Uninsured Adults Presenting to US Emergency Departments

Assumptions vs Data

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Context Emergency departments (EDs) are experiencing increased patient volumes and serve as a source of care of last resort for uninsured patients. Common assumptions about the effect of uninsured patients on the ED often drive policy solutions.

Objective To compare common unsupported statements about uninsured patients presenting to the ED with the best available evidence on the topic.

Data Sources OVID search of MEDLINE and MEDLINE in-process citations from 1950 through September 19, 2008, using the terms (*Emergency Medical Services* OR *Emergency Service, Hospital* OR *emergency department.mp* OR *emergency medicine .mp* OR *Emergency Medicine*) AND (*uninsured.mp* OR *medically uninsured* OR *uncompensated care* OR *indigent.mp* OR *uncompensated care.mp* OR *medical indigency*).

Study Selection Of 526 articles identified, 127 (24%) met inclusion/exclusion criteria. Articles were included if they focused on the medical and surgical care of adult (aged 18 to <65 years) uninsured patients in emergency settings. Excluded articles involved pediatric or geriatric populations, psychiatric and dental illnesses, and non–patient care issues.

Data Extraction Statements about uninsured patients presenting for emergency care that appeared without citation or that were not based on data provided in the articles were identified using a qualitative descriptive approach based in grounded theory. Each assumption was then addressed separately in searches for supporting data in national data sets, administrative data, and peer-reviewed literature.

Results Among the 127 identified articles, 53 had at least 1 assumption about uninsured ED patients, with a mean of 3 assumptions per article. Common assumptions supported by the evidence include assumptions that increasing numbers of uninsured patients present to the ED and that uninsured patients lack access to primary care. Available data support the statement that care in the ED is more expensive than office-based care when appropriate, but this is true for all ED users, insured and uninsured. Available data do not support assumptions that uninsured patients are a primary cause of ED overcrowding, present with less acute conditions than insured patients, or seek ED care primarily for convenience.

Conclusion Some common assumptions regarding uninsured patients and their use of the ED are not well supported by current data.

JAMA. 2008;300(16):1914-1924 www.jama.com

EMERGENCY DEPARTMENTS (EDs) today are in crisis, facing significant overcrowding, unreimbursed care, and long waiting times.[1,2] Emergency departments struggle with balancing the roles of serving as a safety net for uninsured and underinsured patients; providing high-quality emergency and trauma care; making urgent and after-hours care available for all patients; and meeting larger public health needs, including surveillance and disaster preparedness.[1,2] Multiple factors drive an increasing number of patients to seek care in the ED, including an aging population,[3] public awareness campaigns to seek emergency care for heart attacks and strokes,[4,5] decreased availability of primary care clinicians on nights and weekends,[6] and liability concerns leading primary care clinicians to refer more patients to EDs.[7]

In the United States, 17% of the approximately 115 million annual ED visits are made by patients without insurance.[8-12] In 2007, 45.7 million US residents were uninsured (http://www.census.gov/prod/2008pubs/p60-235.pdf), and uninsured patients receive less medical care, less timely medical care, receive fewer high-technology interventions, and are more likely to die from treatable conditions compared with insured patients.[13-17] Following passage of the Emergency Medical Treatment and Active Labor Act in

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1986, EDs have had a mandate to guarantee that emergency health care is available to all, regardless of ability to pay.[10,18-20] This gives EDs a unique window into the problems and policies of treating uninsured patients.

The increasing demand for emergency services is not unique to the United States.[21-25] However, despite the international scope of the crisis in emergency care and multiple factors driving a mismatch between supply and demand for services, in the United States the increasing demand for emergency services is often blamed largely or exclusively on uninsured patients. For example, in congressional testimony, a trauma surgeon reported that "This system . . . must cope with 24/7 readiness and an inability to limit access to non-emergencies and minor injury. This, coupled with the increasing burden of the uninsured and underinsured, drains financial resources away from sustaining, much less improving, *the real emergency system* [emphasis added]."[26] An ED physician explained at the same congressional hearing that "Hospital emergency departments are the provider of last resort for many people, including undocumented aliens, who have no other access to medical care. As such, emergency departments experience a high rate of uncompensated care."[27]

On January 19, 2008, the *New York Times* editorial page led with the statement that "The nation's failure to provide health insurance for all Americans seems to be harming even many of those who do have good health coverage. That is one very plausible interpretation of a disturbing increase in waiting times at emergency rooms that are often clogged with uninsured patients seeking routine charity care."[28] Similar statements of "conventional wisdom" can be found in multiple other mass media outlets[28-31] and may be perceived by the public and many physicians to be accurate.

