



A Scoping Review of Barriers and Facilitators to Pap Testing in Women with Disabilities and Serious Mental Illnesses: Thirty Years After the Americans with Disabilities Act

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## A Scoping Review of Barriers and Facilitators to Pap Testing in Women with Disabilities and Serious Mental Illnesses: Thirty Years After the Americans with Disabilities Act

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# A Scoping Review of Barriers and Facilitators to Pap Testing in Women with Disabilities and Serious Mental Illnesses: Thirty Years After the Americans with Disabilities Act

## Abstract

**Background:** Thirty years after the Americans with Disabilities Act (ADA) was passed, promising equal access to health services for people with disabilities and serious mental illness, research on Pap testing continues to uncover health disparities among women with disabilities and women with serious mental illnesses, including those that identify as an ethnic/racial minority.

**Aim:** The purpose of this paper is to describe and present the literature on the barriers and facilitators women with disabilities and women with serious mental illnesses face with receiving a Pap test using the social ecological model. We also examined the degree to which racial/ethnic minority women were included in these articles.

**Method:** A scoping review was conducted where the research team searched United States academic literature from 1990 through February 2020 in PubMed, Medline, and CINAHL using general subject headings for disability, mental illness, and Pap testing.

**Results:** Thirty-two articles met inclusion criteria. More barriers than facilitators were mentioned in articles. Barriers and facilitators are organized into three groups according to social ecological model and include individual (e.g., socioeconomic status, anxiety, education), interpersonal (e.g., family, living environment), and organizational factors (health care provider training, health care system). Participant's race/ethnicity were often reported but minoritized populations were often not the focus of articles.

**Conclusions:** More articles discussed the difficulties that women with disabilities and women with serious mental illnesses face with receiving a Pap test than facilitators to Pap testing. Additional research should focus on the intersectionality race/ethnicity and women with disabilities and women with serious mental illnesses in relation to Pap testing.

## Keywords

Public health; disability; women's health; cancer screenings; serious mental illnesses

## Cover Page Footnote

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## **A Scoping Review of Barriers and Facilitators to Pap Testing in Women with Disabilities and Serious Mental Illnesses: Thirty Years after the Americans with Disabilities Act**

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### **ABSTRACT**

**Background:** Thirty years after the Americans with Disabilities Act (ADA) was passed, promising equal access to health services for people with disabilities and serious mental illness, research on Pap testing continues to uncover health disparities among women with disabilities and women with serious mental illnesses, including those that identify as an ethnic/racial minority.

**Aim:** The purpose of this paper is to describe and present the literature on the barriers and facilitators women with disabilities and women with serious mental illnesses face with receiving a Pap test using the social ecological model. We also examined the degree to which racial/ethnic minority women were included in these articles.

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**Conclusions:** More articles discussed the difficulties that women with disabilities and women with serious mental illnesses face with receiving a Pap test than facilitators to Pap

testing. Additional research should focus on the intersectionality race/ethnicity and women with disabilities and women with serious mental illnesses in relation to Pap testing.

**Keywords:** Women's health; Pap testing, disability; mental illnesses; public health

## INTRODUCTION

One in four adults in the United States has a disability (CDC, 2019) and one in twenty five adults lives with a serious mental illness (SMI) (National Institute of Mental Health, 2019). Despite the prevalence of disability and SMI in the United States, many of these individuals do not access preventive health care services at the same rate as those without disabilities or SMI. These preventive care services include cancer screening such as Pap testing. Cervical cancer mortality rates have decreased significantly since the use of routine cervical cancer screening (Läärä et al., 1987; Sasieni et al., 2009). According to the American Cancer Society, all women should receive regular cervical cancer screening every three to five years (depending on the type of screening) starting at age 25 until age 65 (Fontham et al., 2020). Generally, it has been observed that women with disabilities and women with SMI do not receive Pap testing at the same rates as those without disabilities or SMI (Aggarwal et al., 2013; Drew & Short, 2010; James et al., 2017; Steele et al., 2013).

Pap testing among women with disabilities and women with SMI should be studied given that women in these populations are more likely to have comorbidities than the general population (Cooper et al., 2015; Miller et al., 2006; Sokal et al., 2004; Volpato et al., 2002). These comorbidities can make treating cancer more challenging and costlier (Sarfati et al., 2016; Søggaard et al., 2013). As other research has noted, not receiving cervical cancer screening poses additional health risks for women with disabilities and women with SMI, further contributing to their health disparities (Kisely et al., 2013; McCarthy et al., 2006). Women with disabilities and women with SMI should receive Pap testing at the same rates as other women. The Americans with Disabilities Act (ADA) a civil rights law, was passed thirty-one years ago and ensured that individuals with disabilities had the same rights and opportunities as everyone else. These rights and opportunities include equal opportunity; full participation in the community; independent living; and, economic self-sufficiency (Peacock et al., 2015). The ADA was written for both individuals with SMI (e.g., bipolar disorder, schizophrenia) and individuals with disabilities (e.g., multiple sclerosis, cerebral palsy, developmental disabilities) (United States Department of Justice Civil Rights Division, 2009). The ADA also includes specific provisions which require health care providers to provide individuals with full and equal access to health care (Frieden, 2010; Scott & Haverkamp, 2014). Women with disabilities and women with SMI also have the right to reasonable modifications of policies, practices, and procedures (ADA National Network, 2020).

There is also evidence that there are lower rates of cancer screening in women who belong or identify with racial and ethnic minorities (Hirth et al., 2016; Smith, 2008; Yu et al., 2010). Further, prevalence of disability and SMI may be higher in certain racial and ethnic groups. Courtney-Long and colleagues (2017) reported that three in ten American Indian/Alaska Native adults have a disability and one in four Black adults have a disability compared to one in five White adults. It is also suggested that minority and ethnic groups have higher rates of mental

illnesses than White populations (American Psychiatric Association, 2017; McGuire & Miranda, 2008). Despite these estimates, there are few articles considering Pap testing in women with disabilities or in women with SMI who also identify with racial/ethnic minority groups. In one study, individuals with intellectual and developmental disabilities (IDD) who were a member of a racial/ethnic minority group were less likely than White individuals with IDD to receive cancer screening (mammograms) (Scott & Havercamp, 2014). Another study found White women with intellectual disabilities were three times more likely to have a mammogram in the past two years compared to Black women with intellectual disabilities (Parish et al., 2013). In women with SMI, one study found the opposite relationship, in which women with SMI who belonged to certain racial groups (e.g., Asian women) had higher rates of cervical cancer screening compared to White women with serious mental illness (James et al., 2017).

The purpose of this paper was to 1) understand the barriers women with disabilities and women with SMI experience with participating in Pap testing and 2) understand what facilitators play a role in women with disabilities and women with SMI receiving Pap testing. In this study, we conduct a scoping review to describe the coverage of academic literature from the passage of the ADA (1990) to examine the legacy of the ADA on the barriers and facilitators experienced by women with disabilities and SMI in relation to receiving Pap testing. The barriers and facilitators are organized using the social ecological model (SEM) (Glanz et al., 2015; McLeroy et al., 1988). We also evaluate the degree to which racial/ethnic minoritized populations are included in these articles. Because the research team wanted to characterize the scope of the research rather than evaluating the quality of the research therefore, the authors conducted a scoping review (Munn et al., 2018).

