Supplemental materials for:

Golembiewski EH, Gravholt DL, Torres Roldan VD, et al. Rural patient experiences of accessing care for chronic conditions: a systematic review and thematic synthesis of qualitative studies. *Ann Fam Med*. 2022;20(3):266-272.

Supplemental Appendix 1. Full search strategy by database

CINAHL

S9	S5 AND S6	Limiters - Published Date: 20100101-20191231 Expanders - Apply equivalent subjects Narrow by Language: - english Search modes - Boolean/Phrase	626
S8	S5 AND S6	Expanders - Apply equivalent subjects Narrow by Language: - english Search modes - Boolean/Phrase	1,058
S7	S5 AND S6	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	1,059
S6	(MH "Qualitative Studies+")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	130,652
S5	S3 AND S4	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	12,619
S4	(MH "United States by Individual State+") OR (MH "United States+")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	632,435
S3	S1 OR S2	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	44,747
S2	(MH "Medically Underserved Area") OR (MH "Medically Underserved")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	4,819
	(MH "Rural Health Personnel") OR (MH "Rural Health Centers") OR (MH "Hospitals, Rural") OR (MH "Rural		

S1	Population") OR (MH "Rural Health Services") OR (MH "Rural Areas") OR	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	40,733

	(MH "Rural Health")		
S9	S5 AND S6	Limiters - Published Date: 20100101-20191231 Expanders - Apply equivalent subjects Narrow by Language: - english Search modes - Boolean/Phrase	626
S8	S5 AND S6	Expanders - Apply equivalent subjects Narrow by Language: - english Search modes - Boolean/Phrase	1,058
S7	S5 AND S6	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	1,059
S6	(MH "Qualitative Studies+")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	130,652
S5	S3 AND S4	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	12,619
S4	(MH "United States by Individual State+") OR (MH "United States+")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	632,435
S3	S1 OR S2	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	44,747
S2	(MH "Medically Underserved Area") OR (MH "Medically Underserved")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	4,819
S1	(MH "Rural Health Personnel") OR (MH "Rural Health Centers") OR (MH "Hospitals, Rural") OR (MH "Rural Population") OR (MH "Rural Health Services") OR (MH "Rural Areas") OR (MH "Rural Health")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	40,733

SCOPUS

(TITLE-ABS-
KEY (chronic* AND (rural* OR underserv* OR remote* OR farm* OR tribal) AND ("united states" OR american* OR "usa" OR "us" OR "u s a")) AND PUBYEAR > 2009) AND (qualitative OR "mixed method*" OR interview* OR "focus group*" OR experience OR percept* OR perceiv* OR ethnogr* OR thematic* OR transcri* OR observ* OR survey*) AND (LIMIT-TO (LANGUAGE , "English"))

= 1680

EMBASE

1. exp health care system/ or exp health care utilization/ or exp health disparity/ or exp health service/ or exp health care quality/ or exp "health care cost"/ or exp health care delivery/ or exp health care access/ or exp primary health care/

2. exp chronic disease/

3. exp chronic kidney failure/ or exp hemodialysis/ or hemodialysis patient/

4. exp *diabetes mellitus/

5. exp *heart failure/

6. exp *neoplasm/

7. exp *cognition disorder/ or exp *dementia/ or exp *disorders of higher cerebral function/

8. exp *hypertension/

9. exp *mental disease/ or exp schizophrenia spectrum disorder/ or exp drug dependence/

10. exp *autistic disorder/

11. exp *cardiovascular disease/ or exp *cerebrovascular disease/

12. exp *depression/

13. exp *osteoporosis/ or exp *arthritis/

14. exp *musculoskeletal disease/

15. exp *Human immunodeficiency virus infection/

16. exp *hepatitis/

17. or/2-16

18. 1 and 17

19. 18 and exp united states/

20. 19 and (rural* or underserv* or remote* or nonmetro* or "non metropolit*" or farm* or tribal* or "native american*").mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word, candidate term word]

21. limit 20 to (english language and yr="2010 -Current")

22. 21 not (case report/ or conference abstract.pt.)

23. (experience* or percep* or perceiv* or interview* or qualitative* or "focus group*" or "case stud*" or observ* or survey* or ethnograph* or thematic* or transcrib* or "mixed method*" or "multiple method*").mp. and 22

24. remove duplicates from 23

MEDLINE

1. *chronic disease/

2. (chronic* adj (ill* or condition* or disease*)).ti,kw,kf.

3. exp *Renal Insufficiency, Chronic/ or exp *hemodialysis/

4. (("end stage" adj2 (renal or kidney)) or esrd or eskd or h?emodialy*).ti,kw,kf.

5. exp *DIABETES MELLITUS/

6. diabet*.ti,kw,kf.

7. exp *heart failure/ or ((heart or cardiac) adj fail*).ti,kw,kf.

8. exp *neoplasms/ or cancer*.ti,kf,kw.

9. exp *cognitive disorders/ or exp *dementia/ or dement*.ti,kw,kf. or alzheimer*.ti,kw,kf. or cognitive*adj3 impair*.ti,kw,kf.

10. exp *Cognition Disorders/

11. exp *hypertension/ or hypertens*.ti,kw,kf. or "high blood pressure".ti,kw,kf.

12. exp *mental disorders/ or exp *substance-related disorders/ or exp *hyperlipidemias/

13. (schizophren* or psychotic* or "substance abuse" or alcohol*).ti,kw,kf.

14. exp *Autistic Disorder/

15. autis*.ti,kw,kf.

16. (hypercholesterol* or hyperlipid*).ti,kw,kf. or exp *cardiovascular diseases/

17. (coronary or infarct* or stroke* or lvad).ti,kw,kf. or exp *heart assist devices/ or

arrhythmi*.ti,kw,kf. or fibrillat*.ti,kw,kf. or tachycardi*.ti,kw,kf.

18. depress*.ti. or exp *depression/ or exp *depressive disorders/

19. exp *osteoporosis/ or osteoporo*.ti. or exp *arthritis/ or arthrit*.ti. or osteoarthrit*.ti.

20. *fibromyalgia/ or *chronic fatigue syndrome/ or exp *musculoskeletal disorders/

21. (fibromyalg* or "chronic fatigue" or dystroph* or "multiple sclerosis").ti. or "cerebral pals*".ti,kw,kf.

22. exp *hiv infections/ or aids.ti. or "acquired immunodefic*".ti. or hiv.ti.

23. exp *hepatitis/ or hepatiti*.ti.

24. exp *Cerebrovascular Disorders/

25. stroke*.ti. or ((cerebral or intracranial) adj2 (thromb* or aneurysm* or infarct* or h?emorrhag*)).ti,kw,kf.

26. or/1-25

27. exp continuity of patient care/ or patient acceptance of care/ or health knowledge attitude practice/ or attitude of health personnel/ or exp "costs and cost analysis"/ or exp *insurance/ or exp health services accessibility/

28. ((regional* or geograph* or rural* or urban*) and (utili? or access*)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

29. exp "Delivery of Health Care"/ or distance.mp. or transportation.mp.

30. HEALTHCARE DISPARITIES/ or disparities.mp.

31. exp Socioeconomic Factors/

32. exp socioeconomic factors/ or socioeconomic*.mp. or homeless.mp. or "low income".mp. or unemploy*.mp. or "social* marginal*".mp. or "social isolat*".mp. or "social support*".mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

33. minorities.mp. or exp Minority Groups/ or exp Ethnic Groups/ or asian american*.mp. or black american*.mp. or hispanic american*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

34. (uninsured or immigrant* or refugee* or undocumented or vulnerable* or ((language or cultural) adj3 barrier*)).mp. [mp=title, abstract, original title, name of substance word, subject

heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

35. (communit$ adj2 (health or healthcare or service? or clinic$ or setting? or centre? or center?)).ti,ab.

36. (complian* or noncomplian* or adheren* or nonadheren*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

37. (attitude* adj3 (health or death)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

38. (system adj2 complex*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

39. primary health care/ and ("referral and consultation"/ or specialt*.mp.) [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

40. or/27-39

41. interview as topic/ or focus groups/ or interview*.ti,ab,kw. or transcrib*.ti,ab,kw. or thematic*.ti,ab,kw. or "focus group*".mp. or "case stud*".mp. or observ*.mp. or ethnogra*.mp.

42. qualitative research/ or (qualitative* or experience* or percept* or perceiv* or "mixed method*" or "multiple method*").mp.

43. ((national or health or survey) adj2 interview).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

44. 26 and 40 and (41 or 42)

45. 44 not 43

46. "united states".ti,ab,kw. or exp united states/

47. american*.ti,ab,kw.

48. ("u.s." or us or usa or "u s a").ti,ab.

