Appendix A

Guide to Community Preventive Services

The systematic review in this report was conducted under the oversight of the independent, nonfederal, unpaid Community Preventive Services Task Force (the Task Force). The Task Force continues to develop, expand, and update the Guide to Community Preventive Services (The Community Guide) with the support of DHHS in collaboration with public and private partners. CDC provides staff support to the Task Force for development of The Community Guide. Previous topics reviewed, as well as background information on methods and development of The Community Guide, are available at www.thecommunityguide.org.

The Systematic Review Development Team

The review team was made up of three subgroups: (1) The coordination team, which drafted the analytic framework for reviews; managed the data collection and review process; and drafted evidence tables, summaries of evidence, and reports; (2) The consultation team, which reviewed and commented on materials developed by the coordination team and set priorities for this review; and (3) The abstraction team, which collected and recorded data from studies for possible inclusion in the systematic review.
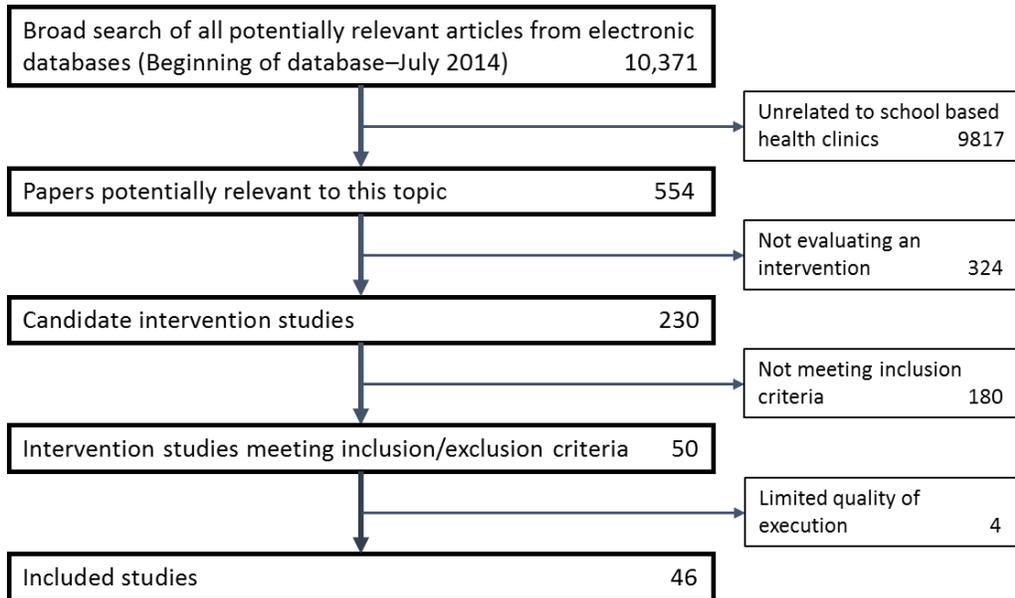
Appendix B

Search Strategy

This literature search was performed to provide a systematic review of the evidence to The Community Guide.

Eight databases (PubMed, Embase, CINAHL, ERIC, Google, NTIS, Web of Science [WOS], and WorldCat) were searched in March 2013 and again in July 2014, using the search terms listed below. The databases searched covered publications in biomedical sciences, education, and behavioral sciences. The types of documents searched in the databases included journal articles, books, book chapters, reports, websites, and conference papers. Search results are combined in the search tree figure (see Search Results, below).

Search terms and search strategies were adjusted to each database, based on controlled and uncontrolled vocabularies and search software. Plurals, hyphenated, non-hyphenated, and British spellings were searched for each term.

Search Results

This figure (which also appears in the main document as Figure 2) shows the results of the

search process.

Broad search of all potentially relevant articles from electronic databases (Beginning of database–July 2014) 10,371	
	Unrelated to school based health clinics 9817
Papers potentially relevant to this topic 554	
	Not evaluating an intervention 324
Candidate intervention studies 230	
	Not meeting inclusion criteria 180
Intervention studies meeting inclusion/exclusion criteria 50	
	Limited quality of execution 4
Included studies 46	

Descriptions of Databases Searched

CINAHL (EBSCOHOST)

- indexing for more than 3,000 journals from the fields of nursing and allied health

- more than 2.3 million records

- years covered: 1981 – current

Embase (OVID)

- indexing for more than 3,500 international journals in the following fields: drug research,

  pharmacology, pharmaceutics, toxicology, clinical and experimental human medicine,

  health policy and management, public health, occupational health, environmental health,

drug dependence and abuse, psychiatry, forensic medicine, and biomedical engineering/instrumentation

- selective coverage for nursing, dentistry, veterinary medicine, psychology, and alternative medicine

- Years covered: 1974 – current

ERIC (ProQuest) - The ERIC (Education Resources Information Center) database

- sponsored by U.S. Department of Education to provide extensive access to educational-related literature

- provides coverage of journal articles, conferences, meetings, government documents, theses, dissertations, reports, audiovisual media, bibliographies, directories, books and monographs

- Years covered: 1966 – current.

Google

- web search engine (includes Google Scholar, which covers journal articles)

NTIS (ntis.gov)

- largest central resource for government-funded scientific, technical, engineering, and business related information available

- years covered: 1964 – current

PubMed (pubmed.gov)

- comprises more than 22 million citations for biomedical literature from MEDLINE, life science journals, and online books

- Citations may include links to full-text content from PubMed Central and publisher web sites

- Years covered: 1946 – current.

Web of Science (Web of Knowledge – Thomson Reuters)

- comprises world's leading scholarly literature in the sciences, social sciences, arts, and humanities and examine proceedings of international conferences, symposia, seminars, colloquia, workshops, and conventions.

- Years covered: 1980 – current.

WorldCat (worldcat.org)

- world's largest library catalog

- contains millions of books, reports, conferences, dissertations, theses, audiovisuals, electronic publications, and articles from the past few centuries

Search Strategies Used in Each Database

Database: PubMed

Searched on 7/9/2014

Results: 1,578

PubMed search strategy

(((("2013/03/12"[Date - Entrez] : "3000"[Date - Entrez]) AND ("2013/01/01"[PDat] : "2015/12/31"[PDat]))) AND (((((((("School Health Services"[Mesh] AND (English[lang]))) AND "united states"[mesh] AND (English[lang]))) OR ((((((((((((((((((("school located immunization programs" OR "school located influenza vaccination" OR "school located mass influenza" OR "school located mass vaccination")) AND (English[lang])))) OR ("school located vaccination" AND (English[lang]))) OR ((("school dental care" OR "school dental clinic" OR "school dental clinics" OR "school dental health" OR "school dental hygiene" OR "school dental inspection" OR "school dental inspections" OR "school dental medicine" OR "school dental nurse" OR "school dental nurses" OR "school dental personnel" OR "school dental program" OR "school dental programme" OR "school dental programmes" OR "school dental programs" OR "school dental scheme" OR "school dental screening" OR "school dental screenings" OR "school dental sealant program" OR "school dental service" OR "school dental services" OR "school dental therapist" OR "school dental therapists" OR "school dental treatment" OR "school dentist" OR "school dentistry" OR "school dentists")) AND (English[lang]))) OR ((("school dentist" OR "school dentistry")) AND (English[lang]))) OR ("council on school health" AND (English[lang]))) OR ("sbhcs" AND (English[lang]))) OR ("sbhcs" AND (English[lang]))) OR ((("school clinic" OR "school clinics")) AND (English[lang]))) AND ((("school health based" OR "school health based parasite control" OR "school health care")) AND (English[lang])))

AND ("school mental" AND (English[lang]))) AND ((("school nurse" OR "school nurses"))

AND (English[lang]))) OR ((("school physician" OR "school physicians")) AND

(English[lang]))) OR ((("school wellness" OR "school wellness policies" OR "school wellness

policy" OR "school wellness policy implementation")) AND (English[lang]))) OR ((("school

based adolescent

health" OR "school based adolescent health care" OR "school based adolescent health care

program" OR "school based adolescent hepatitis" OR "school based adolescent hepatitis b" OR

"school based adolescent hepatitis b vaccination")) AND (English[lang]))) OR ("school based

health" AND (English[lang]))) OR ((("school based adolescent health" OR "school based

adolescent health care" OR "school based adolescent health care program" OR "school based

adolescent hepatitis" OR "school based care" OR "school based caries prevention" OR "school

based caries preventive" OR "school based centers" OR "school based cervical cancer education"