## **METHODS**

### Eligibility Criteria

Inclusion criteria for articles included: (1) original research published in peer-reviewed academic journals, (2) conducted in the United States and published in English, (3) published after 1990,<sup>1</sup> (4) included women over the age of 18 years old, (5) included women with a disability and women with SMI<sup>2</sup> (e.g., bipolar disorder, schizophrenia), and 6) research that reported Pap test outcomes.

### Search Strategy

A University Health Sciences librarian was consulted prior to conducting the scoping review. In February of 2020, a PubMed, PsycInfo, and CINAHL search was performed using key terms that included disability, mental health, Pap smears, Pap tests and the United States. The search strategy was conducted considering the original research question, “What are the facilitators and barriers to cervical cancer screening (Pap tests)<sup>3</sup> in women with disabilities and

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<sup>1</sup> We pulled literature after 1990 because after the American with Disabilities Act and Section 504 of the Rehabilitation Act required that health care provide individuals with disabilities with full and equal access to their health care services and facilities.

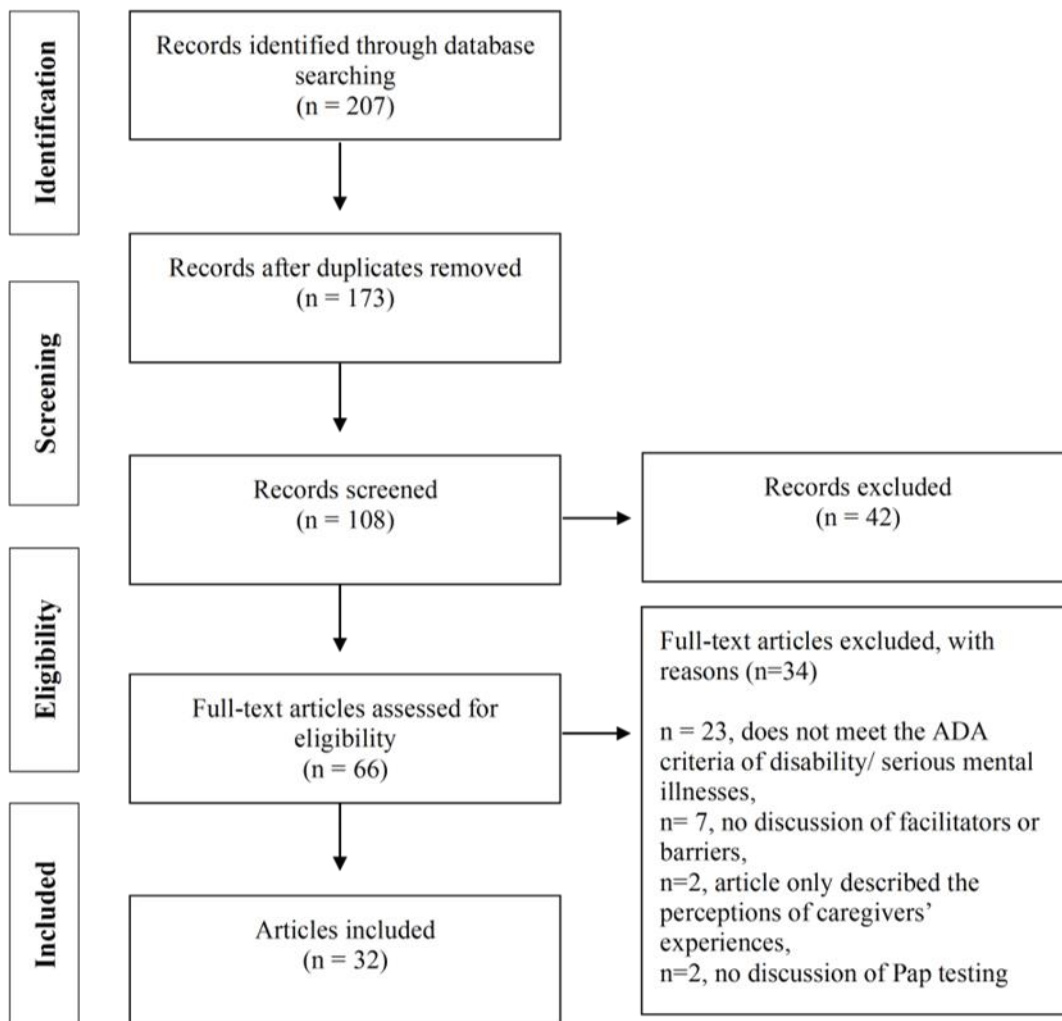
<sup>2</sup> We used the ADA’s definition of physical and mental impairments.

<sup>3</sup> Please note that The U.S. Preventative Task Force recommendations on Pap testing have changed over the thirty years we pulled literature from.

women with SMI?” The search was limited to English publications and results included articles published from 1990 to February 2020.

A total of 207 results were retrieved across data bases. All records identified were exported to the reference management software Zotero. After deduplication, the final search field included 173 results. Two reviewers (ML, JP) independently screened the 173 titles and abstracts based on the inclusion criteria. If reviewers disagreed, a third independent reviewer (HW) was brought in to make the final decision about the article. 32 articles were included in the final review. See Figure 1 for a graphic depiction of the PRISMA chart (Moher et al., 2009).

**Figure 1.** PRISMA Flow Diagram



### Data Extraction Method

## 29 A Scoping Review of Barriers and Facilitators to Pap Testing in Women with Disabilities and Serious Mental Illness

Lee et al.

The research team (ML, JP, HW) assembled a data extraction sheet to organize and classify the article information such as study sample, demographics, research design, methodological approach, major findings, and the facilitators and barriers to Pap testing. If there were any data extraction discrepancies, then the entire research team (ML, JP, HW) came together to address areas of disagreement.

### Categorization of Results

A social-ecological model (SEM) was used (Glanz et al., 2015; McLeroy et al., 1988) to categorize barriers and facilitators. The SEM posits that multiple levels of influence intersect and contribute to an individual's behavior. In the context of the current paper, receiving or not receiving Pap testing. By considering the social-ecological model, the authors explored the unique barriers and facilitators women with disabilities and SMI experience with regards to Pap testing. The research team first organized and reviewed the article's barriers and facilitators and then created three groups according to the SEM framework: individual, interpersonal, and organizational. Some barriers and facilitators may be related with more than one group; for consistency, all barriers and facilitators were assigned to all relevant SEM levels.

## **RESULTS**

### Article Characteristics

Of the 32 articles, most studies were quantitative (n=29), non-experimental studies utilizing secondary data sets (n=18). Most studies were conducted with women with disabilities compared to women with SMI and no articles included women with disabilities and SMI. Six studies published in the last ten years mentioned the ADA in their papers, indicating that researchers are cognizant the ADA and its impact on communities since its passing in 1990. Lastly, within the articles, more barriers (n=72) than facilitators (n= 38) to Pap testing were noted. Table 1 provides a summary of what population each article was focused on, study design and the barriers and facilitators found within each article.