49. 46 or 47 or 48

50. 49 and ((rural* or underserv* or "native america*").mp. or health professional shortage areas/ or nonmetro*.mp. or "non metropolitan".mp. or remote.mp. or farm*.mp. or tribal*.mp.) [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

51. 45 and 50

52. limit 51 to (english language and yr="2010 -Current")

53. remove duplicates from 52

PsychInfo

1. exp chronic illness/ or exp "chronicity (disorders)"/ or exp mental disorders/ or exp physical disorders/ or exp mental health/ or exp mental health services/ or exp Health Care Delivery/ or exp Health Care Services/ or exp Clinical Practice/ or exp Health Care Utilization/ or exp Primary Health Care/

2. (rural* or remote* or farm* or "small town*" or impoverish* or poverty* or "native american*" or tribal or underserv*).mp. and 1 [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh]

3. ("united states" or american* or "u s a" or "usa").mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh]

4. 2 and 3

5. exp qualitative methods/ or exp interviews/ or exp mixed methods research/ or exp observation methods/ or exp qualitative measures/

6. 4 and 5

7. limit 6 to (english language and yr="2009 -Current")

Supplemental Appendix 2. Hierarchical screening protocol and form used for review of full-text studies

After removing duplicates from retrieved search records, a team of four reviewers (EG, DG, ELN, and VTR) independently screened titles and abstracts in overlapping duplicates to identify relevant studies. For screening of full-text records, a structured, hierarchical screening form was developed based on key study inclusion criteria and iteratively piloted on subsets of full text records until all four reviewers achieved ≥ 0.90 inter-rater agreement on screening decisions. Reviewers then independently screened each full-text record in overlapping duplicates for inclusion. The study team met regularly to resolve any disagreements on inclusion/exclusion of full text records through discussion.

1. Does the study take place in the United States? (Yes/No)

2. Are the participants adults? (Yes/No)

3. Do the study participants live in a rural area? (Yes/No)
    - Note: "Appalachian" and "tribal" almost always refer to rural area unless otherwise stated
    - If participant sample is mixed (rural + urban + suburban), exclude *unless* the focus of the study is on rural-urban differences

4. Is the study qualitative (prioritizes descriptive findings on patient experiences, perceptions, or attitudes)? (Yes/No)
    - Exclude purely quantitative studies, systematic reviews, and non-empirical articles (e.g., editorials)

5. Do study participants have or are the caregivers of someone with a chronic disease? (Yes/No)
    - Examples of chronic disease: Cancer, diabetes, physical disability, most forms of mental illness, obesity, hypertension, HIV/AIDs, substance use disorders, many forms of heart disease, others.
        - Examples of non-chronic conditions (exclude): Pregnancy, infections, injuries
        - For alcohol or drug use: Include if study authors describe participants as having substance use disorder, chronic alcohol use, alcoholism, etc. Exclude if the focus of the study is sporadic or limited alcohol or drug use
    - Exclude if participants do not have chronic disease(s) but are at-risk (i.e., exclude studies focused on *prevention* of chronic disease)

6. Does that study focus on access to or use of <u>health services</u>? (Yes/No)
    - "Health services" = Health care and clinical services or other community-based health services provided by an organization
    - The study's research question/focus should reflect the focus of the review: What are the experiences of rural patients with chronic disease as they access and use the health care delivery system?
    - Exclude studies focused <u>only</u> on participant self-management or informal supports

7. Are the study participants the patients themselves and/or their caregivers? (Yes/No)
    - Exclude studies where the participants are only clinicians or other health care stakeholders, not the patients or caregivers themselves

Supplemental Appendix 3. Data extraction protocol and form

A standardized data extraction form was developed to extract relevant characteristics of each included full-text study. Two reviewers independently extracted data from each included study and resolved conflicting answers through discussion and consensus.

Study title	
First author (Last name)	
Journal	
Year published	
Chronic disease(s) under study (e.g., diabetes, cardiovascular disease, dementia)	
Study aims, purpose, or objective (copy verbatim from the article or summarize briefly)	
Theoretical framework (e.g., normalization process theory, social cognitive theory, chronic care model; leave blank if unspecified)	
Sampling procedure (e.g., purposive, snowball, random sampling of randomized control trial participants)	
Data collection method(s) (e.g., semi-structured interviews, focus groups, ethnography)	
Data collection mode (e.g., in-person, telephone, not specified)	
Data analysis approach (e.g., content analysis, grounded theory; leave blank if unspecified) If mixed methods, note both that it is mixed methods and what the qualitative analysis approach is (e.g., "mixed methods, phenomonology")	
Location(s) (e.g., "Midwestern United States"; "Bakersfield, CA"; "11 different U.S. states"; leave blank if unspecified)	
Description of study participant sample (briefly summarize from the article) Example: "Native American women with cancer," "Diabetes patients living in Appalachia"	
Participant type(s) (check all that apply; note that additional demographic questions will open under each response)	• Patients • Caregivers
Patients	Number of patient participants:
	Age (leave blank if unspecified) Copy the age distribution as described in the article.
	Gender (leave blank if unspecified) • Percent female: • Percent male: • Percent other:

	Race/Ethnicity (leave blank if unspecified) • Percent White: • Percent Black or African American: • Percent Hispanic or Latinx: • Percent Asian: • Percent Native Hawaiian or Pacific Islander: • Percent American Indian or Alaska Native: • Percent Other 1 (please specific): • Percent Other 2 (please specify):
	Marital status (leave blank if unspecified) • Percent married or living with partner: • Percent widowed: • Percent divorced/separated: • Percent single: • Percent Other 1 (please specify): • Percent Other 2 (please specify):
	Insurance status (leave blank if unspecified) Copy and paste the categories and percentages as reported in the article.
Caregivers (family members, friends, or paid help)	Number of caregiver participants:
	Age (leave blank if unspecified) Copy the age distribution as described in the article.
	Gender (leave blank if unspecified) • Percent female: • Percent male: • Percent other:
	Race/Ethnicity (leave blank if unspecified) • Percent White: • Percent Black or African American: • Percent Hispanic or Latinx: • Percent Asian: • Percent Native Hawaiian or Pacific Islander: • Percent American Indian or Alaska Native: • Percent Other 1 (please specific): • Percent Other 2 (please specify):
	Marital status (leave blank if unspecified) • Percent married or living with partner:

	• Percent widowed: • Percent divorced/separated: • Percent single: • Percent Other 1 (please specify): • Percent Other 2 (please specify):
	Insurance status (leave blank if unspecified) Copy and paste the categories and percentages as reported in the article.
Notes about this article:	

Supplemental Table 1. Critical Appraisal Skills Programme (CASP) qualitative checklist for included studies

Study	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10
Abdoli et al., 2017	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Allen & Roberto, 2014	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Austin, 2013	Y	Y	Y	N	Y	N	N	Y	Y	Y
Bardach et al., 2011	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Blackmon et al., 2016	Y	Y	Y	N	N	N	N	N	Y	Y
Blake et al., 2017	Y	Y	Y	N	Y	Y	Y	N	Y	Y
Boehme et al., 2014	Y	Y	Y	Y	Y	N	Y	N	Y	Y
Boehme et al., 2012	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Broffman et al., 2015	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Burnette et al., 2018	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Cadigan & Skinner, 2015	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Carron et al., 2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cerimele et al., 2019	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Cook et al., 2015	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Cudney et al., 2011	Y	Y	Y	Y	Y	N	N	N	Y	Y
Danzl et al., 2016	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Danzl et al., 2013	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Davidsson & Södergård, 2016	Y	Y	Y	N	N	N	N	N	Y	Y
DeGuzman et al., 2017	Y	Y	Y	N	Y	N	N	Y	Y	Y

Frazier et al., 2019	Y	Y	Y	Y	Y	N	Y	N	Y	Y
Gibson et al., 2013	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Gilbertson-White et al., 2019	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Grimes et al., 2017	Y	Y	Y	Y	Y	N	N	N	Y	Y
Harrison et al., 2017	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Hiratsuka et al., 2013	Y	Y	N	Y	Y	N	N	Y	Y	Y
Ingelse & Messecar, 2016	Y	Y	Y	Y	Y	N	Y	N	Y	Y
Itty et al., 2014	Y	Y	N	Y	Y	N	Y	Y	Y	Y
Johnston et al., 2014	Y	Y	Y	Y	Y	N	N	N	Y	Y
Jones et al., 2011	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Kempf et al., 2010	Y	Y	Y	N	Y	N	Y	Y	Y	Y
Ko et al., 2018	Y	Y	N	N	N	N	N	Y	Y	Y
Kramlich et al., 2018	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Liddell et al., 2018	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Liu et al., 2019	Y	Y	N	Y	Y	N	Y	Y	Y	Y
Liu et al., 2018	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
Livaudais et al., 2010	Y	Y	N	N	Y	Y	Y	Y	Y	Y
Mattos et al., 2018	Y	Y	Y	Y	Y	N	N	N	Y	Y
Moneyham et al., 2010	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Ohl et al., 2013	Y	Y	N	Y	Y	N	N	Y	Y	Y
PalomiN et al., 2017	Y	Y	N	Y	Y	N	N	Y	Y	Y