OR "school based cessation program" OR "school based chemotherapy" OR "school based child

sexual abuse prevention" OR "school based childhood obesity" OR "school based chlamydia

control program" OR "school based chlamydia screening" OR "school based clinic" OR "school

based clinical practice" OR "school based clinicians" OR "school based clinics" OR "school

based community intervention" OR "school based condom availability" OR "school based

condom distribution" OR "school based condom education" OR "school based control

program*" OR "school based dental care" OR "school based dental clinic" OR "school based

dental clinics" OR "school based dental health" OR "school based dental program" OR "school

based dental screening" OR "school based dental sealant" OR "school based dental services" OR

"school based depression prevention program" OR "school based depression screening" OR

"school based deworming" OR "school based diabetes care" OR "school based diabetes mellitus

prevention program" OR "school based dietary intervention")) AND (English[lang]))) OR

("school-based asthma" AND (English[lang]))) OR ("school-based care" AND (English[lang])))

AND (English[lang])) AND (English[lang]))) NOT (((((("Developing Countries"[Mesh]) OR

"Latin America"[Mesh]) OR "Asia"[Mesh]) OR "Mexico"[Mesh]) OR "Central

America"[Mesh]) OR "South America"[Mesh]) OR "Africa"[Mesh] AND (English[lang])) AND

(English[lang]))) NOT (brazil OR brasil AND (English[lang]))

Database: ERIC

Searched on 7/10/2014

Results: 54

ERIC search strategy:

2013-2014

"school based health center*" OR SBHC or SBHCs OR "school based health clinic*" OR

"school clinic" OR "school clinics" OR "school health clinic*" OR "school health centre*" OR

"school health center*"

Database: Embase (OVID)

Searched on 7/9/2014

Results: 46

(school-based-health-center* or school-based-health-centre* or school-based-health-clinic* or

sbhc or sbhcs or school-health-service*).ti,kw,tw.

AND

("201312" or "201313" or "201314" or "201315" or "201316" or "201317" or "201318" or

"201319" or "201320" or "201321" or "201322" or "201323" or "201324" or "201325" or

"201326" or "201327" or "201328" or "201329" or "201330" or "201331" or "201332" or

"201333" or "201334" or "201335" or "201336" or "201337" or "201338" or "201339" or

"201340" or "201341" or "201342" or "201343" or "201344" or "201345" or "201346" or

"201347" or "201348" or "201349" or "201350" or "201351" or "201352" or "201401").em.

Database: CINAHL

Searched on 7/9/2014

Results: 21

CINAHL search strategy:

S9 S7 AND S8

S8 Limiters - Published Date: 20130401-20151231

S7 S1 OR S2 OR S3 OR S4 OR S5 OR S6

S6 (TX "school located")

S5 TX (sbhc or sbhcs)

S4 TX ("school based health centre" or "school based health centres" or "school health centre" or "school health centres")

S3 TX ("school based health clinic" or "school based health clinics" or "school based clinic" or "school based clinics" or "school based clinical" or "school health clinic" or "school health clinics")

S2 (TX '"school based primary care")

S1 TX ("school based health center" or "school based health centers")

Database: Google

Searched on: 7/10/2013

Results: 5

"school based health centers" +2014

Database: NTIS

Searched on 7/10/2014

Results: 0

Google search strategy:

[Advanced Search - exact phrase searches – each run separately]

Since 2013

school based health center

school based health centers

SBHC

SBHCs

school based health clinic

school based health clinics

school clinic

school clinics

school health clinic

school health clinics

school health centre

school health centres

school health center

school health centers

school health service

school health services

Database: WoS (Web of Science)

Searched on 7/10/2014

Results: 209

WOS search strategy:

Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH Timespan=2013-2014

33 #32 OR #31 OR #27 OR #26 OR #23 OR #21 OR #17 OR #16 OR #15 OR #14 OR #13

OR #9 OR #8 OR #1

32 #31 OR #27 OR #26

31 #28 AND #11

30 #29 AND #28

29 #28 OR #11

28 TI=(strateg*)

27 #25 AND #24

26 TS=("school based health service*")

25 #19 OR #11

24 TS=(study or studies)

23 #22 AND #19

22 TS=(eval* or success* or assess* or improv* or efficac* or combat* or recommend* or

prevent* or interven* or trial or trials or program* or utility or progress* or solve or solving or

result* or outcome* or predict* or benefi* or analys* or analyz* or pilot or random* or protect*

or impact* or reduc* or lessen* or increas* or decreas* or amerliorat* or promis*)

21 #20 AND #19

20 TI=(eval* or success* or assess* or improv* or efficac* or combat* or recommend* or

prevent* or interven* or trial or trials or program* or utility or progress* or solve or solving or

result* or outcome* or predict* or benefi* or analys* or analyz* or pilot or random* or protect*

or impact* or reduc* or lessen* or increas* or decreas* or amerliorat*)

19 Topic=("school health service*")

18 Topic=("school health service*") AND Title=(truant* or truancy or attendance or absent* or "missed school" or "missing school" or "miss school")

17 Topic=("school nurse*" or "school physician*" or "school based doctor*" or "school based primary care" or "school based primary health care" or "school doctor*") AND Title=(truant* or truancy or attendance or absent* or "missed school" or "missing school" or "miss school")

16 #15 OR #14

15 TS=("school dental care")

14 TS=("school dental clinic*" or "school dental health" or "school dentist*" or "school based dental" or "school based dentist*")

13 Topic=("school nurse*" or "school physician*" or "school based doctor*" or "school based primary care" or "school based primary health care" or "school doctor*") AND Title=(eval* or success* or assess* or improv* or efficac* or combat* or recommend* or prevent* or interven* or trial or trials or program* or utility or progress* or solve or solving or result* or outcome* or predict* or benefi* or analys* or analyz* or pilot or random* or protect* or impact* or reduc* or lessen* or increas* or decreas* or amerliorat*)

12 Topic=("school nurse*" or "school physician*" or "school based doctor*" or "school based primary care" or "school based primary health care" or "school doctor*") AND Topic=(eval* or success* or improv* or efficac* or combat* or recommend* or prevent* or interven* or trial or trials or program* or utility or progress* or solve or solving or result* or outcome* or predict* or benefi* or analys* or analyz* or pilot or random* or protect* or impact* or reduc* or lessen* or increas* or decreas* or amerliorat*)

11 Topic=("school nurse*" or "school physician*" or "school based doctor*" or "school based primary care" or "school based primary health care" or "school doctor*")

10 Topic=("school located nurs*" or "school located physician*" or "school located health care" or "school located healthcare")

9 Topic=("school based nurs*" or "school based physician*" or "school based health care" or "school based healthcare")

8 #7 OR #6 OR #5 OR #4 OR #3 OR #2

7 Topic=("school clinic")

6 Topic=("school located health centre*") OR Topic=("school located health center*") OR Topic=("school health clinic*" or "school health centre*" or "school health center*")

5 Topic=("school located health clinic*")

4 Topic=("school based health clinic*")

3 Topic=("school-based health clinic*")

2 Topic=("school-based health centre*")

1 Topic=("school-based health center*")

Database: WorldCat

Date Searched: 7/10/2014

Results: 3

Since 2013

WorldCat search strategy:

"school based health center*" or "school based health clinic*" or sbhc or sbhcs or "school based dental clinic*" or "school dental clinic*" or "school based dental care"
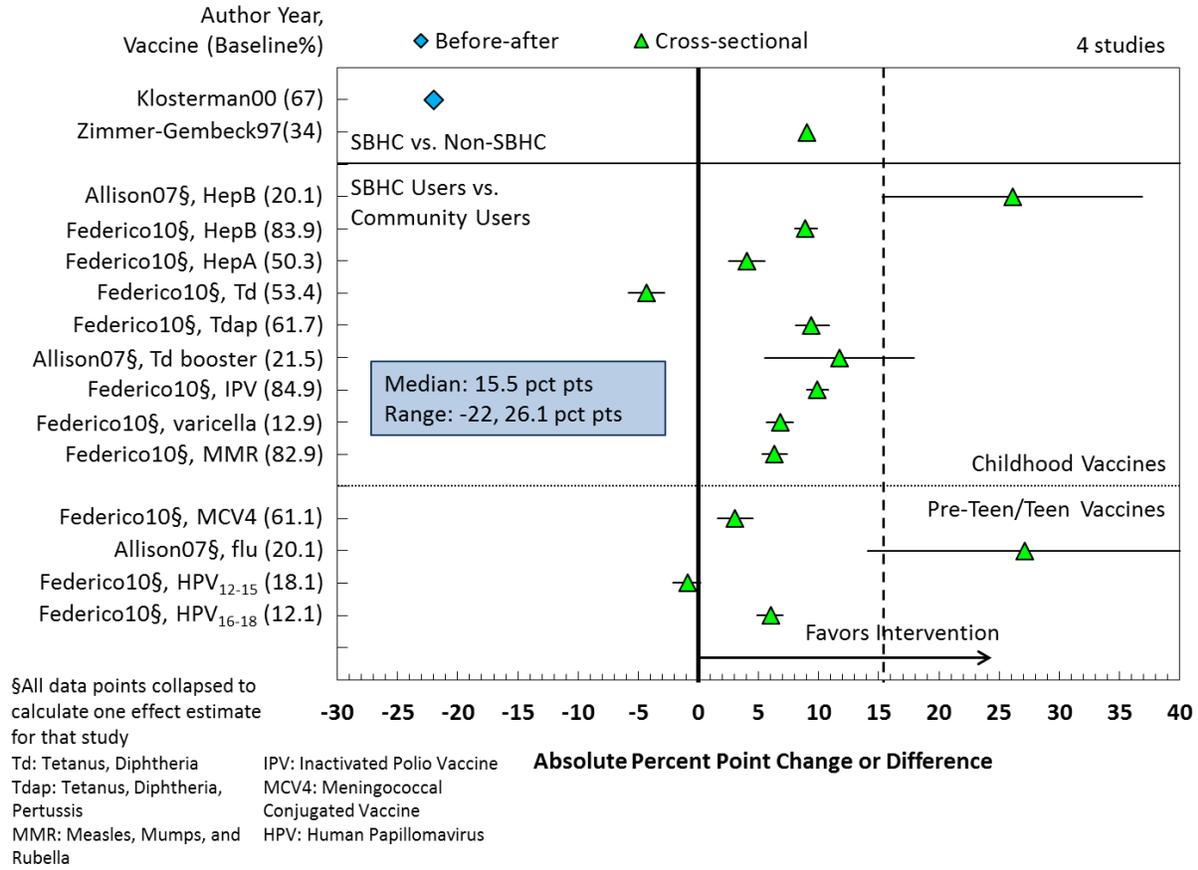
Appendix Figure 1.

Effects of School-Based Health Centers on Academic Outcomes: High School Non-completion Rates
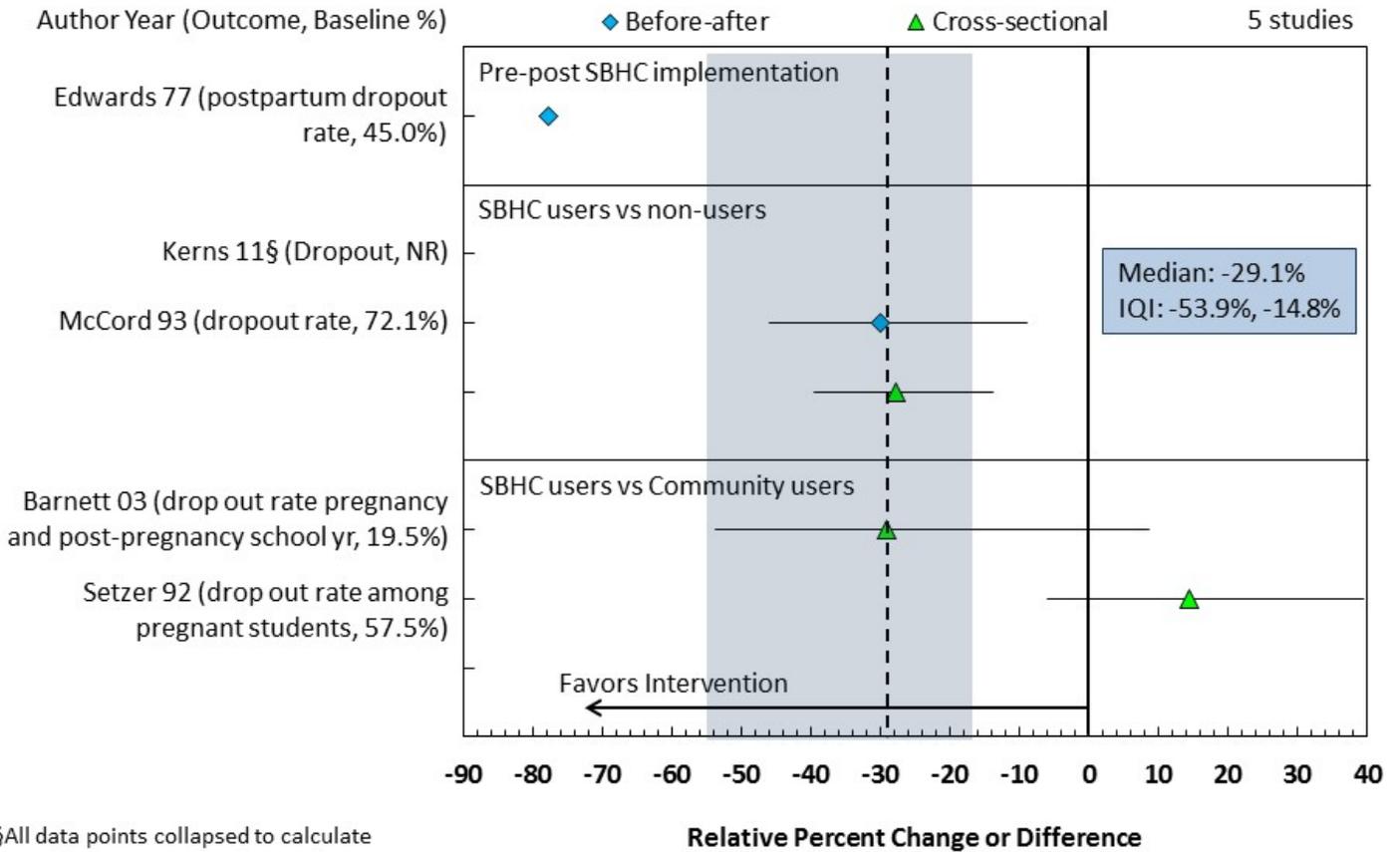
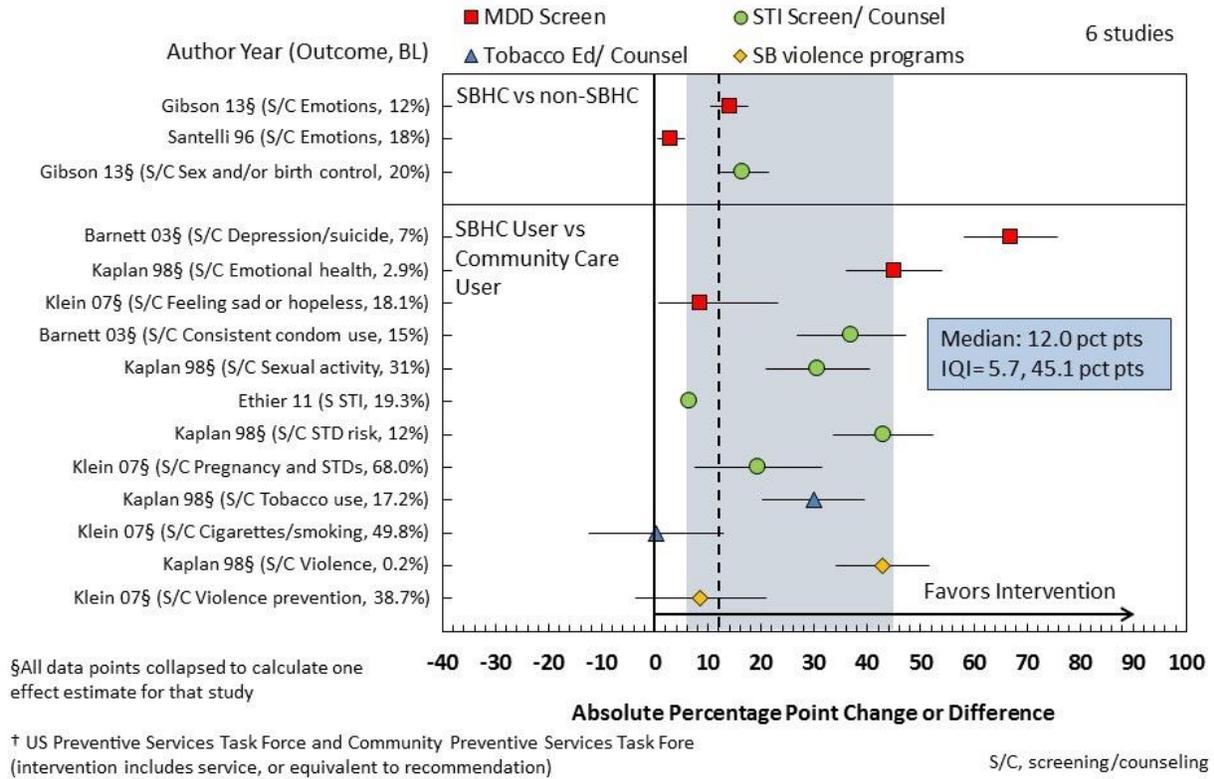§All data points collapsed to calculate one effect estimate for that study

Appendix Figure 2.