**Table 1.**

Summary Table of Studies, Study Population, Study Design, and Barriers/Facilitators to Pap Testing in Women with Disabilities and Women with SMI

Citation	Study population	Study Design	Barriers			Facilitators		
			Ind.	Int.	Org.	Ind.	Int.	Org.
Armour, B. S., Thierry, J. M., & Wolf, L. A. (2009). State-level differences in breast and cervical cancer screening by disability status: United States, 2008. <i>Women's Health Issues: Official Publication of the Jacobs Institute of Women's Health</i> , 19(6), 406–414. <a href="https://doi.org/10.1016/j.whi.2009.08.006">https://doi.org/10.1016/j.whi.2009.08.006</a>	Disability (Definition from <i>Healthy People</i> 2010)	Quantitative; Secondary data analysis (Behavioral Risk Factor Surveillance System, 2008)			X			X
Asgary, R., Naderi, R., & Wisnivesky, J. (2017). Opt-out patient navigation to improve breast and cervical cancer screening among homeless women. <i>Journal of Women's Health</i> , 26(9), 999–1003. <a href="https://doi.org/10.1089/jwh.2016.6066">https://doi.org/10.1089/jwh.2016.6066</a>	Homeless women (Serious mental illness)	Quantitative; Cross-sectional	X		X		X	
Bartels, S. J., Pratt, S. I., Mueser, K. T., Forester, B. P., Wolfe, R., Cather, C., Xie, H., McHugo, G. J., Bird, B., Aschbrenner, K. A., Naslund, J. A., & Feldman, J. (2014). Long-term outcomes of a randomized trial of integrated skills training and preventive healthcare for older adults with serious mental illness. <i>The</i>	Serious mental illness (Schizophrenia, schizoaffective disorder, bipolar disorder, major depression)	Quantitative; Randomized Control Trial						X



31 A Scoping Review of Barriers and Facilitators to Pap Testing in Women with Disabilities and Serious Mental Illness  
Lee et al.

Citation	Study population	Study Design	Barriers			Facilitators		
			Ind.	Int.	Org.	Ind.	Int.	Org.
<i>American Journal of Geriatric Psychiatry</i> , 22(11), 1251-1261. <a href="https://doi.org/10.1016/j.jagp.2013.04.013">https://doi.org/10.1016/j.jagp.2013.04.013</a>								
Chan, L., Doctor, J. N., MacLehose, R. F., Lawson, H., Rosenblatt, R. A., Baldwin, L. M., & Jha, A. (1999). Do Medicare patients with disabilities receive preventive services? A population-based study. <i>Archives of Physical Medicine and Rehabilitation</i> , 80(6), 642–646. <a href="https://doi.org/10.1016/s0003-9993(99)90166-1">https://doi.org/10.1016/s0003-9993(99)90166-1</a>	Disability (Health-related difficulties in ADL)	Quantitative; Secondary data analysis (Medicare Current Beneficiary Survey, 1995)			X			
Chevarley, F. M., Thierry, J. M., Gill, C. J., Ryerson, A. B., & Nosek, M. A. (2006). Health, preventive health care, and health care access among women with disabilities in the 1994-1995 National Health Interview Survey, Supplement on Disability. <i>Women's Health Issues: Official Publication of the Jacobs Institute of Women's Health</i> , 16(6), 297–312. <a href="https://doi.org/10.1016/j.whi.2006.10.002">https://doi.org/10.1016/j.whi.2006.10.002</a>	Disability (Functional limitation status)	Quantitative; Secondary data analysis (National Health Interview Survey, 1994-1995)			X			X

32 A Scoping Review of Barriers and Facilitators to Pap Testing in Women with Disabilities and Serious Mental Illness  
Lee et al.

Citation	Study population	Study Design	Barriers			Facilitators		
			Ind.	Int.	Org.	Ind.	Int.	Org.
Drew, J. A. R., & Short, S. E. (2010). Disability and pap smear receipt among U.S. Women, 2000 and 2005. <i>Perspectives on Sexual and Reproductive Health</i> , 42(4), 258–266. <a href="https://doi.org/10.1363/4225810">https://doi.org/10.1363/4225810</a>	Disability (WHO Classification of Functioning, Disability)	Quantitative; Secondary data analysis (National Health Interview Survey, 2000 and 2005)	X		X			X
Froehlich-Grobe, K., Shropshire, W. C., Zimmerman, H., Van Brunt, J., & Betts, A. (2016). Reach of the Montana Cancer Control Program to women with disabilities. <i>Journal of Community Health</i> , 41(3), 650–657. <a href="https://doi.org/10.1007/s10900-015-0141-y">https://doi.org/10.1007/s10900-015-0141-y</a>	Disability (Six disability types measured in American Community Survey)	Quantitative; Cross-sectional					X	
Horner-Johnson, W., Dobbertin, K., Andresen, E. M., & Iezzoni, L. I. (2014). Breast and cervical cancer screening disparities associated with disability severity. <i>Women's Health Issues</i> , 24(1), 147–153. <a href="https://doi.org/10.1016/j.whi.2013.10.009">https://doi.org/10.1016/j.whi.2013.10.009</a>	Disability (Activities limitations)	Quantitative; Secondary data analysis (Medical Expenditure Panel Survey, 2002-2008)	X			X		X
Horner-Johnson, W., Dobbertin, K., & Iezzoni, L. I. (2015). Disparities in receipt of breast and cervical cancer screening for rural women age 18 to 64	Disability (Presence of limitations in basic actions)	Quantitative; Secondary data analysis (Cross-	X			X		X

33 A Scoping Review of Barriers and Facilitators to Pap Testing in Women with Disabilities and Serious Mental Illness  
Lee et al.

Citation	Study population	Study Design	Barriers			Facilitators		
			Ind.	Int.	Org.	Ind.	Int.	Org.
with disabilities. <i>Women's Health Issues: Official Publication of the Jacobs Institute of Women's Health</i> , 25(3), 246–253. <a href="https://doi.org/10.1016/j.whi.2015.02.004">https://doi.org/10.1016/j.whi.2015.02.004</a>	involving physical functions, vision, hearing, or cognition)	sectional, Medical Expenditure Panel Survey, 2002–2008)						
Iezzoni, L. I., Kurtz, S. G., & Rao, S. R. (2016). Trends in pap testing over time for women with and without chronic disability. <i>American Journal of Preventive Medicine</i> , 50(2), 210–219. <a href="https://doi.org/10.1016/j.amepre.2015.06.031">https://doi.org/10.1016/j.amepre.2015.06.031</a>	Disability (Action difficulties)	Quantitative; Secondary data analysis (National Health Interview Survey, 1998–2010)	X		X			
Iezzoni, L., McCarthy, E., Davis, R. B., & Siebens, H. (2000). Mobility impairments and use of screening and preventive services. <i>American Journal of Public Health</i> , 90(6), 955–961. <a href="https://doi.org/10.2105/ajph.90.6.955">https://doi.org/10.2105/ajph.90.6.955</a>	Disability (Self-reported mobility problems)	Quantitative; Secondary data analysis (National Health Interview Survey, 1994)			X			X
Jamoom, E. W., Andresen, E. M., Neugaard, B., & McKune, S. L. (2008). The effect of caregiving on preventive care for people with disabilities. <i>Disability and Health Journal</i> , 1(1), 51–57. <a href="https://doi.org/10.1016/j.dhjo.2007.11.">https://doi.org/10.1016/j.dhjo.2007.11.</a>	Disability (Self-reported activity limitations)	Quantitative; Secondary data analysis (National Behavioral Risk Factor Surveillance		X	X			

34 A Scoping Review of Barriers and Facilitators to Pap Testing in Women with Disabilities and Serious Mental Illness  
Lee et al.