PaterN et al., 2019	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Quinn et al., 2017	Y	Y	N	Y	Y	N	N	Y	Y	Y
Rutledge et al., 2017	Y	Y	Y	N	Y	N	N	Y	Y	Y
Sawin, 2010	Y	Y	N	Y	Y	N	N	Y	Y	Y
Schlomann et al., 2011	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Schoenberg et al., 2011	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Serafica et al., 2019	Y	Y	N	N	Y	N	Y	Y	Y	Y
Sewell et al., 2012	Y	Y	N	N	N	N	N	N	Y	Y
Sherman & Fischer, 2012	Y	Y	N	Y	Y	N	N	Y	Y	Y
Shiyanbola & Mort, 2015	Y	Y	N	N	Y	N	N	Y	Y	Y
Snell-Rood et al., 2017	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Stoller et al., 2011	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Thomas & Stoeckel, 2016	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Thurman et al., 2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tiedt & Sloan, 2015	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Tiedt, 2013	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
Torres et al., 2015	Y	Y	Y	Y	Y	N	N	Y	Y	Y
Warner et al., 2014	Y	Y	Y	Y	Y	N	N	N	Y	Y
Weierbach et al., 2011	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Yankeelov et al., 2015	Y	Y	Y	N	Y	N	N	Y	Y	Y
Yurkovich et al., 2012	Y	Y	Y	Y	Y	N	N	Y	Y	Y

Zukoski et al., 2011	Y	Y	N	Y	N	N	N	N	Y	Y

Y=Yes; N=No or can't tell. Item 1 = Clear statement of aim; Item 2 = Suitable qualitative methodology; Item 3 = Appropriate research design; Item 4 = Proper recruiting strategy; Item 5 = Adequacy in data collection; Item 6 = Adequate relationship between researcher and participants; Item 7 = Ethical considerations; Item 8 = Rigor in data analysis; Item 9 = Clear statement of findings; Item 10 = Overall value of research (usefulness of results locally).

Supplemental Table 2. Characteristics of included studies (n = 62)

Study	N	Sample[1]	Objective	Focal Chronic Disease(s)	Setting	Theoretical Framework	Data Collection Method(s)	Data Collection Mode	Analysis
Abodoli et al., 2017 [1]	9	P	Explore and describe perceptions and experiences of young adults with type 1 diabetes mellitus.	Type I diabetes	Appalachian Tennessee	None reported	Semi-structured interviews	In-person	QCA
Allen & Roberto, 2014 [2]	20	P	Explore how older women in rural Appalachia with gynecological cancer construct and interpret their experience with cancer.	Gynecologic cancer	Southwest Virginia and West Virginia	Social constructionism	Semi-structured interviews	In-person; telephone	Constant comparative method
Austin, 2013 [3]	10	P	Describe and interpret the experiences of older women who live in rural communities as they attend cardiac rehabilitation.	Cardiovascular disease	Three cardiac rehabilitation centers in Pennsylvania and New York	Hermeneutic phenomenology	Unstructured interviews	In-person	Van Manen's phenomenology (1990)
Bardach et al., 2011 [4]	41	P	Describe participant perspectives on managing multi-morbidity and engaging in colorectal cancer preventive care within a rural context.	Multi-morbidity	Appalachian Kentucky	None reported	Semi-structured interviews	In-person	QCA
Blackmon et al., 2016 [5]	45	P	Explore rural African-Americans' experiences with adherence to diabetes medications.	T2DM	Two rural counties in southeast North Carolina	Social ecological model	Semi-structured interviews	NR	QCA

Blake et al., 2017 [6]	35	P	Explore the perceptions and experiences of older African-American men living with HIV in rural Georgia.	HIV	Five rural communities in Georgia	None	Focus groups; semi-structured interviews	In-person	Constant comparative method
Boehme et al., 2014 [7]	18	P	Explore barriers and facilitators to HIV care experienced by HIV-infected postpartum women.	HIV	Alabama	None reported	Focus groups, nominal group technique rankings, and surveys	In-person	QCA
Boehme et al., 2012 [8]	39	P	Explore patient-provider relationships from the perspective of HIV-infected women.	HIV	Rural counties in South Alabama	None reported	Focus groups	In-person	QCA
Broffman et al., 2015 [9]	33	P	Explore how rural participants with behavioral health conditions pursue and receive care, and examine how these factors differed across AI and geographic subpopulations.	Behavioral health	South Dakota, including tribal lands	None reported	Semi-structured interviews	Telephone	QCA
Burnette et al., 2018 [10]	43	P	Explore AI women cancer survivors' experiences with conventional mental health services and informal and tribally-based assistance and barriers to mental health service utilization.	Cancer; depression	South Dakota	Framework of Historical Oppression, Resilience, and Transcendence (Bernette & Figley, 2017)	CBPR; semi-structured interviews	In-person	QCA
Cadigan & Skinner, 2015 [11]	32	P	Examine experiences of depressive symptoms among low-income African-American and white mothers of young children.	Depression	Eastern North Carolina	None reported	Ethnographic interviewing	In-person	QCA

Carron et al., 2019 [12]	13	P	Explore the cultural experiences, patterns, and practices of Native American women with polycystic ovary syndrome so nurses can provide culturally congruent care.	Polycystic ovary syndrome (PCOS)	Western United States	Leininger's theory of culture care diversity and universality (1991)	Semi-structured interviews	In-person	Leininger's 4 phases of QDA
Cerimele et al., 2019 [13]	6	P	Understand primary care patients' and clinicians' experiences with diagnosis and treatment of patients with bipolar disorder in primary care.	Bipolar disorder	Arkansas	None reported	Semi-structured interviews	In-person	QCA
Cook et al., 2015 [14]	27	P	Describe the process and decision points for linkage to care for people when diagnosed with HIV; identify participants' recommendations to improve the linkage to care process.	HIV	Small metropolitan and rural areas in Florida	Social ecological model	Semi-structured interviews	NR	Grounded theory; dimensional analysis
Cudney et al., 2011 [15]	NR	P	Examine the health care partnership needs of Western rural women with chronic illness who participated in a computer-based support and education project.	Any chronic disease	Multiple Western states	None reported	Online forum messages	Online	Generic QDA
Danzl et al., 2016 [16]	25	P/C	Examine rural Appalachian Kentucky stroke survivors' and caregivers' experiences of receiving education from health care providers.	Stroke rehabilitation	Appalachian Kentucky	None	Semi-structured interviews	In-person	QCA
Danzl et al., 2013 [17]	25	P/C	Describe the experience of stroke for survivors and their caregivers in rural Appalachian Kentucky.	Stroke rehabilitation	Appalachian Kentucky	None reported	Semi-structured interviews	In-person	QCA

Davidsson & Södergård, 2016 [18]	9	P	Explore the perceptions about factors that impede and facilitate access to healthcare among rural residents in Louisiana with physical disabilities.	Physical disability	Louisiana	None reported	Semi-structured interviews	In-person	QCA
DeGuzman et al., 2017 [19]	7	P	Understand rural, low-income cancer survivors' perspectives on survivorship care plans and supportive care needs.	Breast cancer	Virginia	None reported	Semi-structured interviews	Telephone	QCA
Frazier et al., 2019 [20]	17	P	Understand rural patient opinions regarding their willingness to participate in pharmacist-provided chronic condition management.	Any chronic disease	Eastern Washington state	The concept of access (Penchansky & Thomas, 1981)	Semi-structured interviews	In-person	Generic QDA
Gibson et al., 2013 [21]	11	C	Examine the knowledge, access, and intent of the practice-oriented service model of caregivers of persons with dementia in rural communities.	Dementia	Several communities in Ohio and Kentucky	Practice-oriented service model (Yeatts, Crow, & Folts, 1992)	Semi-structured interviews	In-person; telephone	Thematic analysis
Gilbertson-White et al., 2019 [22]	16	P	Explore how patients with advanced cancer who live in rural areas experience and manage physical symptoms.	Cancer	Southeast Iowa	None reported	Semi-structured interviews	In-person	Directed QCA
Grimes et al., 2017 [23]	40	P	Identify barriers to timely cancer care for AI/AN cancer patients and evaluate the impact of a patient navigation program on quality of life, subjective well-being, and satisfaction.	Cancer	Tribal clinics in Idaho and Oregon	None reported	Semi-structured interviews	In-person; telephone	Inductive thematic analysis