Examining the evidence supporting these commonly stated beliefs is critical. If solutions to ED overcrowding are designed based on false assumptions, these efforts will waste resources while failing to fix the true problems.[32] To examine this issue, we identified statements about uninsured patients presenting to EDs that appeared in the literature without supporting data and compared those statements with the best available evidence.

METHODS

Data Sources

We used OVID to search MEDLINE and MEDLINE in-process citations from 1950 through September 19, 2008. An initial search was performed using the terms (*Emergency Medical Services* OR *Emergency Service, Hospital* OR *emergency department.mp* OR *emergency medicine.mp* OR *Emergency Medicine*) AND (*uninsured.mp* OR *medically uninsured* OR *uncompensated care* OR *indigent.mp* OR *uncompensated care.mp* OR *medical indigency*)], identifying a total of 526 articles. A health sciences reference librarian validated the search strategy.

Inclusion and Exclusion Criteria

We included studies that described US patients with no medical insurance seen in EDs for medical, surgical, and trauma care. *Emergency department* was defined as emergency services provided by public hospitals, private hospitals, or urgent care centers. *Uninsured* was defined as lacking medical coverage of any type. We excluded studies of patients with general medical and surgical insurance including Medicaid, Medicare, state- or county-administered Medicaid add-on programs, Veterans Affairs/Civilian Health and Medical Program of the Uniformed Services, private, managed care, or catastrophic coverage unless these articles also discussed and made comparisons with patients having no medical insurance.

Our analysis was limited to uninsured working-age adults (aged 18 to <65 years) presenting to EDs. In the United States, patients aged 65 years and older are usually insured by Medicare, and patterns of service utilization of uninsured pediatric patients are markedly different than those of adults.[33-36]

For several reasons, we excluded articles with patients presenting solely for dental or psychiatric care. Inadequate coverage for primary care of dental and psychiatric conditions involves a substantially different population and is by no means limited to patients without general medical coverage. Although patients in need of dental and psychiatric care face serious medical conditions for which substantial disparities exist in access and outcomes,[37-39] these visits represent only a small percentage of ED visits (psychiatric care represents approximately 5.4% of all ED visits[40]; dental visits represent approximately 1%[41]). Our initial literature search identified 9 articles on psychiatric emergency care and 6 on emergency dental care (2.87% of the total search), resulting in a limited data set for analysis.

We excluded articles that mentioned the terms "emergency" and "uninsured" but that did not focus on clinical care of uninsured patients within the emergency setting. This included articles on the historical aspects of the Emergency Medical Treatment and Active Labor Act, education of medical students about care of indigent patients, triage protocols, and ways to improve ED billing procedures. We also excluded 81 articles that mentioned the ED but that focused on care in another setting, such as inpatient care of patients admitted through the ED and long-term follow-up of trauma patients.

The 526 original articles were hand culled by a single author (M.F.N.) based on citations and abstracts to eliminate articles not meeting inclusion criteria. The remaining 232 articles were reviewed in full, and an additional 112 were excluded. The reference lists of all articles meeting inclusion criteria were reviewed to identify additional relevant citations; 7 additional articles were found by hand search and review of reference lists. The final analytic sample included 127 articles (FIGURE).

Data Abstraction

We conducted a qualitative descriptive analysis[42,43] of all included articles

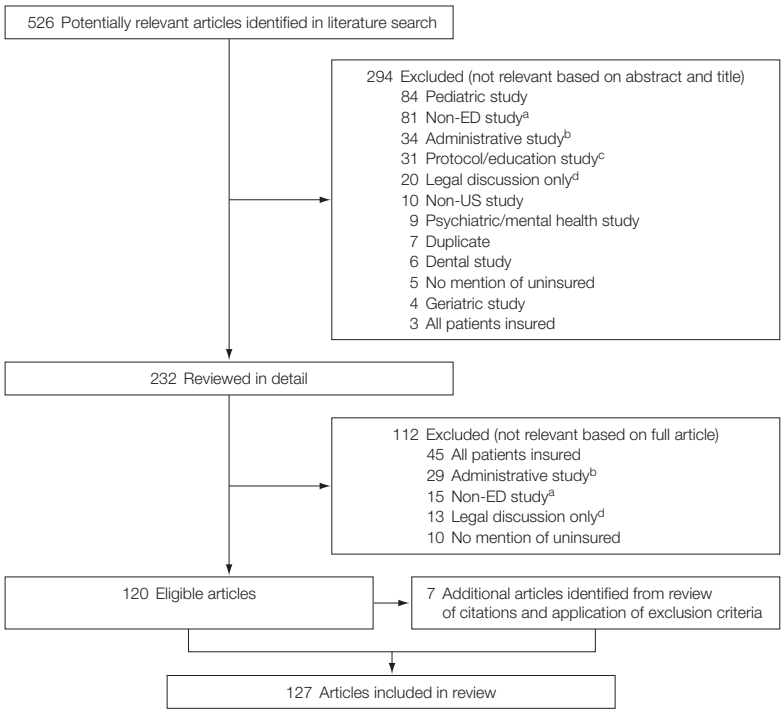
and applied a systematic and iterative coding method based in grounded theory.[44] Two reviewers (M.F.N., C.C.K.) independently identified statements about uninsured patients presenting for emergency care that appeared without citation or supporting data. Such statements were considered assumptions. These statements had to be presented as fact or as taken for granted; instances for which these statements were presented as questionable, controversial, or as viewpoints held by "some" were not counted as assumptions. Articles were reviewed again to identify additional assumptions or additional instances of previously identified assumptions. Coding proceeded iteratively until no further assumptions were identified. Text segments were coded and emerging themes compared.