Citation	Study population	Study Design	Barriers			Facilitators		
			Ind.	Int.	Org.	Ind.	Int.	Org.
<a href="#">005</a>		System, 2000-2001)						
Kelly, P. J., Allison, M., & Ramaswamy, M. (2018). Cervical cancer screening among incarcerated women. <i>PloS One</i> , 13(6). <a href="https://doi.org/10.1371/journal.pone.0199220">https://doi.org/10.1371/journal.pone.0199220</a>	Serious mental illness (Mental illness, depression, anxiety, schizophrenia, or bipolar disease)	Quantitative; Secondary data analysis			X			
Lavela, S. L., Weaver, F. M., Smith, B., & Chen K. (2006). Disease prevalence and use of preventive services: Comparison of female veterans in general and those with spinal cord injuries and disorders. <i>Journal of Women's Health</i> , 15(3), 301-311. <a href="https://doi.org/10.1089/jwh.2006.15.301">https://doi.org/10.1089/jwh.2006.15.301</a>	Disability (Spinal cord injuries and disorders, Multiple Sclerosis not included)	Quantitative; Cross-sectional			X			
Linton, K., Rueda, H., Williams, L., Sandoval, A., & Bolin, S. (2016). Reproductive and sexual healthcare needs among adults with disabilities as perceived by social workers. <i>Sexuality &amp; Disability</i> , 34(2), 145–156. <a href="https://doi.org/10.1007/s11195-015-9416-6">https://doi.org/10.1007/s11195-015-9416-6</a>	Disability (Intellectual, developmental, physical, emotional, and mental impairments)	Qualitative; one-on-one interviews	X	X	X			X
Liu, S. Y., & Clark, M. A. (2008). Breast and cervical cancer screening	Disability (Self-reported)	Quantitative; Cross	X		X	X		X

35 A Scoping Review of Barriers and Facilitators to Pap Testing in Women with Disabilities and Serious Mental Illness  
Lee et al.

Citation	Study population	Study Design	Barriers			Facilitators		
			Ind.	Int.	Org.	Ind.	Int.	Org.
practices among disabled women aged 40-75: Does quality of the experience matter? <i>Journal of Women's Health</i> (2002), 17(8), 1321–1329. <a href="https://doi.org/10.1089/jwh.2007.0591">https://doi.org/10.1089/jwh.2007.0591</a>	disability)	Sectional Survey (Cancer Screening Project for Women, 2003-2005)						
Long, H. L., Tulsy, J. P., Chambers, D. B., Alpers, L. S., Robertson, M. J., Moss, A. R., & Chesney, M. A. (1998). Cancer screening in homeless women: Attitudes and behaviors. <i>Journal of Health Care for the Poor and Underserved</i> , 9(3), 276–292. <a href="https://doi.org/10.1353/hpu.2010.0070">https://doi.org/10.1353/hpu.2010.0070</a>	Homeless women (SMI: serious mental health history, serious mental health treatment; medication and hospitalization)	Qualitative; one-on-one structured interviews					X	X
Martin, S., Orłowski, M., & Ellison, S. A. (2013). Sociodemographic predictors of cervical cancer screening in women with a medical disability. <i>Social Work in Public Health</i> , 28(6), 583–590. <a href="https://doi.org/10.1080/19371918.2013.774253">https://doi.org/10.1080/19371918.2013.774253</a>	Disability (Medically diagnosis of disability)	Quantitative; Cross-sectional (Chart abstraction)	X					
McRee, A.-L., Haydon, A. A., & Halpern, C. T. (2010). Reproductive health of young adults with physical disabilities in the U.S. <i>Preventive Medicine</i> , 51(6), 502–504.	Disability (Physical disability)	Quantitative; Secondary data analysis (National Longitudinal			X			

36 A Scoping Review of Barriers and Facilitators to Pap Testing in Women with Disabilities and Serious Mental Illness  
Lee et al.

Citation	Study population	Study Design	Barriers			Facilitators		
			Ind.	Int.	Org.	Ind.	Int.	Org.
<a href="https://doi.org/10.1016/j.ypped.2010.09.006">https://doi.org/10.1016/j.ypped.2010.09.006</a>		Study of Adolescent Health, 1994-1995 and 2001-2002)						
Nosek, M., & Gill, C. (1998). Use of cervical and breast cancer screening among women with and without functional limitations—United States, 1994-1995. <i>Morbidity and Mortality Weekly Report</i> , 47(40), 853–856. <a href="https://www.cdc.gov/mmwr/preview/mmwrhtml/00055280.htm">https://www.cdc.gov/mmwr/preview/mmwrhtml/00055280.htm</a>	Disability (Functional limitation)	Quantitative; Secondary data analysis (National Health Interview Survey, 1994)	X		X			X
Parish, S. L., Swaine, J. G., Son, E., & Luken, K. (2013). Determinants of cervical cancer screening among women with intellectual disabilities: Evidence from medical records. <i>Public Health Reports</i> , 128(6), 519–526. <a href="https://doi.org/10.1177/003335491312800611">https://doi.org/10.1177/003335491312800611</a>	Disability (Intellectual disability)	Quantitative; Retrospective study (Medical records 2006-2010)	X	X			X	
Peterson, J. J., Suzuki, R., Walsh, E. S., Buckley, D. I., & Krahn, G. L. (2012). Improving cancer screening among women with mobility impairments: Randomized controlled trial of a participatory workshop intervention. <i>American Journal of</i>	Disability (Mobility impairments)	Quantitative; Randomized control trial	X	X			X	

37 A Scoping Review of Barriers and Facilitators to Pap Testing in Women with Disabilities and Serious Mental Illness  
Lee et al.

