	36
Freudenberg, 2007	1997-2001	1, average 15 months post-release	Males, ages 16-18	New York	706	Cross-sectional study[a]	35
Wilson, 2007	Not specified	N/A	Females and males, adult stakeholders	South Australia, Australia	5	Qualitative focus group study	29
Woodson, 2010	N/A	N/A	Females, ages 12-18	N/A	N/A	Description of pilot program to reduce risky behavior during reentry	25
Golzari, 2013	2009-2010	1, average 15 months post-release	Females and males, ages 13-17	California	50	Cross-sectional survey	31
Sealock, 1997	1992-1994	1, 2-4 months post-release	Females and males, ages unspecified	Maryland	252	Prospective cohort study	25
White, 2016	2006-2008	Insurance status at 60 days post-release	Females and males, ages 11-18	Indiana	1,574	Cross-sectional survey	35
Cuellar, 2005	2003	N/A	N/A	All 50 U.S. states	92 sampling units	Cross-sectional survey	33
Fields, 2010	2007	1, within 60 days prior to release	Females and males, average age 17	California	71	Cross-sectional survey	35
Jacobs, 2009	2005-2008	Not specified	Females and males, ages not specified	Massachusetts	61	Mixed-methods program evaluation	32

[a]Data collected from evaluation of the Health Link Program, which provided case management services to adolescent males released from New York City jails

[b]Data collected from the Returning Educated African-American and Latino Men to Enriched Neighborhoods (REAL MEN) study, which tracked adolescents during their time in a New York City jail and one year after release

Table 2:

Summary of General Physical Health Data Extracted from Studies with Reentry Youth

First author, year	Study summary	Key findings on general physical health outcomes
Freudenberg, 2005	Prospective cohort study; examined health, substance use, criminal, and economic characteristics of 16-18-year-old males during incarceration and approximately 15 months after release (n=491)	Post-release health data: - Asthma rate 22% - Any STI rate 4%
Sealock, 1997	Prospective cohort study assessed efficacy of aftercare program in addition to residential drug treatment program for incarcerated adolescents (n=253)	No statistically significant difference between aftercare and control group in mean measure of reported “health problems” on scale of 1-10 at 6 months after entering study (aftercare 0.92, control 0.91; *p>0.05*)
Woodson, 2010	Authors describe a hypothetical ideal aftercare program to reduce health-related risks among African American incarcerated females	Authors concluded that participation in daily physical activity (e.g. dance, team-based sports and general exercise) would be a suitable and effective method to educate participants in healthy behaviors and nutrition
Jacobs, 2009	Mixed-methods evaluation of the Massachusetts Health Passport Project, which included interviews and surveys with recently incarcerated adolescents re-entering their communities (n=61)	Gender-specific health concerns emerged: - Females were most concerned about hygiene, pregnancy, sexually transmitted infections, sexual abuse and involvement in sex trafficking - Males were most concerned about sexually transmitted infections, violence-related and sports-related injuries, mental health, substance abuse

Table 3:

Summary of Articles on Access to Medical Care and Health Insurance Coverage for Youth During Community Reentry

First author, year	Study summary	Key findings on access to medical care or utilization of services during reentry	Key findings on youths' health insurance coverage during reentry
Freudenberg, 2005	Prospective cohort study examined health, substance use, criminal, and economic characteristics of 16-18-year-old male adolescents during incarceration and approximately 15 months after release (n=491)	16% visited the emergency room 4% reported overnight hospitalization	23% reported having Medicaid Health insurance since release was negatively correlated with re-arrest on any charge (OR 0.31; CI 0.18-0.54; $p < 0.001$)
Wilson, 2007	Qualitative study of focus group of 5 stakeholders to plan a discharge planning model for justice-involved youth reentering the community	Youth can be motivated to use healthcare services by trusted detention center staff who are knowledgeable of available services at release	Given Australia's universal healthcare system, all study youth had health insurance overage during reentry
Golzari, 2013	Cross-sectional study assessing barriers to healthcare access among 13-17-year-old adolescents between 1-2 years post-release California (n=50)	85% of respondents reported wanting to see a provider post-detention but had not done so (i.e., foregone care). Reported barriers to care were: - Lack of health insurance (62%) - Lack of transportation (26%)	Percentage of respondents who reported having health insurance: - Prior to detention (68%) - After release from detention (36%)
White, 2016	Cross-sectional study assessed insurance status within 60 days of release from detention as part of a larger assessment of mental health needs, treatment use, and recidivism among 11-18-year-old adolescents (n=1,574)	N/A. Focus was on health insurance status.	Listed insurance statuses from medical records: - Medicaid (37.8%) - Private (11.9%) - Self-pay/none (39.5%) - No insurance information listed (10.8%)
Cuellar, 2005	Cross-sectional survey among personnel at juvenile justice facilities and Medicaid offices from all 50 U.S. states	N/A. Focus was on Medicaid dis-enrollment and re-enrollment	Percentage of respondents that confirmed practice of dis-enrolling youth from Medicaid when a youth was detained: - Juvenile justice facility: local 4%, state 33% - Medicaid office: local 46%, state 49% Percentage of respondents who stated it was the beneficiary's responsibility to notify Medicaid that a youth was in detention: - Juvenile justice facility: local 4%, state 11% - Medicaid office: local 40%, state 49%
Fields, 2010	Cross-sectional study assessing the perceived needs and barriers to meeting those needs among adolescents re-entering their communities (n=71)	Self-reported reentry-specific concerns ranked on a scale of 1-5 (1= not at all, 5= very worried)[a] - Getting healthcare (1.7) - Completing education (3.1) - Staying out of trouble (3.1)	Not applicable. Focus was on healthcare utilization.
Jacobs, 2009	Mixed-methods evaluation of the Massachusetts Health Passport Project, which included interviews and surveys with recently incarcerated adolescents re-entering their communities (n=61)	In survey of 20 youth, 13 reported they would *not* seek healthcare services if experiencing physical or sexual abuse. Gender-specific healthcare utilization patterns: - Males: Very irregular; Obstacles to seeking care included long wait times, filling out complicated forms, discrimination due to their status, fear of apprehension when presenting with violence-related injuries. - Females: More females reported having their own doctor, getting regular check-ups, and using mental health services.	Reasons reported for delaying or avoiding healthcare needs: - Refused to go (25%) - Health plan problem (20%) - Lack of transportation (6.7%) - "Other" (20%)