Articles were reviewed for additional expressions of the initial claims that appeared with citation(s). Each cited reference was followed back in search of the source document containing the evidence supporting the claim. All reference chains were followed back to the initial source article. If citations did not lead back to supporting data (ie, the cited article[s] failed to include data or citations that led to supporting data), the statement was coded as an assumption.

Initial analysis used an open coding approach, an inductive method that seeks instances of the phenomena of interest within the text, then categorizes the statements or codes within a larger framework.[45] Two of the authors (M.F.N., C.C.K.) independently read the first 12 articles to identify assumptions; they then met and agreed on a common set of codes used to review the remaining articles.[46] A second conference reviewing an additional 22 articles found 1 additional assumption, which was added to the code set. The 34 initial articles were reviewed again, and the remaining 93 articles were reviewed by 2 reviewers (M.F.N., C.C.K.) with this final code set. We achieved theme saturation after 2 rounds of review of all 127 articles, suggesting a high level of coding trustworthiness.[47]

After independent review and coding of all articles, raw agreement score between the reviewers was 68 disagreements in 1651 coding decisions (13 assumptions in 127 manuscripts), for agreement of 95.9% ($\kappa = 0.80$, calculated with Stata version 10 [StataCorp, College Station, Texas]). All disagreements were resolved through discussion.[47-49]

Figure. Search Strategy



ED indicates emergency department.
[a]Assessing, for example, inpatient trauma or post-ED follow-up.
[b]Assessing, for example, whether ED groups should offer insurance to part-time staff or how to increase billing reimbursement for ED ultrasound.
[c]Assessing, for example, what medical schools are teaching about indigent patients or about triage protocols for nurses.
[d]Assessing, for example, the historical roots of, or recent court decisions on, the Emergency Medical Treatment and Active Labor Act.

Identification of Supporting Data

Each of the identified assumptions was addressed separately and a search was made for supporting data in national data sets, administrative data, and peer-reviewed medical literature.

Much of the supporting evidence was identified through searching peer-reviewed medical literature using OVID MEDLINE, with supplemental searches in Sociological Abstracts (CSA Illumina) and Econlit (CSA Illumina). Searches were performed (M.F.N.), validated with a medical reference librarian and a social science reference librarian, and then repeated (C.C.K.).

MEDLINE searches were limited to English-language articles only; to North American EDs; and to nonpediatric, nongeriatric, and major journals. For ED and emergency medical services, searches used the terms *Emergency Medical Services* OR *Emergency Service, Hospital* OR *emergency department.mp* OR *emergency medicine.mp* OR *Emergency Medicine*; for uninsured, the terms *uninsured.mp* OR *medically uninsured* OR *uncompensated care* OR *indigent.mp* OR *uncompensated care.mp* OR *medical indigency*; for nonurgent use of ED services, the terms *inappropriate.mp* OR *primary care.mp exp Primary Health Care*

OR *exp Health Services Misuse* OR *non emergent.mp* OR *non urgent.mp.*; for access to care, the terms *exp Health Services Accessibility* OR *exp "Delivery of Health Care"* OR *exp Medical Indigency*; for primary health care, the terms *primary care.mp* OR *exp Primary Health Care*; for crowding, the terms *crowding.exp* OR *crowding.mp* OR *overcrowding.mp* OR *overwhelmed.mp*; for costs of care, the terms *Costs and Cost Analysis/exp* OR *cost.mp*; and for poverty, the terms *exp Poverty* OR *poverty.mp*.

Sociological Abstracts searches included the terms *Emergency Medical Services* OR *Health Care Services*; *Health insurance*; and *Poverty* and the keyword "*uninsured*."