Citation	Study population	Study Design	Barriers			Facilitators		
			Ind.	Int.	Org.	Ind.	Int.	Org.
<i>Health Promotion</i> , 26(4), 212–216. <a href="https://doi.org/10.4278/ajhp.100701-ARB-226">https://doi.org/10.4278/ajhp.100701-ARB-226</a>								
Pharr, J. R., & Bungum, T. (2012). Health disparities experienced by people with disabilities in the United States: A Behavioral Risk Factor Surveillance System study. <i>Global Journal of Health Science</i> , 4(6), 99–108. <a href="https://doi.org/10.5539/gjhs.v4n6p99">https://doi.org/10.5539/gjhs.v4n6p99</a>	Disability (Self-reported activity limitations)	Quantitative; Secondary data analysis (Behavioral Risk Factor Surveillance System, 2010)			X			
Ramirez, A., Farmer, G. C., Grant, D., & Papachristou, T. (2005). Disability and preventive cancer screening: Results from the 2001 California Health Interview Survey. <i>American Journal of Public Health</i> , 95(11), 2057–2064. <a href="https://doi.org/10.2105/AJPH.2005.066118">https://doi.org/10.2105/AJPH.2005.066118</a>	Disability (Physical, mental, and/or combined limitations)	Quantitative; Secondary data analysis (California Health Interview Survey, 2001)			X			X
Salsberry, P. J., Chipps, E., & Kennedy, C. (2005). Use of general medical services among Medicaid patients with severe and persistent mental illness. <i>Psychiatric Services</i> , 56(4), 458–462. <a href="https://doi.org/10.1176/appi.ps.56.4.458">https://doi.org/10.1176/appi.ps.56.4.458</a>	Serious mental illness (Schizophrenic, affective, paranoid, and anxiety disorders)	Quantitative; Secondary data analysis (Medicaid claims, 1996, 1997, 1998)						X

38 A Scoping Review of Barriers and Facilitators to Pap Testing in Women with Disabilities and Serious Mental Illness  
Lee et al.

Citation	Study population	Study Design	Barriers			Facilitators		
			Ind.	Int.	Org.	Ind.	Int.	Org.
Steele, C. B., Townsend, J. S., Courtney-Long, E. A., & Young, M. (2017). Prevalence of cancer screening among adults with disabilities, United States, 2013. <i>Preventing Chronic Disease, 14</i> (E09). <a href="https://doi.org/10.5888/pcd14.160312">https://doi.org/10.5888/pcd14.160312</a>	Disability (Serious functional limitations)	Quantitative; Secondary data analysis (National Health Interview Survey, 2013)	X		X			X
Steinberg, A. G., Wiggins, E. A., Barmada, C. H., & Sullivan, V. J. (2002). Deaf women: Experiences and perceptions of healthcare system access. <i>Journal of Women's Health, 11</i> (8), 729–741. <a href="https://doi.org/10.1089/15409990260363689">https://doi.org/10.1089/15409990260363689</a>	Disability (Deaf women)	Qualitative, focus groups	X		X		X	X
Steiner, J. L., Hoff, R. A., Moffett, C., Reynolds, H., Mitchell, M., & Rosenheck, R. (1998). Preventive health care for mentally ill women. <i>Psychiatric Services, 49</i> (5), 696–698. <a href="https://doi.org/10.1176/ps.49.5.696">https://doi.org/10.1176/ps.49.5.696</a>	Serious mental illness	Quantitative; Cross-sectional		X				
Wei, W., Findley, P. A., & Sambamoorthi, U. (2006). Disability and receipt of clinical preventive services among women. <i>Women's Health Issues, 16</i> (6), 286–296. <a href="https://doi.org/10.1016/j.whi.2006.09.002">https://doi.org/10.1016/j.whi.2006.09.002</a>	Disability (Self-reported limitations)	Quantitative; Secondary data analysis (Medical Expenditure Survey, 1999–2002)	X		X	X		



39 A Scoping Review of Barriers and Facilitators to Pap Testing in Women with Disabilities and Serious Mental Illness  
Lee et al.

Citation	Study population	Study Design	Barriers			Facilitators		
			Ind.	Int.	Org.	Ind.	Int.	Org.
Xiang, X. (2015). Serious psychological distress as a barrier to cancer screening among women. <i>Women's Health Issues, 25</i> (1), 49–55. <a href="https://doi.org/10.1016/j.whi.2014.09.001">https://doi.org/10.1016/j.whi.2014.09.001</a>	Serious mental illness (Serious psychological distress)	Quantitative; Secondary data analysis (Medical Expenditure Panel Survey, 2007, 2009, and 2011)	X		X	X		
Xiong, G. L., Bermudes, R. A., Torres, S. N., & Hales, R. E. (2008). Use of cancer-screening services among persons with serious mental illness in Sacramento County. <i>Psychiatric Services, 59</i> (8), 929-932. <a href="https://doi.org/10.1176/ps.2008.59.8.929">https://doi.org/10.1176/ps.2008.59.8.929</a>	Serious mental illness (Participants from mental health clinics)	Quantitative; Cross-sectional; Survey/ Interview						X
Xiong, G. L., Iosif, A.-M., Suo, S., Mccarron, R. M., Koike, A., Onate, J., & Carter, C. S. (2015). Understanding preventive health screening services use in persons with serious mental illness: How does integrated behavioral health primary care compare? <i>International Journal of Psychiatry in Medicine, 48</i> (4), 279–298. <a href="https://doi.org/10.2190/PM.48.4.d">https://doi.org/10.2190/PM.48.4.d</a>	Serious mental illness (Psychiatric diagnoses)	Quantitative; Cross-sectional			X			

### Barriers<sup>4</sup>

Seventy-two barriers to receiving Pap testing in women with disabilities and SMI were discussed in the articles. Within the SEM, barriers were identified at the individual level (n=22), the interpersonal level (n=6), and the organizational level (n=44).

The most frequently mentioned individual barrier was related to individual women's characteristics. One individual barrier characteristic included inability to pay for health care, their socioeconomic status, or lack of insurance (n=8) (Drew & Short, 2010; Iezzoni et al., 2016; Liu & Clark, 2008; Martin et al., 2013; Peterson et al., 2012; Steele et al., 2013). Discomfort or anxiety around Pap testing was also discussed (n=4) (Asgary et al., 2017; Linton et al., 2016; Nosek & Gill, 1998; Wei et al., 2006). Other individual barriers included communication difficulties (n=3) (Liu & Clark, 2008; Steinberg et al., 2002; Xiang, 2015), transportation barriers (n=2) (Liu & Clark, 2008; Steele et al., 2013), and health-specific factors (n=3) such as complexity of the condition, comorbidities, or social isolation (Peterson et al., 2012; Xiang, 2015). Women's lack of knowledge about bodies, cancer, and sexual education was also classified as an individual barrier to receiving Pap testing (n=2) (Linton et al., 2016; Parish et al., 2013).

Interpersonal factors (n=6) included formal and informal networks, including family and others that impact the individual. Most interpersonal barriers were centered around families (n=4) or women's previous experiences with abuse (n=2). Family guardian influences, living at home, and family members' beliefs were also mentioned as barriers to Pap testing (Jamoom et al., 2008; Linton et al., 2016; Parish et al., 2013). For example, in one article, authors described how social workers were not able to discuss reproductive health services with women with disabilities because families were protective of what their daughters knew (Linton et al., 2016). Other articles described the environment and past experiences had on Pap testing. For example, one article noted that women with a disability living at home were less likely to receive Pap testing compared to those that did not live at home (Parish et al., 2013). Other articles mentioned how previous experiences with abuse could impact a woman to not receiving a Pap test (Peterson et al., 2012; Steiner et al., 1998). A woman with SMI might not want to receive a Pap test after they were sexually assaulted or abused because it might retraumatize them.