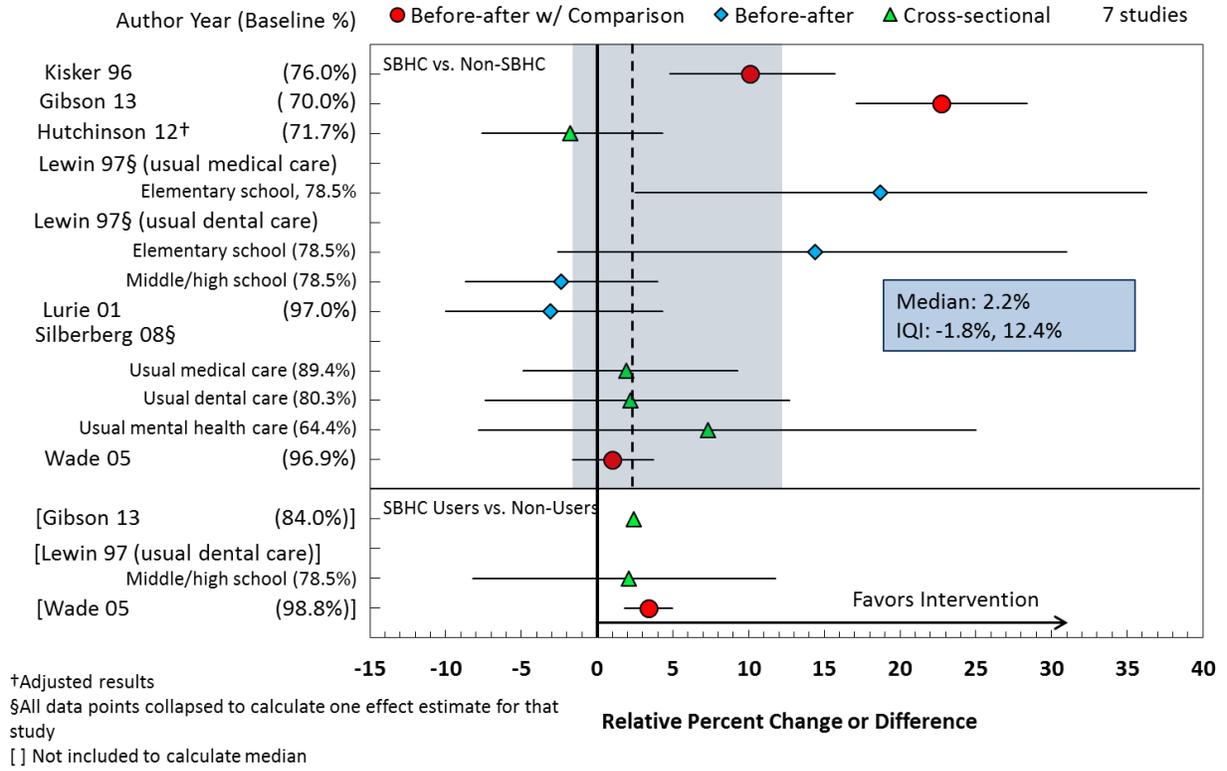**Effects of School-Based Health Centers on Health-Related Outcomes: Immunization**

§All data points collapsed to calculate one effect estimate for that study

Td: Tetanus, Diphtheria
Tdap: Tetanus, Diphtheria, Pertussis
MMR: Measles, Mumps, and Rubella

IPV: Inactivated Polio Vaccine
MCV4: Meningococcal Conjugated Vaccine
HPV: Human Papillomavirus

Appendix Figure 3.

Effects of School-Based Health Centers on Health-Related Outcomes:
Other Recommended† Preventive Screening/Counseling

§All data points collapsed to calculate one effect estimate for that study

† US Preventive Services Task Force and Community Preventive Services Task Fore
(intervention includes service, or equivalent to recommendation)

S/C, screening/counseling

Appendix Figure 4.

Effects of School-Based Health Centers on Health-Related Outcomes:
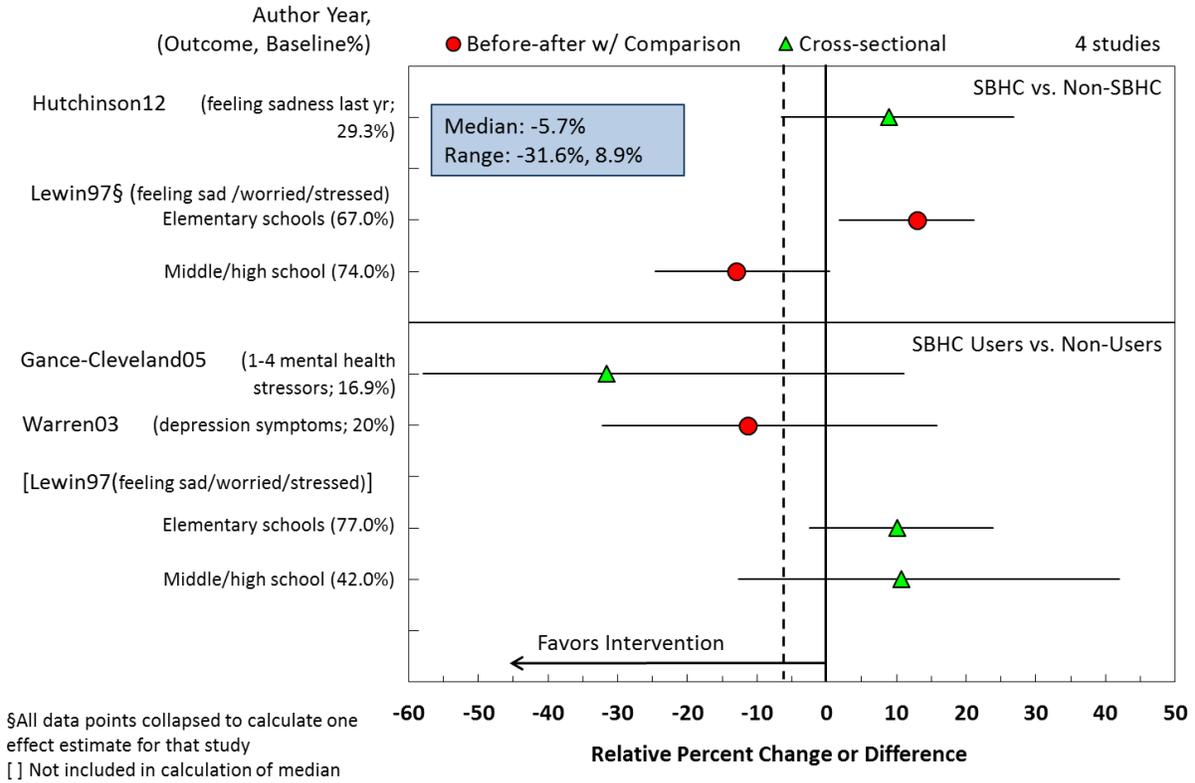Having Regular Source of Health Care

†Adjusted results
§All data points collapsed to calculate one effect estimate for that study
[ ] Not included to calculate median

Appendix Figure 5.

Effects of School-Based Health Centers on Asthma-related Outcomes: Hospitalization, Emergency Department (ED) Use, and Morbidity