Econlit searches included the terms *Health Insurance* OR *Health Care*; *Health: Government Policy, Regulation, Public Health*; *Insurance, Insurance Companies*; *Analysis of Health Care Markets (I110)*; and *State and Local Government: Health, Education, and Welfare (H750)*.

We also consulted nationally representative data sets such as the National Hospital Ambulatory Medical Care Survey, the Medical Expenditure Panel Survey, and the Community Tracking Study through advance data and interim reports by the producing organizations as well as through analyses in the peer-reviewed literature. Additional data were sought through government and nonprofit organizations that focus on access to health care, uninsurance, and emergency care, including the Government Accountability Office, Centers for Disease Control and Prevention, Robert Wood Johnson Foundation, Commonwealth Fund, Center for Studying Health Systems Change, and the Kaiser Family Foundation, as well as the Institute of Medicine's recent reports by the Committee on the Consequences of Uninsurance and the Committee on the Future of Emergency Care in the United States Health System.[50,51]

All supporting studies were independently rated for validity by 2 raters (M.F.N., C.C.K.) who analyzed the appropriateness of sampling and measurement. Evidence supporting each finding was evaluated on a scale of 1a to 5 using the scoring systems from the Oxford Centre for Evidence-based Medicine.[52] For each assumption, the highest level of supporting evidence (validity) was noted, and brief discussion of the source of underlying data identified those assumptions based on nationally representative data and areas in which the best available data were only regional, local, or single institutions (generalizability).

Determinations of whether the weight of evidence supported, partially supported, or did not support an assumption were made by consensus of all of the authors after review of the available data, the quality of individual studies, the level of evidence, and the strength and consistency of the evidence.

RESULTS

The 127 included articles were heterogeneous in terms of journal type, methodology, and article focus (**TABLE 1**). The populations studied were diverse (see eTable at http://www.jama.com),* including nationally representative samples from ongoing surveys as well as regional or single-institution studies.

We identified 13 assumptions concerning adult uninsured patients presenting to the ED (**TABLE 2**). We noted multiple other assumptions about privately and publicly insured patients, ED operations, and health care trends in North America, which were outside of our focus. The 6 most frequent assumptions—that uninsured patients present with nonurgent problems, lack primary care, are presenting to EDs with increasing frequency, cause crowding, present more often than insured patients, and are more expensive to treat in the ED—are discussed individually in detail, because several have complex and conflicting literatures. The next 4 assumptions—that uninsured patients present to the ED for convenience, present more acutely, delay getting care, and receive less care—occurred in 6.3% to 1.6% of articles, are more straightforward assertions of the health care utilization of uninsured patients, and are treated together. Assessment of these 10 assumptions, including whether the assumption is supported, the underlying data on which the assessment of support is based,

*References 6, 9-13, 16, 18-20, 32, 33, 53-166, 201.

Table 1. Characteristics of Identified Articles Meeting Inclusion Criteria (N = 127)

Characteristic	No. of Articles
Type of journal (NLM classification)	
Emergency medicine	52
Issue brief/brief report	18
Health services	17
Health care administration	11
General medicine	8
Public health	7
Nursing	7
Economics	5
Surgery	4
Family medicine	2
Law	2
Focus of article (MeSH terms)	
Health/outcomes disparities	28
Summary of national survey data	22
Utilization	22
Descriptive/demographic	21
Crowding	15
Inappropriate/nonurgent care	14
Primary care	11
Safety net	11
Finance/economics	10
Access	9
New intervention/management	7
Political	4
EMTALA	3
Methodology	
Analysis	58
Complex multivariate analysis	25
Secondary analysis of national data sets	22
Peer-reviewed editorial or commentary	18
Report/issue brief	14
Review article	12
Program or policy evaluation	10
Qualitative analysis	9
Simulations/estimations/modeling	4
Year of publication	
Through 1980	0
1981-1990	5
1991-2000	34
2001-present	88

Abbreviations: EMTALA, Emergency Medical Treatment and Active Labor Act; MeSH, Medical Subject Headings; NLM, National Library of Medicine.

Table 2. Assumptions About Adult Uninsured Patients Presenting to the Emergency Department (ED) (N = 127 Identified Articles)

Assumption	Occurrence, No. (%)
Total assumptions in all articles	160[a]
Articles with no assumptions	74 (58.1)
Articles with ≥1 assumption	53 (41.7)[b]
Assumption	
Uninsured patients present with nonurgent problems	35 (27.6)
Uninsured patients lack access to primary care	28 (22.0)
Increasing numbers of uninsured patients are coming to the ED	27 (21.2)
Uninsured patients cause ED crowding	22 (17.3)
It is more expensive for uninsured patients to be seen in the ED rather than elsewhere	13 (10.2)
Uninsured patients present more often	9 (7.0)
Uninsured patients present to the ED for convenience	8 (6.3)
Uninsured patients present more acutely	7 (5.5)
Uninsured patients delay getting care	6 (4.7)
Uninsured patients receive less care	2 (1.6)
Epidemiology of ED use by low-income, uninsured patients is well documented	1 (0.8)
Uninsured patients are more common in inner city than suburban EDs	1 (0.8)
Uninsured patients are more common in rural than urban EDs	1 (0.8)