The organizational level included social, cultural, and system-level factors that negatively contribute to women not receiving Pap testing. The group included: environmental barriers (n=7), provider attitudes (n=14), provider training (n=13), the health care system (n=6), and lack of research (n=4). Environmental barriers (n=7) included articles that broadly discussed how the physical environment can be a barrier in Pap testing, primarily for women with physical disabilities (Armour et al., 2009; Chevarley et al., 2006; Drew & Short, 2010; Horner-Johnson et al., 2014; Iezzoni et al., 2016; Pharr & Bungum, 2012; Wei et al., 2006). For example, one article focused on how a lack of appropriate examination tables impacted Pap testing (Nosek & Gill, 1998). The most frequent barrier was provider attitudes (n=14). Provider attitudes were provider perceptions that impact the experiences that women with disabilities or women with SMI have in the health care setting (Armour et al., 2009; Asgary et al., 2017; Chan et al., 1999; Horner-

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<sup>4</sup> We report the number of barriers and facilitators mentioned in total. In some cases, articles mentioned multiple barriers/facilitators in the same SEM level.

Johnson et al., 2014, 2015; Iezzoni et al., 2016; Liu & Clark, 2008; McRee et al., 2010; Nosek & Gill, 1998; Pharr & Bungum, 2012; Steinberg et al., 2002; Wei et al., 2006; Xiang, 2015). For example, some articles noted providers' assumptions that women with disabilities do not engage in sexual activity, which contributes to their treatment of women as childlike and not in need of a Pap test (Horner-Johnson et al., 2014; Iezzoni et al., 2016; Nosek & Gill, 1998; Pharr & Bungum, 2012). Health care provider training was also mentioned as a frequent barrier (n=13). Articles included descriptions of the lack of training medical providers receive in providing preventive health care to women with disabilities and women with SMI (Armour et al., 2009; Chan et al., 1999; Horner-Johnson et al., 2014, 2015; Iezzoni et al., 2000; Steinberg et al., 2002). Some articles noted that many women with disabilities or women with SMI did not receive Pap testing because the provider did not think the patient was at risk (Asgary et al., 2017; Kelly et al., 2018; Pharr & Bungum, 2012; Ramirez et al., 2005). Authors also described that providers' overlooked Pap tests in a woman with a disability or SMI because they were managing the other important health conditions (Horner-Johnson et al., 2014; Lavela et al., 2006; Linton et al., 2016; Steele et al., 2013).

Another organizational barrier was the U.S. health care system (n=6). This category included the complexities of navigating the health care system, such as difficulty scheduling an appointment (Asgary et al., 2017; Drew & Short, 2010; Steele et al., 2013). Further, issues such as physicians being able to refuse care (Nosek & Gill, 1998), the short amount of time providers spend with their patients (Jamoom et al., 2008), and informational gaps (Steinberg et al., 2002) were noted as barriers to receiving Pap testing. Limited research on women with disabilities was discussed in some articles as a barrier to understanding how to increase Pap testing in women with disabilities (n=4) (Horner-Johnson et al., 2014; Jamoom et al., 2008; Xiong et al., 2015). For example, one article described how aggregating all women with disabilities into one group for research purposes is problematic given the complexities of each disability (Horner-Johnson et al., 2015). Another article noted the need for research on the role of caregivers in preventative health care to better understand the lower Pap test rates among women with disabilities (Jamoom et al., 2008).

### Facilitators

Articles also discussed facilitators (n= 43) to Pap testing in women with disabilities and women with SMI. Facilitators were categorized into three groups based on the SEM framework. Facilitators were reported at the individual (n=6), interpersonal (n=6), and organizational level (n=31).

Individual level facilitators included health care access, knowledge, behavior, and beliefs around Pap testing (n=6). For example, women with health insurance (Wei et al., 2006) and a usual source of care (Wei et al., 2006; Xiang, 2015) were noted as being beneficial. Other articles described how educating women with disabilities about their health could be used as a facilitator to Pap testing (Horner-Johnson et al., 2014, 2015; Liu & Clark, 2008).

Included in the interpersonal level (n=6) were strategies to deliver interventions (n=4), such as partnering with disability-specific agencies when creating educational content (Steinberg et al., 2002), including a level of social support in the intervention (Asgary et al., 2017; Peterson et al., 2012), or creating cancer screening programs for uninsured women with disabilities (Froehlich-Grobe et al., 2016). The other interpersonal facilitators (n=2) included discussions

with health care providers about cancer prevention were also noted as helpful among women with SMI (Long et al., 1998) as well as cancer screening education for family caregivers and paid caregivers (Parish et al., 2013).

The organizational level included the most facilitators (n=31). Organizational facilitators included health care provider training (n=17), changes to the health care system (n=7), and public policies (n=7). Most articles broadly recognized that physicians needed additional education and training on disability and SMI (n= 9) (Armour et al., 2009; Chevarley et al., 2006; Horner-Johnson et al., 2015; Linton et al., 2016; Nosek & Gill, 1998; Steinberg et al., 2002). Articles also noted the need for clearer guidelines or resources for Pap testing recommendations for women with disabilities and women with SMI (n=8) (Drew & Short, 2010; Iezzoni et al., 2000; Liu & Clark, 2008; Ramirez et al., 2005; Steele et al., 2013).

Some articles (n=7) suggested that a more interconnected health care system could impact Pap testing for women with disabilities and particularly for women with SMI (Bartels et al., 2014; Long et al., 1998). For example, one article recommended making Pap testing more available at community programs (e.g., Planned Parenthood) and increasing the flexibility of services for women with SMI (Salsberry et al., 2005; Xiong et al., 2008). This also might include having allied health workers, such as social workers or case managers, educating women about Pap testing (Linton et al., 2016). Two articles discussed how increasing outreach methods for women with disabilities can be particularly helpful when the materials are accessible and appropriate for the population (Armour et al., 2009; Steinberg et al., 2002).

Federal policies (e.g., Affordable Care Act and the Americans with Disabilities Act) were mentioned in three articles (Horner-Johnson et al., 2014, 2015; Iezzoni et al., 2000) and support for aspects of proposed policy implementation were noted (n= 3), such as the U.S. Access Board Standards for accessible equipment (Armour et al., 2009; Horner-Johnson et al., 2015; Nosek & Gill, 1998). One study highlighted a state policy: The Rhode Island Women's Cancer Screening Program, which provided no-cost Pap testing and mammograms to women eligible in the state (Liu & Clark, 2008).

#### Race /Ethnicity

The thirty-two articles were reviewed to determine the degree to which they included race/ethnicity. Most articles reported race/ethnicity in their study, though race/ethnicity was mainly used as a covariate (Asgary et al., 2017; Chan et al., 1999; Chevarley et al., 2006; Drew & Short, 2010; Froehlich-Grobe et al., 2016; Horner-Johnson et al., 2014, 2015; Iezzoni et al., 2000, 2016; Jamoom et al., 2008; Kelly et al., 2018; Liu & Clark, 2008; Long et al., 1998; Martin et al., 2013; Parish et al., 2013; Pharr & Bungum, 2012; Ramirez et al., 2005; Salsberry et al., 2005; Wei et al., 2006; Xiang, 2015) or for reporting demographic information (Lavela et al., 2006; McRee et al., 2010; Peterson et al., 2012; Steele et al., 2013). In most studies, Black individuals were included compared to other groups such as Alaska Native/American Indians. When Alaska Native/American Indians were represented, the data was from nationally representative data sets. Findings related to race/ethnicity are presented in Table 2.