Harrison et al., 2017 [24]	19	P/C	Increase understanding of the lived experience of people with TBI and caregivers in rural regions of Kentucky and explore barriers and facilitators of optimal function and well-being.	Traumatic brain injury	Kentucky	None reported	Semi-structured interviews	In-person	QCA
Hiratsuka et al., 2013 [25]	17	P/C	Describe perspectives on the use of telemedicine in chronic disease management from patients, caregivers, and providers in AN/NH communities.	T2DM	Alaska and Hawaii	None reported	Focus groups	In-person	Thematic network approach (Attride-Stirling, 2001)
Ingelse & Messecar, 2016 [26]	10	P	Describe rural women veterans' use and perception of mental health services.	MST, PTSD, or combat trauma	Central Oregon	None reported	Semi-structured interviews	NR	NR
Itty et al., 2014 [27]	45	P/C	Identify and categorize illness beliefs and barriers to symptom management faced by AI cancer patients, survivors, and family members.	Cancer	Southwestern United States	None reported	Focus groups	In-person	Grounded theory
Johnston et al., 2014 [28]	34	P	Understand the breast cancer treatment patterns and experiences of women enrolled in Georgia Medicaid and whether these experiences vary by race or location.	Breast cancer	Georgia	None reported	Semi-structured interviews	In-person	Generic QDA
Jones et al., 2011 [29]	12	P	Examine social support and economic barriers related to cancer care and assess sources of financial support and other resources during diagnosis and treatment.	Prostate cancer	Central Virginia	Hermeneutic phenomenology	Focus groups	In-person	Hermeneutic phenomenological approach

Kempf et al., 2010 [30]	39	P	Explore the barriers and facilitators to clinic visit adherence among HIV-positive women residing in the southeastern United States.	HIV	23 rural counties in Southeast Alabama	None reported	Focus groups	In-person	QCA
Ko et al., 2018 [31]	22	P	Assess the binational experiences of immigrant Hispanic cancer patients living on the U.S. side of the U.S.-Mexico border region as they attempt to continue and complete their cancer care.	Cancer	Southern California	None reported	Semi-structured interviews	In-person	Thematic analysis
Kramlich et al., 2018 [32]	13	P	Explore the experiences and perceptions of rural women with SUD during pre- and post-natal care.	SUD	One Northeastern state	Constructs from harm reduction, maternal–infant bonding, and relational-cultural literature	Ethnography (participant observations, oral accounts, and interviews)	In-person	Framework analysis
Liddell et al., 2018 [33]	43	P	Understand the experiences of AI women who receive cancer treatment.	Cancer	Northern Plains region of South Dakota	None reported	Semi-structured interviews	In-person	QCA
Liu et al., 2019 [34]	20	P	Identify patient and primary care provider barriers, facilitators, and potential strategies to increase tele-ophthalmology use.	T2DM	One county in Wisconsin	Chronic Care Model	Semi-structured interviews	In-person	QCA
Liu et al., 2018 [35]	20	P	Characterize contextual factors affecting patient adherence with yearly diabetic eye screening guidelines in a rural, multi-payer health system.	T2DM	One county in Wisconsin	Chronic Care Model	Semi-structured interviews	In-person	QCA

Livaudais et al., 2010 [36]	41	P/C	Explore the experiences of Hispanic men and women living with cancer, and of family members or friends of cancer survivors from two rural Washington communities.	Cancer	Two communities in Washington state	None reported	Focus groups	In-person	Grounded theory
Mattos et al., 2018 [37]	19	P/C	Explore the experiences of rural-dwelling older adults and their caregivers surrounding diagnosis of mild cognitive impairment or early stage Alzheimer's disease at a specialty research center.	Cognitive impairment or Alzheimer's disease	Western Pennsylvania	None reported	Semi-structured interviews, participant observation	In-person	QCA
Moneyham et al., 2010 [38]	40	P	Explore perceived barriers to care experienced by HIV infected women living in the Deep South region of the United States.	HIV	23 rural counties in Southeast Alabama	None reported	Focus groups	In-person	QCA
Ohl et al., 2013 [39]	13	P	Describe implementation of a telehealth collaborative care program and results of a mixed-methods evaluation of the program.	HIV	Eastern Iowa and Western Illinois	None reported	Semi-structured interviews	Telephone	Generic QDA
Palomino et al., 2017 [40]	22	P	Describe the barriers to accessing cancer treatment among a group of cancer patients in a US/Mexico border region.	Cancer	Rural US/Mexico border region	None reported	Semi-structured interviews	In-person	Grounded theory
Paterno et al., 2019 [41]	5	P	Describe experiences of addiction in pregnancy, recovery, and subsequently serving as a peer mentor to other pregnant women with active SUD among women in recovery in a rural setting.	SUD	One county in Massachusetts	Theory of social support (Heaney and Israel, 2008)	Digital storytelling workshop; semi-structured interviews	In-person	Grounded theory

Quinn et al., 2017 [42]	29	P	Examine the unique experiences of older, rural persons living with HIV/AIDS to inform interventions that will improve the health and wellbeing of this population.	HIV	Rural areas in Wisconsin, Alabama, Tennessee, and Vermont	None reported	Semi-structured interviews	Telephone	QCA
Rutledge et al., 2017 [43]	53	P	Describe patient and provider attitudes on transitioning cancer surveillance visits and treatment of comorbid conditions to the primary care setting in a rural patient population.	Endometrial cancer	New Mexico	None reported	Focus groups	In-person	Iterative analytic process
Sawin, 2010 [44]	9	P	Examine the experiences of rural women aged 55 years and older who dealt with their breast cancer diagnosis with a non-supportive intimate partner.	Breast cancer	Western Virginia and West Virginia	Hermeneutic phenomenology	Semi-structured interviews	In-person	Hermeneutic phenomenological approach
Schlomann et al., 2011 [45]	16	P	Explore the experience of living with hypertension in uninsured Southern, Appalachian adults who receive care in a nurse practitioner-run clinic.	Hypertension	One community in Southern Appalachian Kentucky	Naturalistic perspective (Denzin & Lincoln, 1994)	Focus groups	In-person	Modified Attride-Stirling (2001) method
Schoenberg et al., 2011 [46]	20	P	Understand the ways in which vulnerable, rural residents experience and manage multiple chronic morbidities.	Multi-morbidity	Appalachian Kentucky	Social ecological model	Semi-structured interviews	In-person	Iterative analytic process
Serafica et al., 2019 [47]	9	P/C	Explore the barriers to and needs for using mobile health technology to assist the health care needs of low-income Asian American and Pacific Islander participants living in rural Hawaii.	Any chronic disease	Hawaii	None reported	Focus groups	In-person	QCA

Sewell et al., 2012 [48]	30	P	Obtain insight into beliefs about generic medication use among African Americans in the rural South.	Any chronic disease	"Black Belt" region of Alabama	None reported	Focus groups	In-person	Grounded theory
Sherman & Fischer, 2012 [49]	49	P/C	Explore perceptions of family education among providers, patients, and caregivers at VA community-based outpatient clinics.	Depression, psychotic disorders, anxiety disorders, or PTSD	Oklahoma	None reported	Focus groups	In-person	QCA
Shiyanbola & Mort, 2015 [50]	34	P	Describe patients' perceived value and use of quality measures in evaluating and choosing community pharmacies.	Any chronic disease	Unspecified Midwestern state	Theoretical consumer choice model	Focus groups and surveys	In-person	QCA
Snell-Rood et al., 2017 [51]	28	P	Understand rural women's experiences of depression and their effects on the use of conventional treatments for depression.	Depression	Southeast Kentucky	Multiple constructs related to rural mental health treatment seeking	Semi-structured interviews	In-person	Directed QCA
Stoller et al., 2011 [52]	62	P	Explore which symptom characteristics prompt patient-initiated physician consultation and how participants' accounts of responses to symptoms incorporate descriptions of change over time.	Any chronic disease	Three counties in south-central North Carolina	Leventhal's self-regulatory model of illness behavior (Leventhal et al., 2004)	Semi-structured interviews	In-person	Systematic, computer-assisted approach (Arcury & Quandt, 1998)
Thomas & Stoeckel, 2016 [53]	10	P	Explore patient perceptions of ability to self-administer hypertensive medication among Black men 65–70 with high blood pressure.	Hypertension	Southern Georgia	Self-care deficit theory (Orem, 2001); Social learning theory (Bandura, 1977)	Semi-structured interviews	In-person	Constant comparative method