[a] Assumptions per article among all articles: mean, 1.26; median, 0; range, 0-8; interquartile range, 0-2.
[b] Assumptions per article with any assumptions: mean, 3.02; median, 3; range, 1-8; interquartile range, 2-4.

and the highest level of supporting evidence, is shown in TABLE 3. We will not discuss the last 3 assumptions—that the epidemiology of ED use by uninsured patients is well documented, uninsured patients are more common in inner city than suburban EDs, and uninsured patients are more common in rural than urban EDs—because each of these assumptions occurred in only a single article.

Assumption 1

Assumption. Uninsured patients use the ED for nonurgent/nonemergent/primary care–type/"inappropriate" care ("[uninsured] patients realize no matter what may be their complaint, even if it is not an emergency, they can receive care at any local ED for free").

Assessment: Not Clearly Supported by Current Data. While this is the most common assumption, occurring in more than 20% of all articles reviewed, it also is the most difficult to define. What does "nonemergent" mean? Who decides what is or is not an emergency? Emergency departments triage patients based on the immediacy with which patients should be seen. Patients in the lowest triage category (ie, those who should be treated within 2-24 hours) are often classified by insurers and researchers as requiring nonurgent care, even though many nonurgent complaints (eg, sprains, fractures, lacerations) may be most appropriately cared for in the ED.

National evidence suggests that uninsured patients are minimally more likely to make nonurgent visits, based on the immediacy-of-care definition from ED triage practice. The National Hospital Ambulatory Medical Care Survey found that ED visits classified as nonurgent increased from 10% to 14% of visits from 1997 to 2005 overall, and from 11% to 16.7% for uninsured patients.[8] A 2002 analysis of the Medical Expenditure Panel Survey, with urgency defined by whether the patient considered their visit to the ED an emergency, found no relationship between insurance status and urgency of need on presentation to the ED for patients who had a primary care physician.[53] Several studies have found that uninsured patients are no more likely to make a nonurgent visit than those with private insurance.[11,54-56]

The assumption that uninsured patients present for less urgent care comes largely from a single 2003 study that examined billing and insurance data from more than 150 000 visits to a single urban, academic ED and that found that uninsured patients were half as likely to have received the highest-acuity care while in the ED.[11] The authors of that article cautioned, however, that "the magnitude of most differences noted was not large and may not reflect important differences in health care need or ED use based on insurance."[11] The Science Citation Index/ISI Web of Science records only 24 direct citations to that article,[167] but when we followed the chains of citation in other articles, that article was the common source document for this assumption when any citations were given.

As opposed to seeking care primarily for nonurgent or primary care visits, evidence exists that uninsured patients are underrepresented in the ED for primary care–type visits compared with their percentage in the population; this may be owing to unwillingness to seek ED care, given its cost.[56-59]

Assumption 2

Assumption. Uninsured patients use the ED owing to lack of primary care access ("Uninsured patients, unable to obtain care elsewhere, are drawn to EDs. . . . ").

Assessment: Supported by Current Data. Lack of accessible primary care is the factor most commonly named in determining why patients, regardless of their insurance status or acuity, seek care in the ED.[14,60-65,168,169]

Despite recent attempts to improve access to primary care for urgent visits, even established patients with health insurance often face waiting times for appointments of up to 21 days,[170-172] and no practical access to primary care at all may exist for many with no insurance or Medicaid.[14,61,173] For uninsured patients, problems with access are multifactorial. Primary care physicians are decreasingly willing or able to see uninsured patients,[66-69] with reported reasons including increased patient load, increases in uncompensated administrative work, and reductions in reimbursement and practice operating margins.[12,174-176]

The percentage of patients without insurance who are evaluated in physicians' offices has decreased dramatically, decreasing 37% between 1996 and 2001.[10,12,68] The problems leading to this national decrease in access to primary care are complex, but substantial evi-

dence exists that uninsured patients' access to sources of care other than the ED has decreased and that ED visits for conditions that could have been prevented with adequate primary care have increased.[11-13,64,67,70-79,177] The ED comprises an increasingly greater proportion of the safety net[12,68,71] and is now one of the few health care options for uninsured patients.[10-12,67,73,80-84,178]

Assumption 3

Assumption. Increasing numbers of uninsured patients are coming to the ED ("Demand for emergency department services has increased primarily as a result of more patients without insurance seeking care in the ED").