*Number of days or nights in past 4 weeks child had asthma symptoms
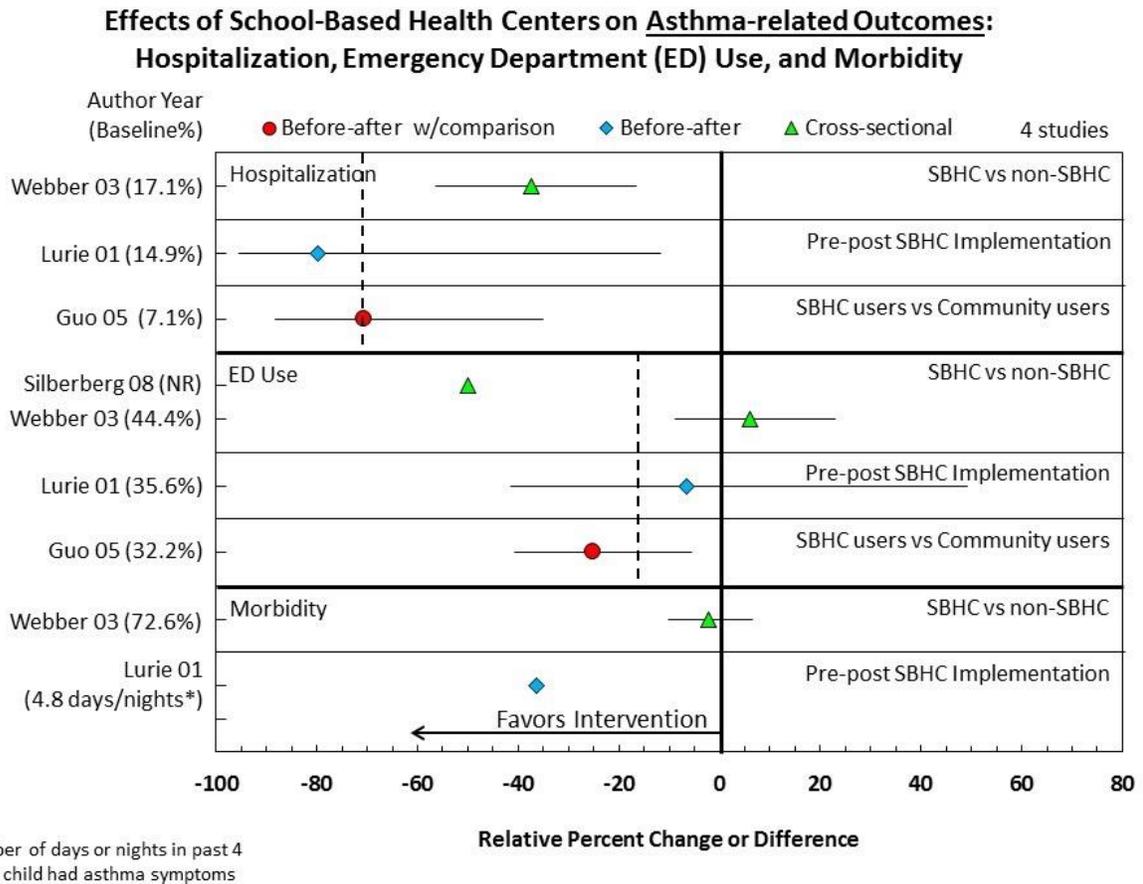
Appendix Figure 6.

Effects of School-Based Health Centers on Other Morbidity-Related Outcomes:
Self-Reported Health Status
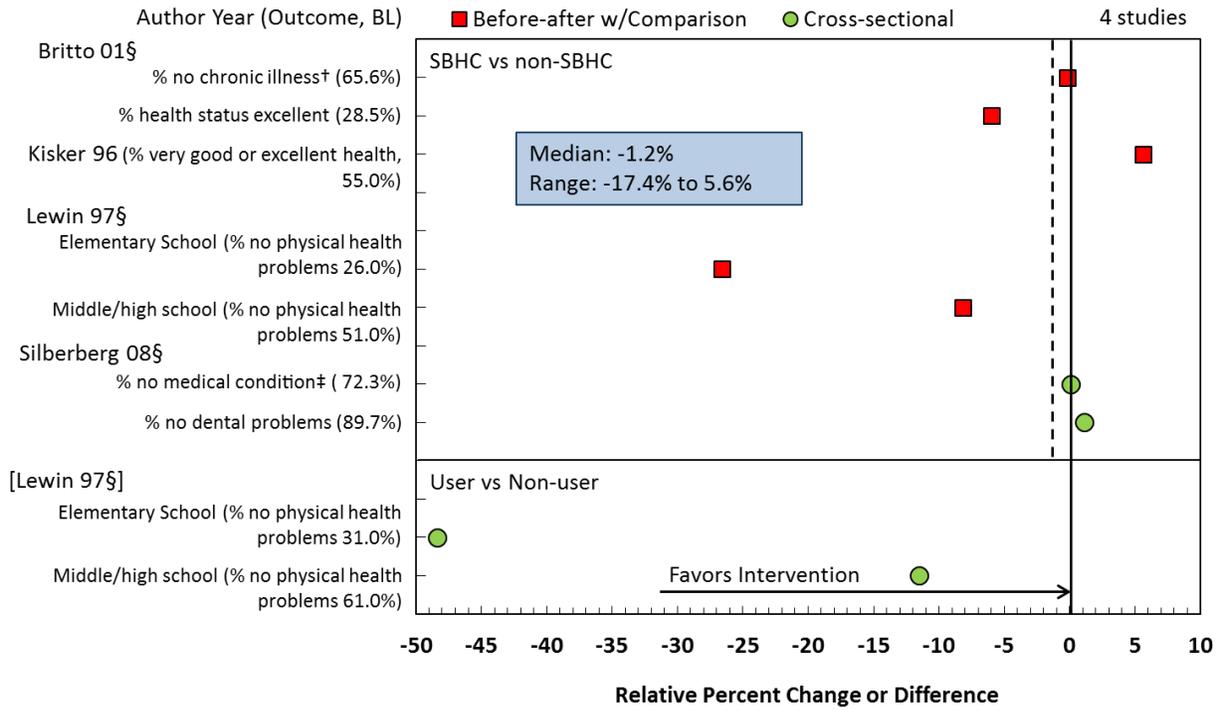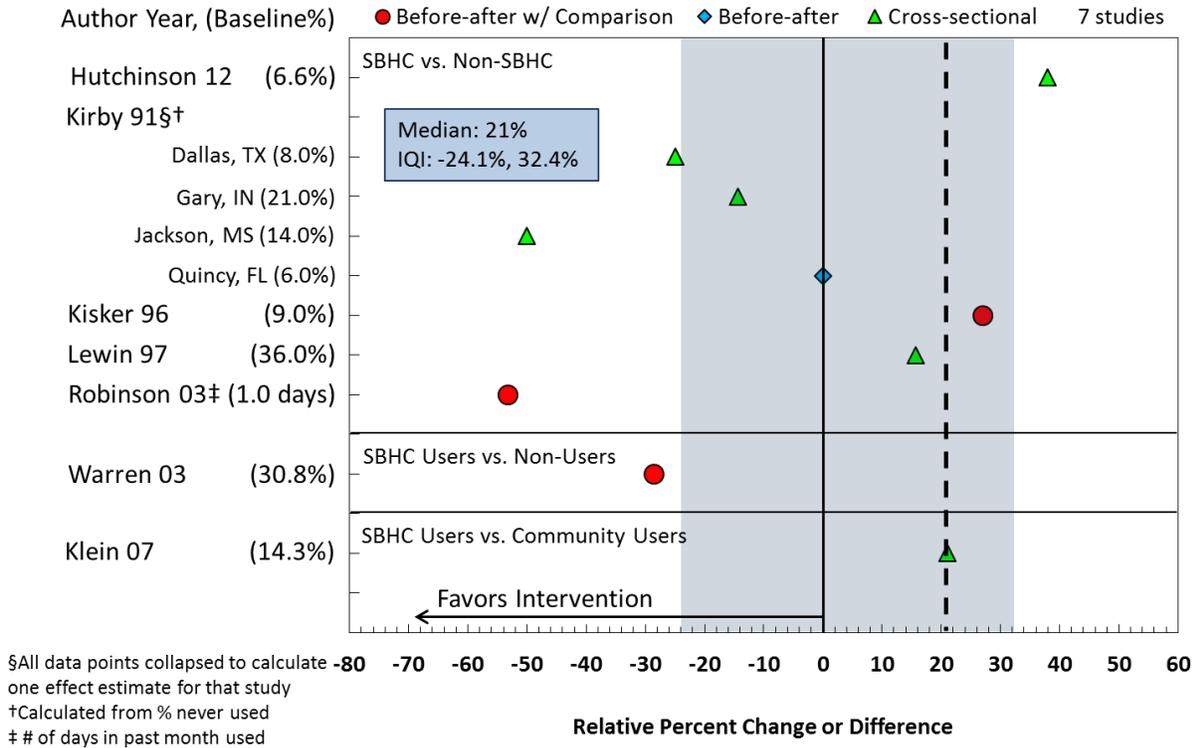
Appendix Figure 7.

Effects of School-Based Health Centers on Other Morbidity-Related Outcomes:
Self-Reported Mental Health

§All data points collapsed to calculate one effect estimate for that study
[ ] Not included in calculation of median

Appendix Figure 8.