Thurman et al., 2019 [54]	12	P	Explore how working-age adults with mobility and sensory disabilities living in rural counties define and pursue well-being.	Mobility and sensory disabilities	Six rural counties in Texas	Symbolic interactionism (Blumer, 1969)	Semi-structured interviews; participant observation	In-person	Grounded theory
Tiedt & Sloan, 2015 [55]	10	P	Explore the experiences of Coeur d'Alene tribal members living with type 2 diabetes in the context of tribal culture and history; identify supports and barriers to diabetes self-management.	T2DM	Eastern Washington, Northern Idaho	Hermeneutic phenomenology	Semi-structured interviews	In-person	Three-step approach (Sloan, 2002)
Tiedt, 2013 [56]	10	P	Describe Coeur d'Alene tribal members' experiences of living with diabetes; identify supports and barriers to self-management.	T2DM	Eastern Washington, Northern Idaho	Hermeneutic phenomenology	Interviews	In-person	Three-step approach (Sloan, 2002)
Torres et al., 2015 [57]	31	P	Gain an in-depth understanding of African American breast cancer survivors' experiences, barriers and facilitators in accessing breast cancer treatment, and challenges in adherence to follow-up care.	Breast cancer	Three counties in Eastern North Carolina	None reported	Focus groups	In-person	Immersion crystallization approach (Borkan, 1999)
Warner et al., 2014 [58]	17	P	Explore rural childhood cancer survivors' experiences and concerns about accessing affordable, quality care.	Cancer	Utah	None reported	Semi-structured interviews	Telephone	QCA
Weierbach et al., 2011 [59]	20	P	Describe the experiences of rural community-dwelling older adults with heart failure who require assistance with activities.	Heart failure	Virginia	None reported	Semi-structured interviews	In-person	Iterative approach consistent with hermeneutic methods (Cohen, Kahn, & Steeves, 2000)

Yankeelov et al., 2015 [60]	23	P	Explore the experiences of older adults living with T2DM, including formal and informal supports and barriers and facilitators to T2DM management.	T2DM	Three counties in Kentucky	None reported	Photovoice	In-person	Thematic analysis
Yurkovich et al., 2012 [61]	18	P	Explore health seeking practices utilized by AIs with persistent mental illness and discover how utilization of these practices assists in their maintenance of wellness.	Serious and persistent mental illness	NR	Symbolic interactionism (Blumer, 1969)	Semi-structured interviews	In-person	Constant comparative method
Zukoski et al., 2011 [62]	16	P	Identify primary sources of health information, types of information wanted, and barriers to seeking and receiving information about HIV/AIDS.	HIV	Rural three-county area in Oregon	None reported	Semi-structured interviews	In-person	QCA

[1]For study sample, "P" indicates patient participants, "C" indicates caregiver participants, and "P/C' indicates both patient and caregiver participants. For studies with both patient and caregiver participants, sample size (N) is reported in aggregate. NR: Not reported; QCA: Qualitative content analysis; T2DM: Type II diabetes mellitus; HIV: Human immunodeficiency virus; AI/AN: American Indian/Alaska Native; QDA: Qualitative data analysis; TBI: Traumatic brain injury; NH/PI: Native Hawaiian/ Pacific Islander; SUD: Substance use disorder; MST: Military sexual trauma; PTSD: Post-traumatic stress disorder

References

[1] S. Abodoli, L. Hardy, and J. Hall, "The complexities of “struggling to live life”: The experiences of adults with T1DM living in Appalachia," *Diabetes Education,* vol. 43, no. 2, pp. 206-215, 2017.

[2] K. R. Allen and K. A. Roberto, "Older women in Appalachia: Experiences with gynecological cancer," *The Gerontologist,* vol. 54, no. 6, pp. 1024-1034, 2014.

[3] E. N. Austin, "Older rural women moving up and moving on in cardiac rehabilitation," *Online Journal of Rural Nursing and Health Care,* vol. 13, no. 2, pp. 23-55, 2013.

[4] S. H. Bardach, N. E. Schoenberg, Y. N. Tarasenko, and S. T. Fleming, "Rural residents’ perspectives on multiple morbidity management and disease prevention," *Journal of Applied Gerontology,* vol. 30, no. 6, pp. 671-699, 2011.

[5] S. Blackmon, K. Laham, J. Taylor, and J. Kemppainen, "Dimensions of medication adherence in African Americans with type 2 diabetes in rural North Carolina," *Journal of the American Association of Nurse Practitioners,* vol. 28, no. 9, pp. 479-486, 2016.

[6] B. J. Blake, G. A. J. Taylor, and R. L. Sowell, "Exploring experiences and perceptions of older African American males aging with HIV in the rural southern United States," *American Journal of Men's Health,* vol. 11, no. 2, pp. 221-232, 2017.

[7] A. K. Boehme, S. L. Davies, L. Moneyham, S. Shrestha, J. Schumacher, and M.-C. Kempf, "A qualitative study on factors impacting HIV care adherence among postpartum HIV-infected women in the rural southeastern USA," *AIDS Care,* vol. 26, no. 5, pp. 574-581, 2014.

[8] A. K. Boehme *et al.*, "HIV-infected women's relationships with their health care providers in the rural deep south: An exploratory study," *Health Care for Women International,* vol. 33, no. 4, pp. 403-419, 2012.

[9] L. Broffman *et al.*, "Understanding treatment gaps for mental health, alcohol, and drug use in South Dakota: A qualitative study of rural perspectives," *The Journal of Rural Health,* vol. 33, no. 1, pp. 71-81, 2017.

[10] C. E. Burnette, J. Liddell, S. Roh, Y.-S. Lee, and H. Yun Lee, "American Indian women cancer survivors’ perceptions and experiences with conventional and non-conventional mental health care for depressive symptoms," *Ethnicity & Health,* pp. 1-20, 2018.

[11] R. J. Cadigan and D. Skinner, "Symptoms of depression and their management among low-income African-American and White mothers in the rural South," *Ethnicity & Health,* vol. 20, no. 3, pp. 293-308, 2015.

[12] R. Carron, S. Kooienga, E. Gilman-Kehrer, and R. Alvero, "Cultural Experiences, Patterns, and Practices of American Indian Women With Polycystic Ovary Syndrome: An Ethnonursing Study," *Journal of Transcultural Nursing,* vol. 31, no. 2, pp. 162-170, 2020.

[13] J. M. Cerimele, J. C. Fortney, J. M. Pyne, and G. M. Curran, "Bipolar disorder in primary care: a qualitative study of clinician and patient experiences with diagnosis and treatment," *Family Practice,* vol. 36, no. 1, pp. 32-37, 2019.

[14] C. L. Cook, B. J. Lutz, M.-E. Young, A. Hall, and J.-M. Stacciarini, "Perspectives of linkage to care among people diagnosed with HIV," *Journal of the Association of Nurses in AIDS Care,* vol. 26, no. 2, pp. 110-126, 2015.

[15] S. Cudney, C. Weinert, and E. Kinion, "Forging partnerships between rural women with chronic conditions and their health care providers," *Journal of Holistic Nursing,* vol. 29, no. 1, pp. 53-60, 2011.

[16] M. M. Danzl *et al.*, "“A lot of things passed me by”: Rural stroke survivors’ and caregivers’ experience of receiving education from health care providers," *The Journal of Rural Health,* vol. 32, no. 1, pp. 13-24, 2016.