Assessment: Partially Supported by Current Data. While more uninsured patients are making ED visits, the rate of this increase is similar to that for insured patients. While uninsured patients have not had a higher rate of increase in ED visits, they receive a higher proportion of their care in the ED owing to the decrease in access to primary care.[10,80] In 2000, uninsured patients used the ED for a quarter of their ambulatory care visits, up from 17% in 1996; during the same 4 years, visits to physicians' offices by uninsured patients decreased nearly 40%.[12,68,85]

Assumption 4

Assumption. Uninsured patients are a leading cause of ED crowding ("The ED is used as a primary care provider for the uninsured, which adds to overcrowding").

Assessment: Not Clearly Supported by Current Data. Emergency departments across the United States have been dealing with increasing crowding for almost 2 decades[60,86-93] and increasingly are struggling with overcrowded conditions.[18,33,72,82,94-100,179] However, Europe, Canada, and Australia are also struggling with ED crowding, despite having universal health care systems.[21-25]

The etiology of crowded EDs is multifactorial and includes a lack of staffed inpatient beds, hospital and ED closings, increased ED use by all patients, and an aging population with increasing prevalence of chronic illnesses.[12,89,101,102] On a national level, 75% of the increase in ED use over the last decade is attributed to increased use per person, mostly

Table 3. Assumptions About Adult Uninsured Patients Presenting to the Emergency Department (ED) and Support in Identified Articles

Assumption	Support	Study Types Providing Underlying Data	Highest Level of Evidence (Oxford CEBM)[a]
Uninsured patients present with nonurgent problems	Not clearly supported	Prospective cohort; national panel survey[b]; cross-sectional (nationally representative[c,d] and single-institution)	1b
Uninsured patients lack access to primary care	Supported	Prospective cohort (single-institution and nationally representative[b]); retrospective cohort (single-institution); cross-sectional (single-institution, regional, and nationally representative [c,d,e,f,g]); narrative review; editorial or commentary; policy brief/statement/analysis; secondary analysis of national data	1b
Increasing numbers of uninsured patients are coming to the ED	Partially supported	Cross-sectional (nationally representative[c,d] and single-institution); editorial or commentary	2c
Uninsured patients cause ED crowding	Not clearly supported	Cross-sectional (nationally representative[b,c,d,h,i] and single-institution); retrospective cohort (single-institution); policy analysis/brief; single-institution intervention study; commentary; review article; narrative review; national prospective cohort[j]	1b
It is more expensive for uninsured patients to be seen in the ED rather than elsewhere	Supported	Economic analysis; case series; narrative review; policy analysis; cross-sectional (nationally representative[c,k])	1b
Uninsured patients present more often	Not clearly supported	Cross-sectional (nationally representative[c]); narrative review; randomized controlled trial	1b
Uninsured patients present to the ED for convenience		National panel survey[b]; narrative review; cross-sectional (nationally representative[c,g] and regional); retrospective cohort (single-institution); cross-sectional (single-institution, regional, and nationally representative[c,d,e,f,g]); narrative review, editorial/commentary; policy brief/analysis; secondary analysis of national data	1b
Uninsured patients present more acutely	Supported	National panel survey; narrative review; cross-sectional (nationally representative[c,g] and regional)	1b
Uninsured patients delay getting care	Supported	National panel survey; narrative review; cross-sectional (nationally representative[c,g] and regional)	1b
Uninsured patients receive less care	Supported	National panel survey; narrative review; cross-sectional (nationally representative[c,g] and regional); prospective cohort (single-institution and nationally representative[b]); retrospective cohort (single-institution and regional); cross-sectional (single-institution, regional, and nationally representative [c,d,e,f,g]); narrative review; editorial or commentary; policy brief/analysis; secondary analysis of national data	1b

Abbreviation: CEBM, Centre for Evidence-based Medicine.
[a] Level 1b indicates a prospective cohort study with good follow-up; level 2c indicates any ecological study, including cross-sectional observation studies.[52]
[b] Medical Expenditure Panel Survey.
[c] Community Tracking Study.
[d] National Hospital Ambulatory Medical Care Survey.
[e] National Access to Care Survey.
[f] Health and Retirement Study.
[g] American Hospital Association Survey of Hospitals.
[h] Cross-sectional survey of ED directors.
[i] National Health Interview Survey.
[j] National Survey of America's Families.
[k] Other.

by insured patients (from 35 visits/100 population per year to 39 visits/100 population per year); the remaining amount is predominantly due to an increase in population size.[12,180]

Weber and Showstack[56] showed that insured patients accounted for 84.8% of all ED visits, a rate that remained stable from 1996 to 2004.[32] These rates have been supported by national data[18,103,181]; other literature exploring demographics of ED patients report similar percentages.[9,10] These rates mirror the proportion of insured and uninsured patients in the nation† and suggest that neither group uses the ED disproportionately.