Effects of School-Based Health Centers on Other Morbidity-Related Outcomes:
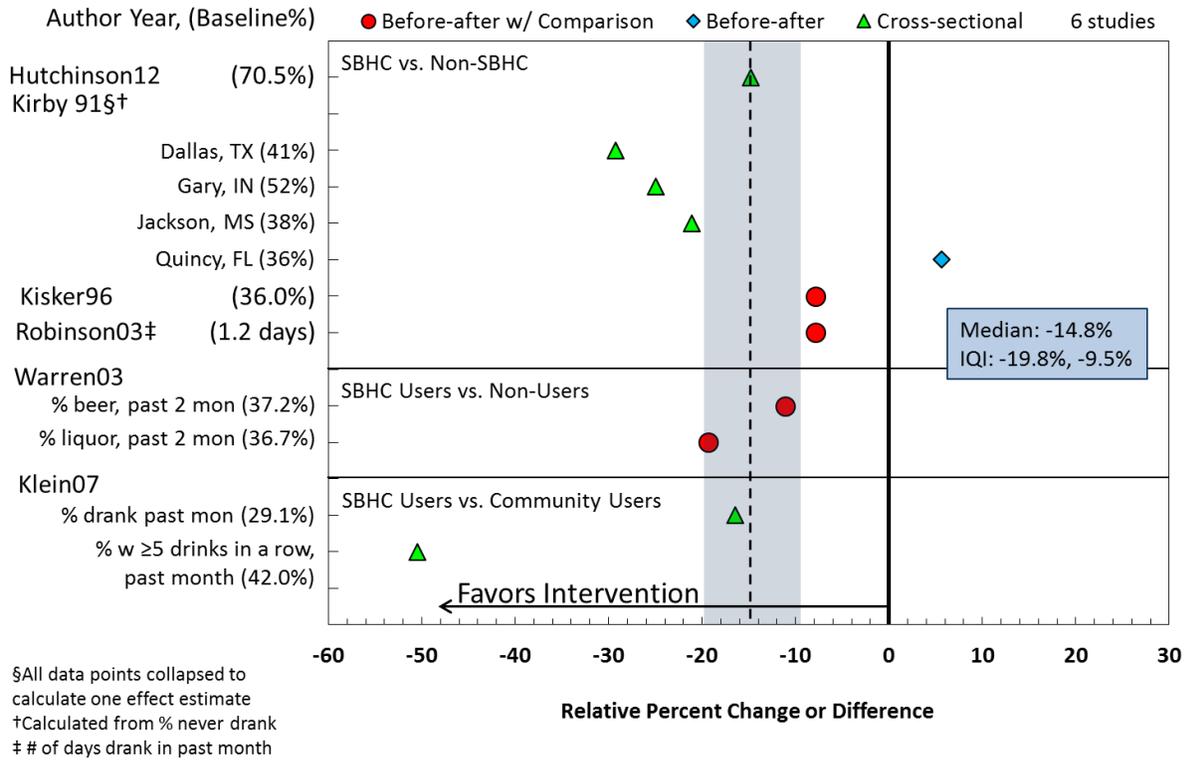Non-Asthma-Related Emergency Department (ED) Utilization and Hospitalization

§All data points collapsed to calculate
one effect estimate for that study
[ ] Not included in calculation of median
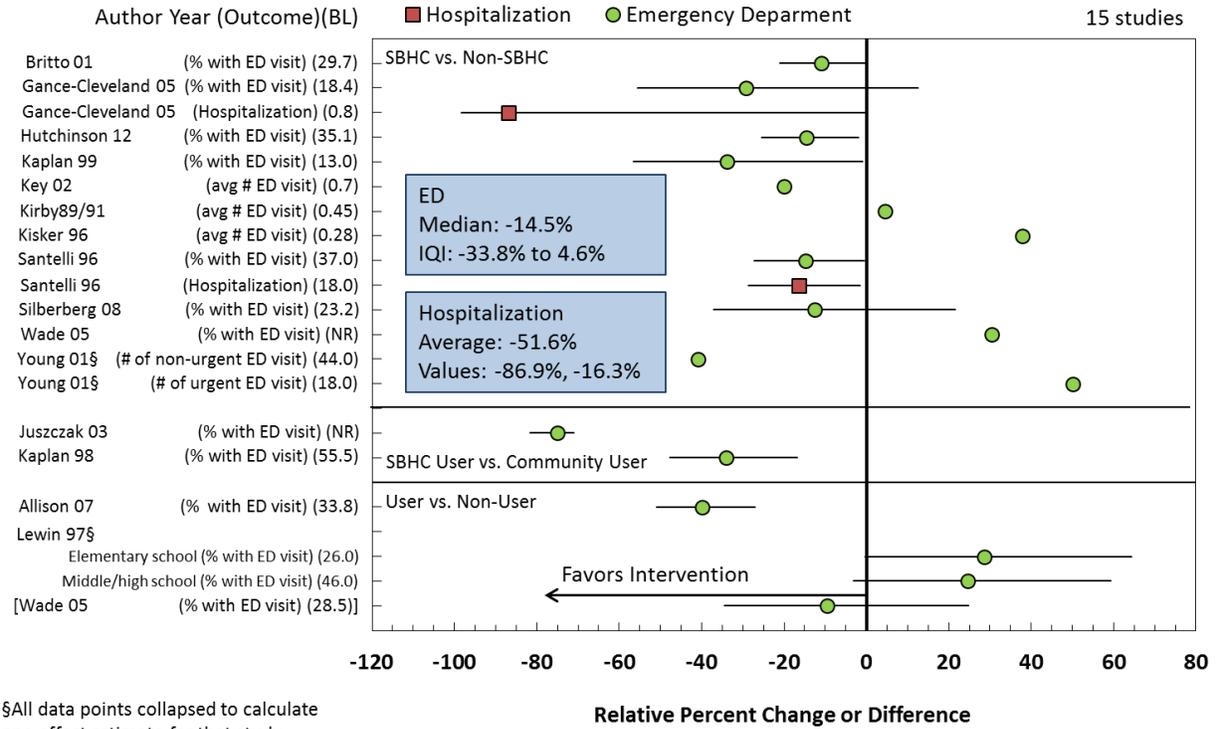
Appendix Figure 9.

Effects of School-Based Health Centers on Risk Behaviors: Smoking

§All data points collapsed to calculate one effect estimate for that study
†Calculated from % never used
‡ # of days in past month used

Appendix Figure 10.

Effects of School-Based Health Centers on Risk Behaviors: <u>Alcohol Use</u>

Appendix Figure 11.