**Table 2**

Description of Studies with Racially/Ethnically Diverse Samples<sup>5</sup> and Key Findings Related to Pap Testing

Citation	Race/ethnicities Included	How was race/ethnicity used?	Key findings related to race/ethnicity
Asgary, R., Naderi, R., & Wisnivesky, J. (2017). Opt-out patient navigation to improve breast and cervical cancer screening among homeless women. <i>Journal of Women's Health, 26</i> (9), 999–1003. <a href="https://doi.org/10.1089/jwh.2016.6066">https://doi.org/10.1089/jwh.2016.6066</a>	Black, Hispanic, White, Other	Covariate	Having a female minority navigator with prior experience working with underserved community helped create better rapport for intervention.
Drew, J. A. R., & Short, S. E. (2010). Disability and pap smear receipt among U.S. Women, 2000 and 2005. <i>Perspectives on Sexual and Reproductive Health, 42</i> (4), 258–266. <a href="https://doi.org/10.1363/4225810">https://doi.org/10.1363/4225810</a>	White, Black, Hispanic, Other	Covariate	Blacks and Hispanics had greater odds of having a Pap test than Whites.

<sup>5</sup> This was quantified based on the U.S. Census Bureau estimates on population data. A sample was considered ethnically diverse if the 30% of the sample was ethnically diverse (e.g., Black, Asian, and American Indian).

44 A Scoping Review of Barriers and Facilitators to Pap Testing in Women with Disabilities and Serious Mental Illness  
Lee et al.

<p>Horner-Johnson, W., Dobbertin, K., Andresen, E. M., &amp; Iezzoni, L. I. (2014). Breast and cervical cancer screening disparities associated with disability severity. <i>Women's Health Issues</i>, 24(1), e147–e153. <a href="https://doi.org/10.1016/j.whi.2013.10.009">https://doi.org/10.1016/j.whi.2013.10.009</a></p>	<p>Non-Hispanic White, non-Hispanic Black, non-Hispanic American Indian/Alaskan native, non-Hispanic Asian/native Hawaiian/pacific islander, non-Hispanic multiple races, Hispanic of any race</p>	<p>Covariate</p>	<p>When controlling for other variables in the model, Asian/Native Hawaiian/Pacific Islander women were less likely to comply with cervical cancer screening.</p> <p>Non-Hispanic Black and Hispanic women were more likely than non-Hispanic Whites to have an up-to-date Pap test.</p>
<p>Horner-Johnson, W., Dobbertin, K., &amp; Iezzoni, L. I. (2015). Disparities in receipt of breast and cervical cancer screening for rural women age 18 to 64 with disabilities. <i>Women's Health Issues</i>, 25(3), 246–253. <a href="https://doi.org/10.1016/j.whi.2015.02.004">https://doi.org/10.1016/j.whi.2015.02.004</a></p>	<p>Non-Hispanic White, non-Hispanic Black, non-Hispanic American Indian/Alaskan native, non-Hispanic Asian/native Hawaiian/pacific islander, non-Hispanic multiple races, Hispanic of any race</p>	<p>Covariate</p>	<p>Black and Hispanic women had a higher adjusted odds ratio of reporting Pap testing, but Asian/Native Hawaiian/ Pacific Islander women were significantly less likely to be up to date with Pap testing.</p>
<p>Long, H. L., Tulskey, J. P., Chambers, D. B., Alpers, L. S., Robertson, M. J., Moss, A. R., &amp; Chesney, M. A. (1998). Cancer screening in homeless women: Attitudes and behaviors. <i>Journal of Health Care for the Poor and Underserved</i>, 9(3), 276–292. <a href="https://doi.org/10.1353/hpu.2010.0070">https://doi.org/10.1353/hpu.2010.0070</a></p>	<p>White, Black, Hispanic, Native American, Asian, mixed</p>	<p>Covariate</p>	<p>Black race was associated with being current on Pap testing but not a statistically significant independent predictor of Pap testing.</p>

45 A Scoping Review of Barriers and Facilitators to Pap Testing in Women with Disabilities and Serious Mental Illness  
Lee et al.

Wei, W., Findley, P. A., & Sambamoorthi, U. (2006). Disability and receipt of clinical preventive services among women. <i>Women's Health Issues</i> , 16(6), 286–296. <a href="https://doi.org/10.1016/j.whi.2006.09.002">https://doi.org/10.1016/j.whi.2006.09.002</a>	African American, White, Latino, other	Covariate	Latina women were more likely than Whites to receive a Pap test.
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Women who have disabilities and women with SMI that belong to or identify with racial/ethnic minoritized groups were more likely to have Pap tests compared to White women. Long and colleagues (1998) found that Black women with mental illnesses were associated with receiving a current Pap test but that race alone was not a statistically significant independent predictor of receiving a Pap test. Other studies noted that Latina women with disabilities were more likely to have a Pap test than White women with disabilities (Wei et al., 2006) and on the contrary, Black and Hispanic/Latina women with disabilities had greater odds of receiving a Pap test compared to White women with disabilities (Drew & Short, 2010). A more recent article by Horner-Johnson and colleagues (2014) found that Non-Hispanic Black and Hispanic/Latina women with a disability were more likely to have an up-to date Pap test than non-Hispanic Whites with disabilities.

Two articles found that Asian/Native Hawaiian/Pacific Islander women with disabilities were less likely to receive Pap testing (Horner-Johnson et al., 2014, 2015). One study found a facilitator to Pap testing related to race/ethnicity. Asgary and colleagues (2017) found that having a female navigator from the same minoritized group and with prior experience working with an underserved community helped create better rapport between women with SMI and the navigator and thus the intervention.

## **DISCUSSION**

Through this scoping review, we were able to describe the research that has been published regarding women with disabilities and SMI and Pap testing since the passing of the ADA. This paper classified the barriers and facilitators to screening for women with disabilities and SMI face using the social ecological model. Unsurprisingly, evidence suggests that women with disabilities and SMI face a wide range of barriers to Pap testing. Fewer articles mentioned facilitators to improve adherence to Pap testing; however, many of these facilitators aligned with the barriers mentioned. Specifically, education, health care provider training, and the health care system were mentioned both as barriers and facilitators. For example, while the lack of health care provider training related to individuals with disabilities was a barrier; health care providers with disability training were noted as being facilitators to Pap testing.