While uninsured patients are not a major source of ED crowding on a national level, some hospitals most likely to be crowded are safety-net hospitals in low-income or low-access areas where a large percentage of the population depends on the ED for care.[186] In safety-net hospitals serving vulnerable populations, inadequate access to primary care for patients with public insurance as well as for those with no insurance contributes to increased ED use.[56,73,75,79,100,106,107] For these hospitals, a small increase in the number of ED visits by uninsured patients can greatly increase crowded ED conditions.[82,101,168,186]

Assumption 5

Assumption. It is more expensive for uninsured patients to be seen in the ED than elsewhere ("treating [uninsured] patients in the ED costs up to ten times more than treating them in a clinic. . . . ").

Assessment: Supported by Current Data. Given the high fixed costs and the large volume of patients seen in EDs, the marginal cost per patient may be overstated and is perhaps less than the cost of keeping a primary care practice open for after-hours care.[64,83] A 2005 cost analysis from RAND, however, suggests that the average marginal cost of treating an additional patient in the ED is between $300 and $400,[108] supporting the common perception that the ED is an expensive and inefficient place to receive most nonurgent care.[10,63,64,93,169] Emergency departments tend to perform more extensive diagnostic evaluations because information on past medical history is not available, clinicians do not know the patients' baseline status,[109] and because of the ED heuristic of "consider the worst first."[75] In focus groups it is clear that most patients understand that an ED visit costs more than a visit to a clinic.[110] While uninsured patients may use the ED because of lack of alternatives, they do not regard the ED as the appropriate place to receive affordable or low-cost care.[187]

Assumption 6

Assumption. Uninsured patients present disproportionately often to the ED ("The uninsured are high users of ED services").

Assessment: Not Clearly Supported by Current Data. The available data about this assumption are conflicting. Analysis of data from nationally representative surveys suggests that publicly insured patients use the ED substantially more often than uninsured patients,[9,12,56,57,61,65,104] but publicly insured patients are also more likely to be disabled than uninsured patients (disability is a common criterion for qualifying for public insurance), so this could be to the result of a higher illness burden.

Analyses of data from single EDs as well as from nationally representative surveys‡ have found that uninsured and privately insured patients make similar numbers of ED visits per year. However, a nearly equal number of studies, both large and small, have suggested that uninsured patients use the ED more frequently than privately insured patients.[11,57,65,84,104,182,189]

The reasons for these discrepancies are unclear. It is possible that different data acquisition, sampling techniques, or case-mix adjustments account for these differences. The available literature indicates that publicly insured patients use the ED more often than uninsured patients (potentially owing to greater illness burden), and evidence is mixed on whether uninsured patients have greater ED use than those with private insurance.

Less Common Assumptions

Three less common assumptions ("the uninsured delay seeking care," the uninsured present sicker," and "the uninsured receive less care") fit together as a set, often in the same articles, and are well supported by current data. Evidence exists that uninsured patients delay care and present with more serious illness.[11,80,114-116,177,185] Lack of access to adequate primary care may be one factor that leads to greater disease severity at the time of presentation to the ED,[116] but concern about medical debt may be another, especially for patients who already have bills with a hospital or with a clinician, health maintenance organization, or insurance company.[190,191]

There is a consistently lower rate of hospitalization for uninsured patients presenting through the ED compared with matched insured patients.[9,59,117-121] This is often assumed to be owing to uninsured patients presenting for nonurgent problems; however, it may instead be owing to a higher threshold by patients, physicians, or both for admission. A recent Institute of Medicine report found that for patients with traumatic injuries and patients with acute cardiovascular disease, those without insurance are less likely to be admitted to the hospital, receive fewer services while they are inpatients, and are more likely to die in the hospital than patients with insurance.[192] Similarly, 2 statistically rigorous studies using a statewide trauma database for South Carolina found that after controlling for level of injury severity, uninsured trauma patients were 37% less likely to be hospitalized than similarly injured patients with insurance.[122,123]

The remaining assumption—that uninsured patients present disproportionately to the ED "for convenience"—is difficult to prove or disprove, given the lack of a consistent definition of "con-

†References 12, 17, 82, 104, 105, 182-185.