[17] M. M. Danzl *et al.*, "“Living with a ball and chain”: the experience of stroke for individuals and their caregivers in rural Appalachian Kentucky," *The Journal of Rural Health,* vol. 29, no. 4, pp. 368-382, 2013.
[18] N. Davidsson and B. Södergård, "Access to healthcare among people with physical disabilities in rural Louisiana," *Social work in public health,* vol. 31, no. 3, pp. 188-195, 2016.
[19] P. DeGuzman, K. Colliton, and C. J. Nail, "Survivorship care plans: rural, low-income breast cancer survivor perspectives," *Clinical Journal of Oncology Nursing,* vol. 21, no. 6, pp. 692-698, 2017.
[20] K. R. Frazier, K. C. McKeirnan, S. Kherghehpoush, and L. J. Woodard, "Rural patient perceptions of pharmacist-provided chronic condition management in a state with provider status," *Journal of the American Pharmacists Association,* vol. 59, no. 2, pp. 210-216, 2019.
[21] A. Gibson, S. D. Holmes, N. L. Fields, and V. E. Richardson, "Providing care for persons with dementia in rural communities: informal caregivers' perceptions of supports and services," *Journal of gerontological social work,* vol. 62, no. 6, pp. 630-648, 2019.
[22] S. Gilbertson-White, C. Yeung, and K. E. Wickersham, " "Just Living With Them": Symptom Management Experiences of Rural Residents With Advanced Cancer," *Oncology Nursing,* vol. 46, no. 5, 2019.
[23] C. Grimes, J. Dankovchik, M. Cahn, and V. Warren-Mears, "American Indian and Alaska Native cancer patients' perceptions of a culturally specific patient navigator program," *The Journal of Primary Prevention,* vol. 38, no. 1-2, pp. 121-135, 2017.
[24] A. L. Harrison, E. G. Hunter, H. Thomas, P. Bordy, E. Stokes, and P. Kitzman, "Living with traumatic brain injury in a rural setting: supports and barriers across the continuum of care," *Disability and Rehabilitation,* vol. 39, no. 20, pp. 2071-2080, 2017.
[25] V. Hiratsuka, R. Delafield, H. Starks, A. J. Ambrose, and M. M. Mau, "Patient and provider perspectives on using telemedicine for chronic disease management among Native Hawaiian and Alaska Native people," *International Journal of Circumpolar Health,* vol. 72, no. 1, p. 21401, 2013.
[26] K. Ingelse and D. Messecar, "Rural women veterans' use and perception of mental health services," *Archives of Psychiatric Nursing,* vol. 30, no. 2, pp. 244-248, 2016.
[27] T. L. Itty, F. S. Hodge, and F. Martinez, "Shared and unshared barriers to cancer symptom management among urban and rural American Indians," *The Journal of Rural Health,* vol. 30, no. 2, pp. 206-213, 2014.
[28] E. M. Johnston, S. C. Blake, K. L. Andes, L.-N. Chien, and E. K. Adams, "Breast cancer treatment experiences by race and location in Georgia's Women's Health Medicaid Program," *Women's Health Issues,* vol. 24, no. 2, pp. e219-e229, 2014.
[29] R. A. Jones *et al.*, "Exploring cancer support needs for older African-American men with prostate cancer," *Supportive Care in Cancer,* vol. 19, no. 9, pp. 1411-1419, 2011.
[30] M.-C. Kempf *et al.*, "A qualitative study of the barriers and facilitators to retention-in-care among HIV-positive women in the rural southeastern United States: Implications for targeted interventions," *AIDS Patient Care and STDs,* vol. 24, no. 8, pp. 515-520, 2010.
[31] E. Ko, M. L. Zúñiga, H. Palomino, D. Peacher, and M. Watson, "Qualitative Study of Latino Cancer Patient Perspectives on Care Access and Continuity in a Rural, US-Mexico Border Region," *Journal of Immigrant and Minority Health,* vol. 20, no. 3, pp. 674-679, 2018.
[32] D. Kramlich, R. Kronk, L. Marcellus, A. Colbert, and K. Jakub, "Rural postpartum women with substance use disorders," *Qualitative Health Research,* vol. 28, no. 9, pp. 1449-1461, 2018.
[33] J. L. Liddell, C. E. Burnette, S. Roh, and Y.-S. Lee, "Healthcare barriers and supports for American Indian women with cancer," *Social Work in Health Care,* vol. 57, no. 8, pp. 656-673, 2018.
[34] Y. Liu *et al.*, "Identification of barriers, facilitators and system-based implementation strategies to increase teleophthalmology use for diabetic eye screening in a rural US primary care clinic: a qualitative study," *BMJ Open,* vol. 9, no. 2, p. e022594, 2019.

[35] Y. Liu *et al.*, "Factors influencing patient adherence with diabetic eye screening in rural communities: A qualitative study," *PLoS One,* vol. 13, no. 11, p. e0206742, 2018.
[36] J. C. Livaudais, B. Thompson, R. Godina, I. Islas, G. Ibarra, and G. D. Coronado, "A qualitative investigation of cancer survivorship experiences among rural Hispanics," *Journal of Psychosocial Oncology,* vol. 28, no. 4, pp. 361-380, 2010.
[37] M. K. Mattos, M. L. Nilsen, and J. H. Lingler, "Experiences Surrounding an Early-Stage Cognitive Diagnosis in Rural-Dwelling Older Adults," *Research in Gerontological Nursing,* vol. 11, no. 4, pp. 181-189, 2018.
[38] L. Moneyham *et al.*, "Perceived barriers to HIV care among HIV-infected women in the Deep South," *Journal of the Association of Nurses in AIDS Care,* vol. 21, no. 6, pp. 467-477, 2010.
[39] M. Ohl *et al.*, "Mixed-methods evaluation of a telehealth collaborative care program for persons with HIV infection in a rural setting," *Journal of General Internal Medicine,* vol. 28, no. 9, pp. 1165-1173, 2013.
[40] H. Palomino, D. Peacher, E. Ko, S. I. Woodruff, and M. Watson, "Barriers and challenges of cancer patients and their experience with patient navigators in the rural US/Mexico border region," *Journal of Cancer Education,* vol. 32, no. 1, pp. 112-118, 2017.
[41] M. T. Paterno, M. Low, A. Gubrium, and K. Sanger, "Mothers and mentors: exploring perinatal addiction and recovery through digital storytelling," *Qualitative Health Research,* vol. 29, no. 4, pp. 545-556, 2019.
[42] K. Quinn, C. Sanders, and A. E. Petroll, "“HIV is not going to kill me, old age is!”: the intersection of aging and HIV for older HIV-infected adults in rural communities," *AIDS Education and Prevention,* vol. 29, no. 1, pp. 62-76, 2017.
[43] T. L. Rutledge, M. Kano, D. Guest, A. Sussman, and A. Y. Kinney, "Optimizing endometrial cancer follow-up and survivorship care for rural and other underserved women: Patient and provider perspectives," *Gynecologic Oncology,* vol. 145, no. 2, pp. 334-339, 2017.
[44] E. M. Sawin, "‘My husband would not help me, so I was driving over there’: older rural women experiencing breast cancer with a non-supportive intimate partner," *Rural and Remote health,* vol. 10, no. 4, p. 1536, 2010.
[45] P. Schlomann, S. Virgin, J. Schmitke, and S. Patros, "Hypertension among the uninsured: Tensions and challenges," *Journal of the American Academy of Nurse Practitioners,* vol. 23, no. 6, pp. 305-313, 2011.
[46] N. E. Schoenberg, S. H. Bardach, K. N. Manchikanti, and A. C. Goodenow, "Appalachian residents’ experiences with and management of multiple morbidity," *Qualitative Health Research,* vol. 21, no. 5, pp. 601-611, 2011.
[47] R. Serafica, J. Inouye, N. Lukkahatai, N. Braginsky, M. Pacheco, and K. F. Daub, "The Use of Mobile Health to Assist Self-management and Access to Services in a Rural Community," *CIN: Computers, Informatics, Nursing,* vol. 37, no. 2, pp. 62-72, 2019.
[48] K. Sewell, S. Andreae, E. Luke, and M. M. Safford, "Perceptions of and Barriers to Use of Generic Medications in a Rural African American Population, Alabama, 2011," *Preventing Chronic Disease,* vol. 9, 2012.
[49] M. D. Sherman and E. P. Fischer, "Provider, veteran, and family perspectives on family education in Veterans Affairs community-based outpatient facilities," *Psychological Services,* vol. 9, no. 1, p. 89, 2012.
[50] O. O. Shiyanbola and J. R. Mort, "Patients’ perceived value of pharmacy quality measures: a mixed-methods study," *BMJ Open,* vol. 5, no. 1, 2015.
[51] C. Snell-Rood, E. Hauenstein, C. Leukefeld, F. Feltner, A. Marcum, and N. Schoenberg, "Mental health treatment seeking patterns and preferences of Appalachian women with depression," *American Journal of Orthopsychiatry,* vol. 87, no. 3, p. 233, 2017.
[52] E. P. Stoller *et al.*, "Calling the doctor: a qualitative study of patient-initiated physician consultation among rural older adults," *Journal of Aging and Health,* vol. 23, no. 5, pp. 782-805, 2011.