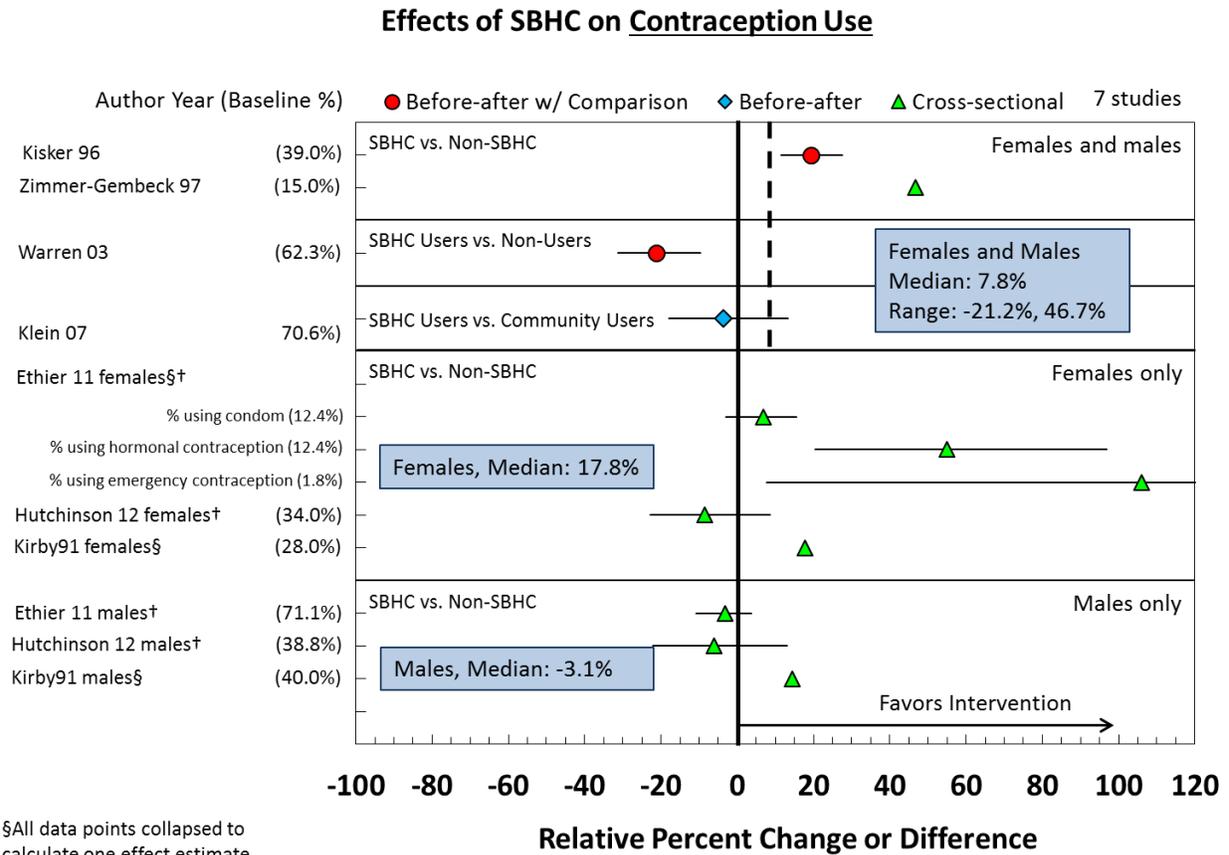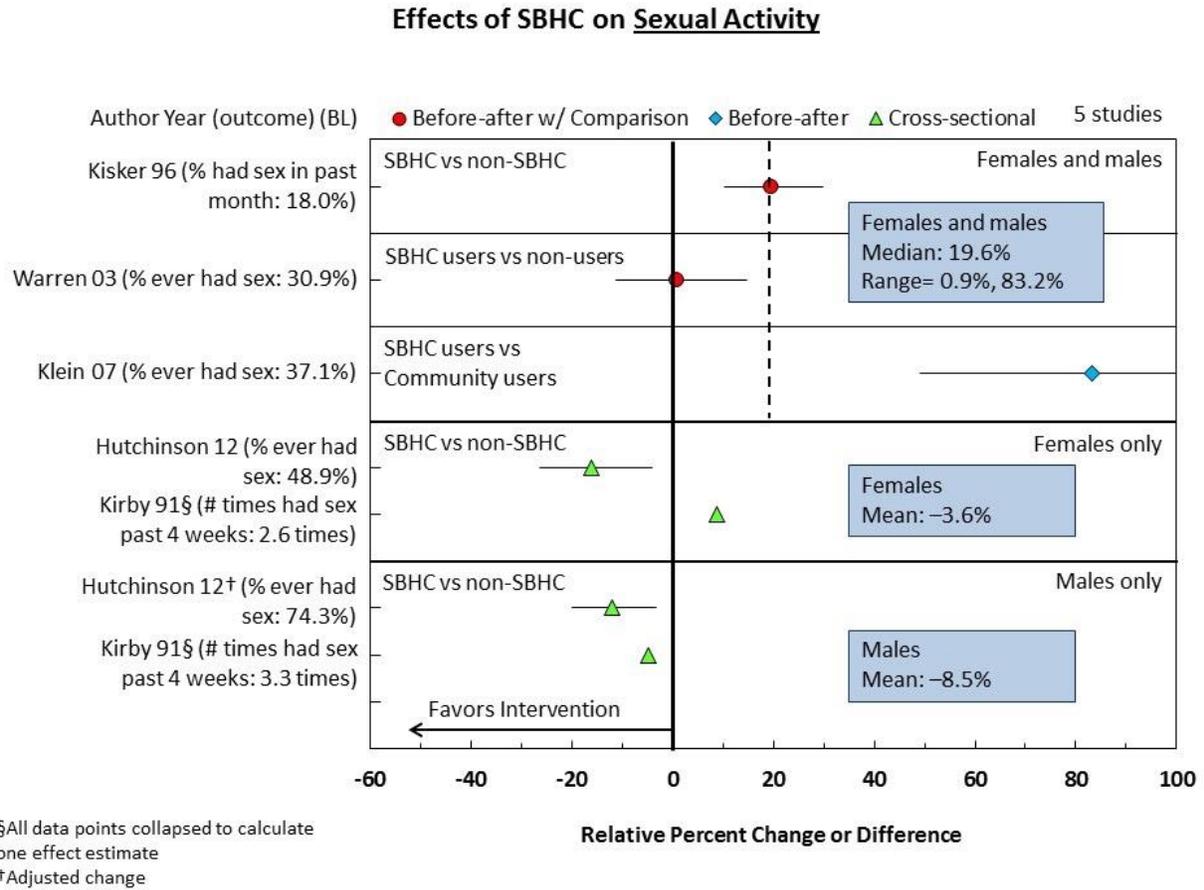Effects of School-Based Health Centers on Risk Behaviors: <u>Substance Use</u>
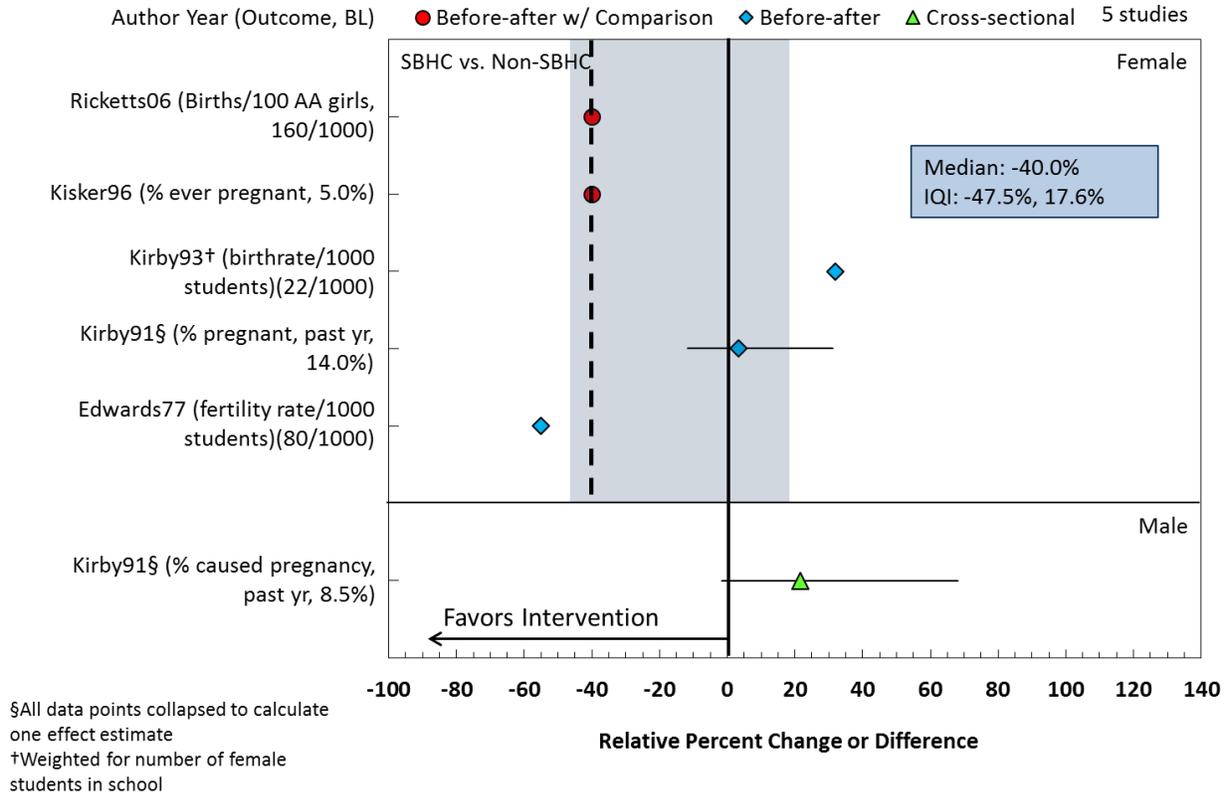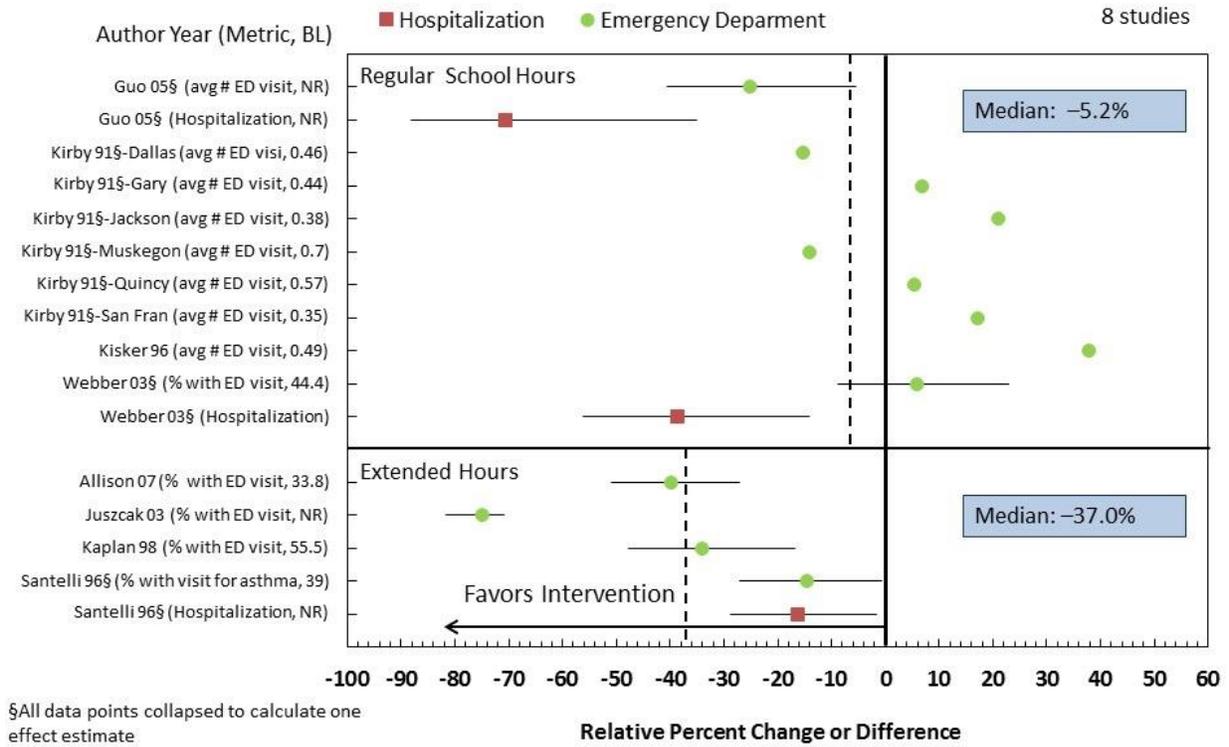
Appendix Figure 12.