Many barriers align with what has been found in previous studies, where socioeconomic factors impact cancer screening participation in women with disabilities and SMI (Abells et al., 2016; Friedman et al., 1999; Iezzoni et al., 2016; Ramjan et al., 2016; Wu et al., 2012). Women with disabilities and SMI earn lower incomes (National Survey on Drug Use and Health, 2016) and have lower rates of education compared to those without disabilities and SMI (National Center for Education Statistics, 2019). Further, there is a long established understanding of the limited knowledge that women with IDD have regarding their health (Parish et al., 2013). Similarly, studies including women with SMI have noted a lack of education related to preventive health and cancer screening (Weinstein et al., 2015), in which women may not learn about sexual education or healthy relationships (Higgins et al., 2006; Isler et al., 2009). Few interventions have been implemented to increase health knowledge in women with disabilities (Lunsky et al., 2003) including cervical and breast cancer screening (Swaine et al., 2014). Interventions are even more limited for women with SMI.



Women with disabilities and women with SMI often experience negative interactions with health care providers (Dillaway & Lysack, 2015; Knaak et al., 2017). Research describes the magnitude of providers' biases about patients with a disability or SMI (Knaak et al., 2017; Ross & Goldner, 2009; Saleeby & Hunter-Jones, 2016). For example, some providers presume women with disabilities do not need Pap testing because individuals with disabilities are childlike and are asexual (Nosek, 1996). Other studies noted that health care providers have negative feelings (e.g., fear, blame, hostility) when providing care to individuals with SMI (Ross & Goldner, 2009). Providers sometimes also engage in behavior that is bothersome to patients. For example, providers may communicate with caregivers instead of their patients (Dillaway & Lysack, 2015; Knaak et al., 2017) often because the provider does not know how to communicate with these individuals (Knaak et al., 2017; Ross & Goldner, 2009; Sharby et al., 2015). There is also evidence that providers do not provide appropriate accommodations to women with disabilities or SMI which contributes to patients not feeling comfortable during their health care visits (Dillaway & Lysack, 2015).

Health care providers are often trained in the "medical model" where they were taught to treat disability as a pathology (Shakespeare & Kleine, 2013); however, this model of training is inadequate and outdated. Many who study disability advocate for the use of the social model of disability. The social model acknowledges that disability is a result of interaction with the environment, which if modified, could reduce the barriers faced by people with disabilities (Bricher, 2000; Goering, 2015; Mulvany, 2000). In the social model of disability, it is understood that the disabling experiences are most often driven by environmental barriers versus the disability itself (Shakespeare & Kleine, 2013). Utilizing the social model of disability within the health care field could be a mechanism to reduce barriers and facilitate successful health care services such as Pap testing in women with disabilities or women with SMI.

This review also established that women with disabilities or SMI often experience barriers related to the health care system. For women with physical disabilities, this may include trying to navigate a health care facility or attempting to get on an examination table (Saleeby & Hunter-Jones, 2016). For a woman with SMI or developmental disability, a woman may need a caregiver to assist them so they attend their appointment or to advocate on their behalf (Miller et al., 2007; Ramjan et al., 2016; Weinstein et al., 2015). Many of these women also face system-related issues that impact their likelihood of receiving a Pap test (Drainoni et al., 2006). Women with disabilities or SMI need to navigate the complex health care system in the United States which can be especially difficult if that person does not have assistance (Hanson et al., 2003; Saleeby & Hunter-Jones, 2016). Some studies have also noted the need for integrating health and social health care systems (Carter et al., 2018) which many women with disabilities and SMI are part of.

Our review also found the need to include articles focused on women with disabilities or SMI who identify with or belong to racial/ethnic minority populations. Articles that had key findings related to race indicated that racial/ethnic populations had fewer disparities in Pap testing than White women (see Table 2). In the general population, studies have documented similar findings, noting fewer disparities in Pap testing receipts among some racial/ethnic minority populations (Cook et al., 2010; Heintzman et al., 2018). However, other studies have found that in Black and Hispanic/Latina women there is overreporting of cancer screening which

can impact accurate estimates of cancer screening (Rauscher et al., 2008). Additionally, the absence of disparities in certain racial/ethnic groups may be attributed to other factors such as these women who belong/or identify with racial/ethnic groups being covered by Medicaid which covers the cost of Pap testing (Potosky et al., 1998). In our review, Asian/Native Hawaiian/Pacific Islander women with disabilities or SMI had lower rates of Pap testing compared to other populations. This finding aligns with literature of Pap testing in the general population, where women who are Asian/Native Hawaiian/Pacific Islander have low rates of Pap testing compared to other populations (Chaudhry et al., 2003; Mouttapa et al., 2016; Tung et al., 2017). Although our review did not find any Pap testing disparities in American Indian/Alaska Natives communities, this community has high rates of disability (Okoro, 2018) and cancer mortality (Jacobs-Wingo et al., 2016; White et al., 2014); therefore, additional investigations of Pap testing should focus on these communities.

Although it was not our goal to assess the implementation of the ADA, we note that most of the literature in this review did not reference the ADA's general requirements on providing accessible health care to individuals with disabilities and/or SMI. These requirements include 1) reasonable modifications of policies, practices, and procedures, 2) effective communication, and 3) accessible facilities (ADA National Network, 2020). We suggest that these ADA requirements be considered when accommodating these populations for Pap testing. Future researchers should highlight the mandates of the ADA when discussing cancer screening barriers and facilitators among women with disabilities and or SMI, in order to promote effective implementation of the ADA policy mandates.

The limitations of this scoping review include the population-based search terms used for obtaining literature. Although the intention was to broadly assess Pap testing in these populations, there are many cases where the term disability or SMI was not used in an article's title or abstract. For example, if an article about women with visual impairments did not use the term "disability," it is unlikely this article was included in our sample. Additionally, many of the articles utilized secondary data sets for analysis; therefore, many of the barriers and facilitators described may not be as specific as what might be collected through other methods, such as qualitative research studies.

## CONCLUSION

Despite 2020 being the 30th anniversary of the Americans with Disabilities Act (ADA), women with disabilities and women with SMI continue to face many barriers when attempting to receive preventive health care services, such as Pap testing. Most of the research highlights the barriers these women face in receiving Pap testing. Future research needs to explore interventions at the individual, health care provider, or organizational level to facilitate access to Pap testing in women with disabilities or women with SMI. Additionally, there is limited understanding regarding the lived experiences of women with disabilities and women with SMI trying to obtain preventive cancer screening. Given the complexity of health care navigation and the additional stressors related to Pap testing, additional research is needed to capture the perspectives of these women to develop and implement appropriate interventions.

It is also important to acknowledge while women with disabilities and women with SMI are a diverse group of people with varying experiences and abilities. There are many studies that

focus on Pap testing in women with physical disabilities, but not nearly as many regarding those with other types of disabilities, such as intellectual and developmental disabilities. Finally, with increasing diversity in the United States, it is likely that individuals with disabilities and women with SMI will have intersecting identities that need to be considered when studying health behavior. Though most articles had diverse samples, the extent to which intersectionality was studied was not the focus of any of the articles found in our study. Thus, this presents an opportunity for researchers. Given the higher rates of certain types of disability and/or SMI in some racial/ethnic minoritized groups it is imperative to examine how to improve Pap testing rates in women with disabilities and women with SMI in diverse racial/ethnic minority groups.

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