[53] O. Thomas and P. Stoeckel, "Hypertensive Black Men's Perceptions of a Nurse Protocol for Medication Self-Administration," *Care Management Journals,* vol. 17, no. 1, pp. 37-46, 2016.
[54] W. A. Thurman, T. C. Harrison, V. G. Walker, and A. A. Garcia, "Pursuing well-being among rural-dwelling adults with disabilities," *Qualitative health research,* vol. 29, no. 12, pp. 1699-1710, 2019.
[55] J. A. Tiedt and R. S. Sloan, "Perceived unsatisfactory care as a barrier to diabetes self-management for Coeur d'Alene tribal members with type 2 diabetes," *Journal of Transcultural Nursing,* vol. 26, no. 3, pp. 287-293, 2015.
[56] J. A. Tiedt, "Living With Diabetes in the 4-Fold World of the Coeur d'Alene Tribe," *Family & Community Health,* vol. 36, no. 4, pp. 324-337, 2013.
[57] E. Torres, C. Dixon, and A. R. Richman, "Understanding the breast cancer experience of survivors: A qualitative study of African American women in rural eastern North Carolina," *Journal of Cancer Education,* vol. 31, no. 1, pp. 198-206, 2016.
[58] E. L. Warner, R. E. Montenegro, A. Stroup, A. Y. Kinney, and A. C. Kirchhoff, "Health care concerns of rural childhood cancer survivors," *Journal of Health Care for the Poor and Underserved,* vol. 25, no. 2, pp. 901-912, 2014.
[59] F. M. Weierbach, D. F. Glick, and C. H. Lyder, "Family and friends to the rescue: Experiences of rural older adults with heart failure," *Research in Gerontological Nursing,* vol. 4, no. 4, pp. 261-270, 2011.
[60] P. A. Yankeelov, A. C. Faul, J. G. D'Ambrosio, W. L. Collins, and B. Gordon, "'"Another Day in Paradise" A Photovoice Journey of Rural Older Adults Living With Diabetes," *Journal of Applied Gerontology,* vol. 34, no. 2, pp. 199-218, 2015.
[61] E. E. Yurkovich, I. Hopkins, and S. Rieke, "Health-seeking behaviors of Native American Indians with persistent mental illness: Completing the circle," *Archives of Psychiatric Nursing,* vol. 26, no. 2, pp. e1-e11, 2012.
[62] A. P. Zukoski, S. Thorburn, and J. Stroud, "Seeking information about HIV/AIDS: A qualitative study of health literacy among people living with HIV/AIDS in a low prevalence context," *AIDS Care,* vol. 23, no. 11, pp. 1505-1508, 2011.

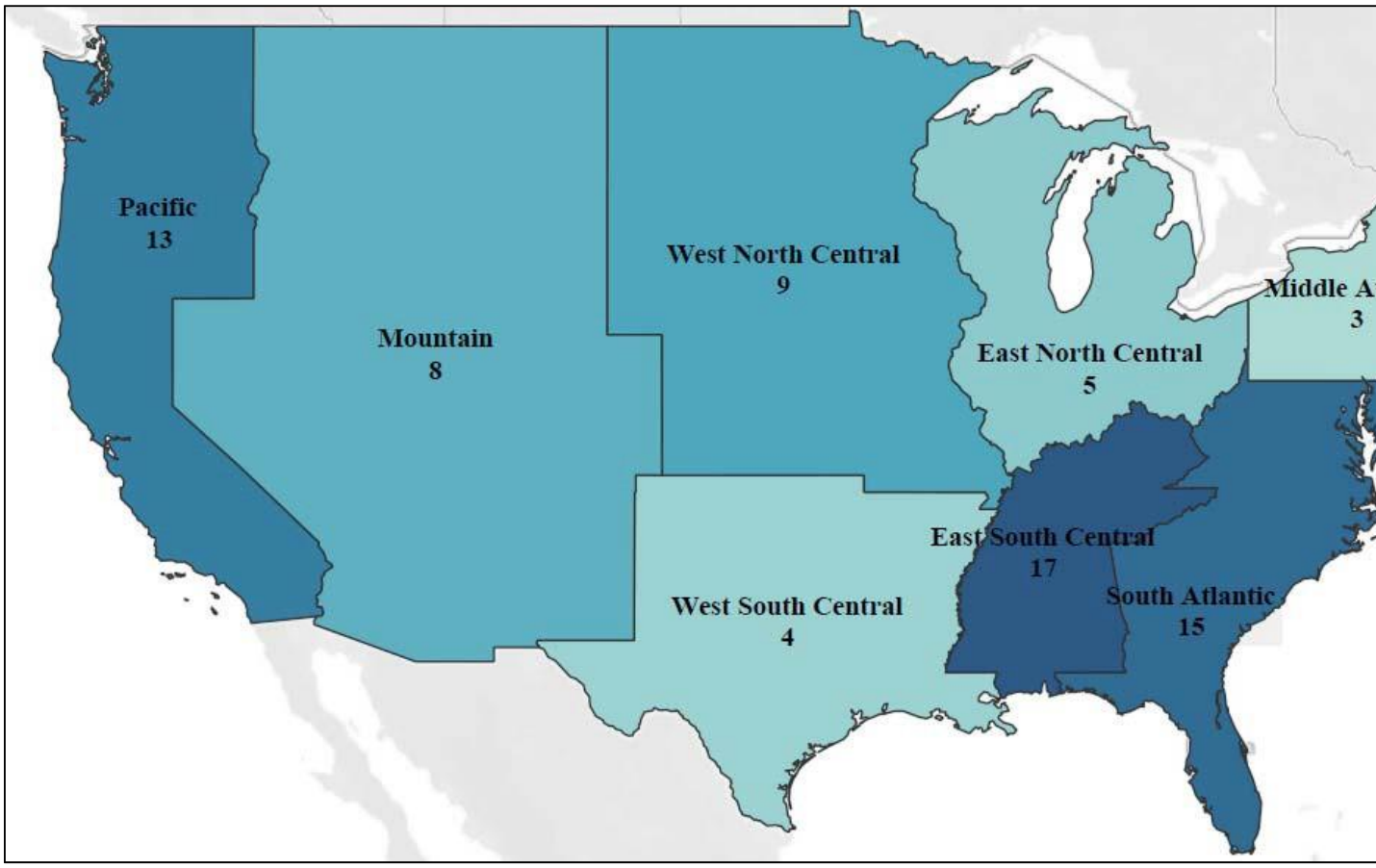
Supplemental Table 3. Analytic and descriptive themes identified from included studies

Analytic Theme	Description	Descriptive Themes and Representative Quote(s)
Navigating the rural environment	Inherent characteristics of living in a rural environment and how these impact the experience of or ability to access health care services.	**The financial and physical costs of distance**
		We've come over the night before, stayed in a motel so I can make the appointment—it's usually between 8 and 9 in the morning—and come back during the day. Other than that, it's another necessary expense 'cause you really don't wanna get up in the morning if there's been a blizzard and try to drive through it when the roads have not been plowed. *It's actually 67 miles from my house to the parking lot [of my doctor's office]. If I had to drive that sick, that's horrible. And, depending on how sick you are, it is dangerous.* *It's been a struggle with transportation, especially not having a license…having anxiety and PTSD (post-traumatic stress disorder) [so I'm] not able to take the bus…*
		Social support as a facilitator of health care access
		If you're on Medicare, or Blue Cross and Blue Shield or something, they don't pay for transportation. So, if you don't have your mother or sister, or someone to drive, there is no transportation system. *I don't have transportation, and I have to get somebody to take me and then that's…I mean a lot of people they have other things to do to. Sometimes you gotta pay them to take you, $20, $25, no matter what.* *When I started the radiation treatments, [my husband] said he couldn't stand driving up there back and forth every day and every day and every day. So he would make sure that I had a driver. I could have driven myself when I took the radiation, but he did not want me to be driving by myself because he knew that I was weak. I always had a driver. I pretty much used up the neighborhood, but I always had somebody to take me up there.*
		Willing to go the extra mile for acceptable health care
		I do have the option to go somewhere closer to home, but I don't want to, I really like where I am. *You feel like you're going back 30 years with regard to knowledge and technology.* *To the doctor, I have to drive an hour, hour and a half…I don't want the local people to know about my condition [HIV] and they can access my records. If I do get a primary doctor, it will not be around me, you know. I live in a small town.*
Navigating the health care system	Patient experiences of navigating health care systems and organizations to access timely, appropriate care.	**Delays in obtaining care**
		Dr. Z. and his office is totally backed up. If you want an appointment you're looking at 3 months, 2 months at the minimum to get in to get an appointment. People get discouraged from that. I know that when we were going with my husband's test and so forth, we were having to wait a month, 2 months to get an appointment, even when we knew something was wrong and it needed to be followed up on. There's people coming out the door so you know you have to wait and there's nobody else to go to. It's not that he's not a good doctor. You know it's not anything like that. It's just that people get discouraged when they have to wait too long, and they just give up and don't fool with it. *The last time when they diagnosed me with cancer, he [the oncologist] was on vacation... and those 15 days' time was ticking away. You know that that cancer is like this, it does not stop. The cancer spreads, spreads, spreads…. we need another doctor in this area. Because if something happens to him [the oncologist] or if he gets sick or something, there are patients who need treatment, there is no other doctor but him.*