Effects of SBHC on Contraception Use

§All data points collapsed to calculate one effect estimate
†Adjusted change

Appendix Figure 13.

Effects of SBHC on Sexual Activity
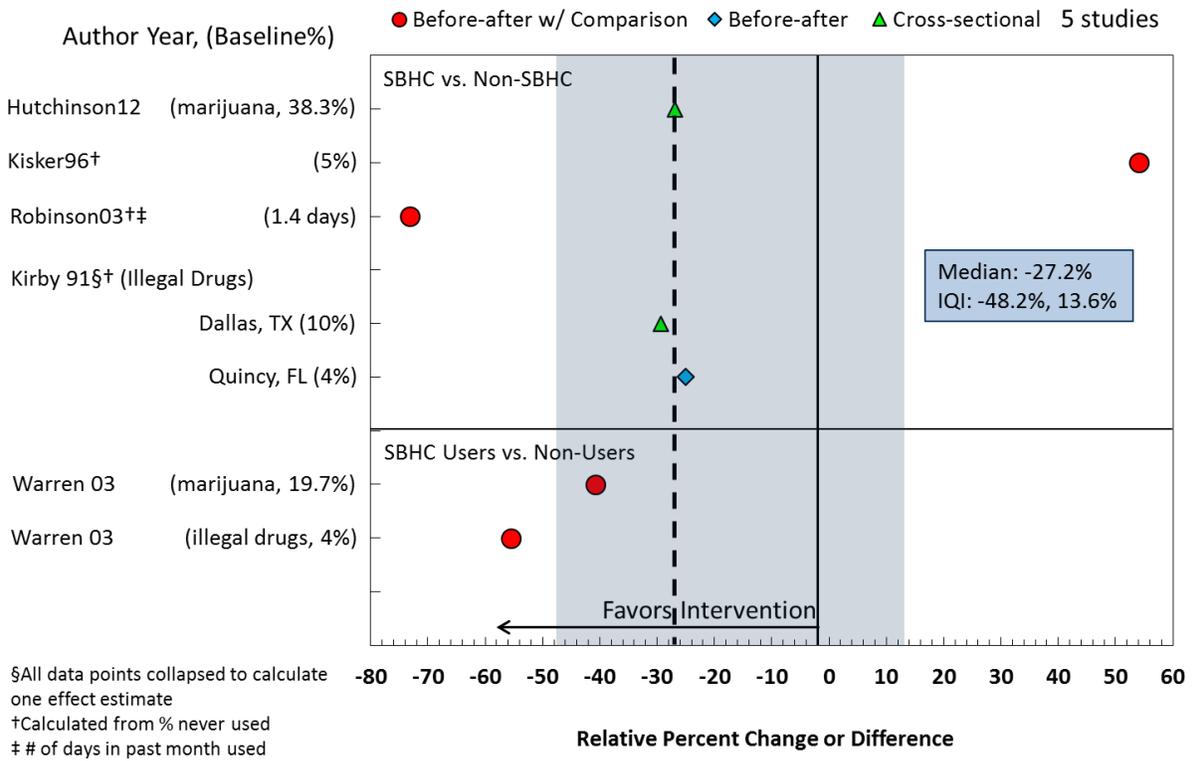
Appendix Figure 14.

Effects of SBHC on Pregnancy Outcomes

§All data points collapsed to calculate one effect estimate
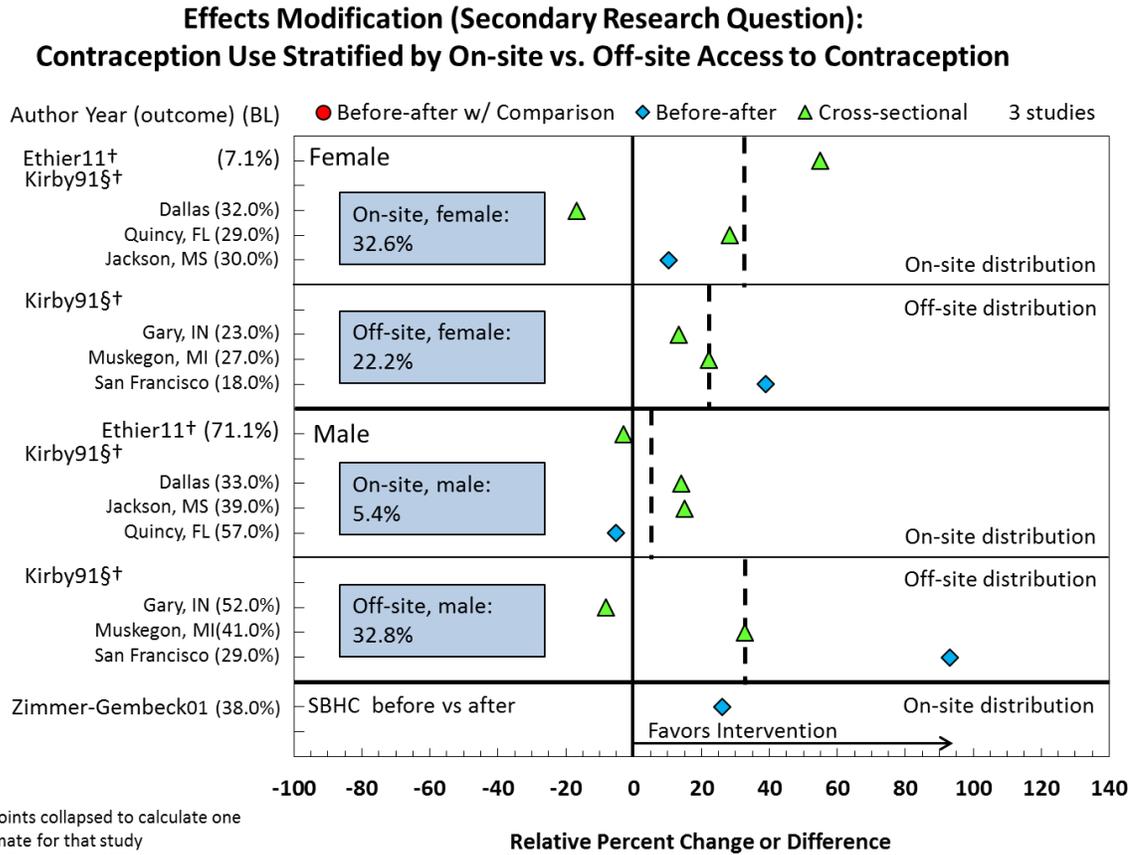†Weighted for number of female students in school

Appendix Figure 15.

Effect Modification (Secondary Research Question): Impact of <u>Hours of Availability</u> on Hospitalization and Emergency Department (ED) Use

Appendix Figure 16.

Effects Modification (Secondary Research Question): Contraception Use Stratified by On-site vs. Off-site Access to Contraception

Appendix Figure 17.

Effects Modification (Secondary Research Question): Pregnancy Outcomes Stratified by On-site vs. Off-site Access to Contraception

§All data points collapsed to calculate one effect estimate
†Weighted for number of female students in school