‡References 12, 14, 56, 61, 84, 103, 111-113, 188.

venience." The question remains as to whether it is "convenience" to choose the ED because of an inability to obtain an appointment with a primary care clinician for 3 weeks, because no primary care clinicians will accept new uninsured patients, or because patients who miss more work may lose their jobs. Each of these are reasons commonly given by uninsured patients for coming to the ED, and lack of accessible primary care is the reason most commonly given by uninsured as well as insured patients.[57,60,61] Also, a subset of patients, both insured and uninsured, preferentially visit the ED rather than other sites of care, owing to the perception that the ED has more highly skilled practitioners—a view especially prevalent among the poor and among underserved minorities.[71,75,110,117,124,193]

COMMENT

Of the 6 most common assumptions, reflecting "conventional wisdom" about uninsured patients in the ED and appearing without citation in the literature, 3 were not clearly supported by current data and the remaining 3 are true for all patients—insured and uninsured.

Emergency department crowding, which leads to longer waiting times and ambulance diversion as well as to possibly compromised care for all patients, is an increasing problem. In the United States, as the numbers of uninsured patients increase, EDs close; as it becomes more difficult for uninsured patients to access primary care, an increasing number of uninsured patients present to EDs. Despite these problems, however, uninsured patients are not presenting in numbers disproportionate to their representation in the overall population, and ED visit rates for insured patients are increasing.

Policies designed to address ED crowding by blocking or creating barriers to ED access for uninsured patients are unlikely to be effective, because little evidence exists that uninsured patients are a large proportion of the problem.[194,195] Policies that attempt to redirect patients requiring nonurgent (by whatever criteria are used to define nonurgent) care to primary care sources are unlikely to succeed unless those sites are readily accessible.[173] If patients—including privately insured, publicly insured, and uninsured patients—are unable to find primary care clinicians who accept new patients or accept insurance or cash payments; if patients are forced to wait weeks for an appointment; if the hours or location of primary care make it inaccessible; or if patients perceive the care to be substandard compared with care received in the ED, they will continue to come to the ED.[196]

This review has a number of limitations. The first is in the identification of assumptions within the target articles. We limited our search of statements about the interface between uninsured patients and emergency services to the peer-reviewed medical literature. We chose to use the medical literature as our main source, with comparisons to policy debates and media portrayals, because beliefs expressed in the professional literature are likely to guide health policy and clinical interventions. A broader study comparing media perceptions with available data would also be worthwhile to understand broader cultural beliefs and opinions that might be commonly seen and expressed by the media, politicians, policy makers, and private citizens. Any systematic review is limited by publication bias. In the case of health policy topics, the range of solutions offered and methods proposed will vary depending on the breadth of disciplines, from medicine to policy to economics, which are included in the reviewed material.

CONCLUSIONS

We found that some common assumptions about uninsured patients and their use of the ED and their contribution to ED overcrowding were either unsupported or nearly equally true for insured patients. Through repetition, however, these assumptions have become part of both common knowledge and political debates.[197,198] Suddenly, "everybody knows" that uninsured patients presenting for minor illnesses are a major contributor to crowding in EDs, endangering other patients who are actually sick.[28-31,199]

Policies based on inaccurate or simplistic assumptions have the potential to worsen an emergency care situation already in crisis and run the risk of further stigmatizing vulnerable populations, thereby worsening health disparities.[200]

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Author Contributions: Dr Newton had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.
Study concept and design: Newton, Keirns, Hayward, Stanley.
Acquisition of data: Newton, Keirns, Stanley.
Analysis and interpretation of data: Newton, Keirns, Cunningham, Hayward, Stanley.
Drafting of the manuscript: Newton, Keirns.
Critical revision of the manuscript for important intellectual content: Newton, Keirns, Cunningham, Hayward, Stanley.
Statistical analysis: Newton, Keirns, Hayward.
Study supervision: Cunningham, Hayward, Stanley.
Financial Disclosures: None reported.
Funding/Support: This study was supported by the Robert Wood Johnson Clinical Scholars Program.
Role of the Sponsor: The Robert Wood Johnson Foundation had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; or preparation, review, or approval of the manuscript.
Disclaimer: The content of this article is solely the responsibility of the authors and does not necessarily represent the official views of the Robert Wood Johnson Foundation.
Additional Information: The eTable is available online at http://www.jama.com.
Additional Contributions: We thank Jane Forman, ScD (Ann Arbor VA Medical Center, Health Services Research & Development), Raymond DeVries, PhD (University of Michigan Program in Bioethics, Departments of Obstetrics and Gynecology and Medical Education), and Renee Anspach, PhD (University of Michigan Department of Sociology), for helpful reviews and advice, for which they were not compensated. We also thank Meghan O'Brien Shmansky, BS (University of Michigan School of Public Health), and Patricia Dale (University of Michigan College of Literature, Science and the Arts), both compensated by the Robert Wood Johnson Clinical Scholars' Program funds, for research assistance.

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