		Breakdowns in care continuity and coordination
		Every time I go up to the doctor, it's always a different doctor, and I have to explain each time why I'm there. *One participant recounted being shuffled around and bounced around initially, which made her feel uncomfortable due to the stigma that comes with being an addict. She was pretty adamant that I see the same three people, including one practitioner who doesn't treat me like I'm an addict . . . there's been some trust built up and I'm open with her about things.* *What the heck information is the primary [PCP] going to get when I need to make that transition? Because you know, it is all on me, and I don't want it to be on me, I don't actually have a medical degree despite the fact that I sometimes talk to my doctors like I do. The two systems don't talk to each other. If I'm seeing my primary [PCP], they have no idea if I have had an appointment at the cancer center.* *The oncologist had sent me to get a CT scan and that form [insurance authorization] never left the office. I called [the] Medi-Cal office and [was informed] that they had not received the form while the doctor's office told me they would send it. My CT scan was not ready so I could not visit the oncologist … many weeks passed, I got angry and frustrated because nothing was moving… we [patients] feel sick physically, and we go there and you stand up and you're ignored. Sometimes we cannot even stand up straight, we go weak, and this is not fair.*
		Clinic structures and processes
		If my appointment was at 9 in the morning, I wouldn't get out of there until 3 in the afternoon. It was an appointment, but you had to go through a process when you first come in you have to sign in, and you have to sit and wait until your name is called. When your name is called you have to go in to get what is called the blue card, you get your blue card. You go back in the waiting room. Then they have to call you to see the counselor. After you see the counselor, you go to another waiting room. Then you wait to be seen by the nurse for her to check all your vital signs. After you're seen by the nurse you go back to the waiting room, you have to wait for the doctor. After you see the doctor, you go to the waiting room where you have to get blood work done, so you're waiting again. You go to the appointment desk to get your next appointment. Then after that they send you down to the pharmacy, but you have to wait an hour. So you are there from 9 in the morning to 3 o'clock in the after- noon. I was exhausted. Every time I went. I can't believe I survived it. *One participant in rural Oklahoma seeking outpatient psychological services detailed the work involved in just getting to the appointment itself: It's difficult because you have to plan almost a half day off to come down here and to be able to get a parking place and to do all the stuff that you have to do to get down here. I just . . . I can't fit it in my schedule.* *You cannot talk to [my physician] about more than one thing per appointment. If you want to talk about something else, you gotta get another appointment. Another patient receiving care for bipolar disorder at a federally qualified health center (FQHC) in rural Arkansas remarked that [the doctors] just seem to rush in to get you in and get you out so they can get the next one in.*
		Health care system facilitators
		I use [the portal] for information, refill my medicines, you know, and all other stuff. Which is really good, because anytime I have a question about something going on, I can relay a message to the doctor, and then they'll get back to me, either via email or phone, so technology would be beneficial for everybody. *It made it so much easier, you know, to be able to just go, and the same doctor I was seeing for my pregnancy was the same doctor that was prescribing me the Subutex.*
Financing	Patient perceptions	**Additional costs associated with living in a rural area**

chronic disease management	of financial challenges related to access and use of health care services, as well as the intersection of health care costs with the patient's broader economic situation.	*It ain't only the bills; it's the getting backward and forward and stuff [and] having gas money to put in your vehicle to go. I've been over there some- times on a whisper and a prayer, and when you've got to drive an hour and a half, two hours, away from your home to receive treatment, it is a strain.* *Last year, I had a seizure. From my cabin to the [out of state] hospital…I had to ride in an ambulance ... the ambulance ride was $600…and I'm still paying on that, $50 here, $25 here, as much as I can…*
		Competing expenses
		Gas isn't cheap, you have to have diapers and baby has to have clothes. I know the health comes first but baby's needs come too. *I get my medicine from, you know, the Medicare and Medicaid, and right now it's in the catastrophic [coverage phase of Medicare Part D], you know, my medicines are. But when it goes back to the first of the year, I will have to pay my co-pay. It's not real high, but it will be somewhat high. It would be like, well, I will have to choose my water [utility] or my medicines. I would have to make the right choice; I would choose my medicine because then I would go and seek help from somebody to get my water turned back on, I would.* *I do have mental health issues. I need to see a counselor on a regular basis, and I should be taking prescription medications, but I do not take them, just because of the fact that I can't afford them.* *I gotta be able to pay my bills. If I can't pay my power bill or water bill then I ain't gonna spend no money on medicines till they took care of.*
		Underlying economic circumstances
		They have to alleviate the costs of getting care and then maybe people will stop worrying about trying to survive and live to where they can. Because I'm constantly thinking about, 'God, if I have to go in the hospital …' I don't have insurance. What do I do if I have to go in the hospital tomorrow morning? Would I really go call an ambulance if I thought something was happening? *I work in agriculture…there's no way, uh…anybody that works in agriculture could afford [cancer treatment], even if they do have insurance. And a lot of companies don't have insurance…* *[Finances are] always a concern. I mean, it's just a way of life. I stay stressed constantly about financial, like living paycheck to paycheck. That's always a stressor, a huge stressor.*
		Health insurance-related barriers
		It was complicated and really expensive for the treatments such as biopsy, fee for oncologist, the doctors, everything… and we barely could pay it. I was working here (U.S.) and had health insurance benefits from my employer that I could only use in Mexico. So I went to the doctor (in Mexico) with the insurance but it only covered the general doctor. It didn't cover any more things… like specialists and that. And everything else we had to pay it. *If you're on Medicare, or Blue Cross and Blue Shield or something, they don't pay for transportation. So, if you don't have your mother or sister, or someone to drive, there is no transportation system.*
Rural life	Perceived social and cultural tenets of rural life and how these relate to a patient's ability to manage chronic	**Close-knit communities**
		We don't have much in the mountains, but we have kin. We always have had kin. Plenty of kin around. You look in this hollow and in town and you'll hear the same family names. If you're a [common Appalachia surname] you're probably kin to me. And if you're kin to me, you're probably going to wind up helping me get somewhere, buy those pills, you know. *My doctor was there [at church]. I could stop, and it's like, 'excuse me, I've got this cat bite,' and he wrote out a script, called it in to*

	medical needs.	*the thing. I mean, listen, that doesn't happen in a big town.* *Everyone that goes there gets talked about. A participant in another study described her initial hesitation to seek treatment at a local HIV care facility because it was located on her town's main thoroughfare: When I first started, I wouldn't come to my appointments. What scared me was the location. You know I was scared that people would see me. Who would see me come in the doors or who would see me come out the doors, that kinda made me don't want to come in.*
		Self-sufficiency and the perceived need for formal health care services
		[A barrier is] everybody knowing. [It's a] small community. It doesn't take long for word to get around. A matter of fact, if I take an ambulance run by the time I get back half the town knows about it—in detail. I mean it surprises the heck out of me how we can run to [larger city] and back which takes about 4-1/2 hours and I'll get back and go to the grocery store and people will ask me 'Well, how's so and so doing?' *Possibly they feel that it's something that they can live with. If they're older they've gotten through it—in this community especially—they may think, 'I don't need help, I can get through this. I've had this condition all my life and I've managed.' We're not talking quality of life…We're talking about pride.* *I think rural women have more to do than city people.* *When you're used to working and then something just hits you all of a sudden, and you can't do it no more, it's like your life is over.* *There's a lot of shame… I was so scared to even come here [human service center]. I didn't even know this place existed when I came in here. I didn't know what's going on with me…I wasn't feeling very good. Similarly, participants in another study of mental health treatment seeking among rural Appalachian women described the stigma in their area around admitting that one needs psychological help, stating that People are ashamed to ask for help and Once you've gained [Appalachian people's] trust, then they'll let you spend the night and fix your supper and you know they're good to you. But psychological things has never been that important.*
		Cultural sensitivity in health care settings
		I just felt kind of grouped…. Well maybe it's a question they ask everybody, like, Do you use a lot of drugs? or Do you drink a lot? or Were you beaten as a child? Well I don't think [those questions] would be posed to somebody in a private mental health setting…. I felt like they felt like anybody who doesn't have insurance is probably in a situation where they're around drugs and alcohol and I don't know. I don't even know how to say it. I felt like it was a social class-- probably more a social class thing than it was a race thing. But like I just felt like, Okay, everybody who comes here this is probably the main problems that they have, you know. *The clinic is not viewed as tribal by hardly any of the tribal members so the elders have a hard time trusting. For our elders, it's almost impossible to treat them 100% because something as honest and upfront as [asking] 'Are you taking your pills everyday?' or 'What were your blood sugars?' can trigger this defense.* *Like, if you say a big word to one of the [Native American] elders, by the time they're thinking of what the big word is and doctor keep talking, he's not really listening. The doctor's trying to figure out, because we don't speak right away. We process before we talk.*



Supplemental Figure 1. Representation of included study samples by United States Census division. Note: Individual studies may contain samples from morethan one state and/or Census division. Six included studies did not specify state and/or region. Pacific division includes Alaska and Hawaii (not shown).