

Effect of Insurance Status on the Stage of Breast and Colorectal Cancers in a Safety-Net Hospital

By Daniel T. Farkas, MD, Arieh Greenbaum, BA, Vinay Singhal, MD, and John M. Cosgrove, MD

Bronx-Lebanon Hospital Center, Albert Einstein College of Medicine, Bronx, NY

Abstract

Purpose: Screening can increase early detection and reduce rates of advanced-stage cancer. Uninsured patients have been shown to have lower rates of screening. Previous studies have shown that uninsured patients and patients with Medicaid present with more advanced stages of cancer. The aim of this study was to measure the effect of insurance status in the setting of a safety-net hospital.

Methods: Patients in our tumor registry with a diagnosis of breast or colorectal cancer between 2001 and 2010 were included. On the basis of their insurance status, they were divided into the following groups: Medicaid, Medicare, Medicare age < 65 years, commercial, uninsured, and unknown. Cancer stage was recorded for each patient, with stages III and IV considered advanced disease. The primary end point was the rate of advanced disease in each patient group.

Results: A total of 910 patients were included in the study: 836 (91.9%) insured, 54 (5.9%) uninsured, and 20 (2.2%) unknown. Of the insured patients, 301 (36.0%) had Medicaid. Two hundred thirty-seven (30.7%) of 836 insured patients had advanced disease, compared with 27 (50.0%) of 54 uninsured patients (odds ratio, 1.63; $P = .003$). Of patients with Medicaid, 83 (27.6%) of 301 had advanced disease, which was not statistically different from patients with other insurance.

Conclusion: In a safety-net hospital, patients with Medicaid had rates of advanced-stage cancer similar to those in patients with other types of insurance. However, patients with no insurance had significantly higher rates of advanced disease. This has significant ramifications in view of the new health care law, which will convert many patients from being uninsured to having Medicaid.

Introduction

Cancer is one of the biggest medical problems facing Americans. In 2011, 1,596,670 new cancer diagnoses are expected, with 571,950 expected deaths.¹ Early detection through screening has been shown to reduce mortality in many cancers, including breast and colorectal cancers.²⁻⁵ Patients lacking medical insurance have been shown to have lower rates of screening for both these cancers as well as others.^{3,6-8} It stands to reason that people without medical insurance are more likely to present with more advanced stages of cancer.

Indeed, many large studies have demonstrated, in a variety of different types of cancer, that patients without insurance consistently present in the later stages of disease.⁹⁻¹⁵ Many of these studies have used the National Cancer Data Base (NCDB), which, although comprehensive, includes a relatively minor percentage of patients who are uninsured. For example, in one recent large study involving more than 3.5 million patients from the NCDB, only 2.5% were uninsured.⁹ Similarly, the NCDB has a small proportion of patients with Medicaid; in this same study, only 3.5% of patients had Medicaid. In many of these studies, patients with Medicaid have presented with later stages of disease.⁹⁻¹³ This is important because under the new Patient Protection and Affordable Care Act (PPACA), most of the people gaining access to health insurance will do so through the Medicaid program.¹⁶

Our hospital is located in the South Bronx, in the poorest congressional district in the nation.¹⁷ A large portion of our patients are insured with Medicaid, and the hospital is orga-

nized to facilitate care of such patients. As such, screening is equally available to patients with Medicaid as to those with other types of insurance. Hospitals such as ours have been termed safety-net hospitals.¹⁸⁻²¹ The purpose of this study was to evaluate the impact of payer status on stage of cancer at diagnosis, as seen in a safety-net hospital. Do patients with Medicaid present with worse disease even in this type of hospital setting? In addition, we were interested in how uninsured patients fared in a safety-net hospital. Did they still present with worse disease in our hospital, and how did they compare with patients with Medicaid? Secondary end points included the effect of race and ethnicity on insurance status as well as on stage at diagnosis.

Methods

We conducted a retrospective review using our electronic medical record. After obtaining approval from our institutional review board, we collected data from the hospital tumor registry. All patients with a diagnosis of breast or colorectal cancer (colon, rectal, or rectosigmoid junction) between the years 2001 and 2010 were included. Those patients whose care was not fully provided in our institution (and therefore not fully staged) were excluded. Demographic information such as age, sex, race, ethnicity, and tumor location was collected. Complete TNM staging was available in the registry, and staging according to the American Joint Committee on Cancer was recorded.

Although our tumor registry contained payer information, the medical record of each patient was double checked manu-

ally to identify insurance status at the time of presentation. This was important because there were patients who initially presented without insurance and were later able to obtain Medicaid coverage retroactive to the time of their presentation. For the purposes of this study, these patients were considered uninsured because they did not have insurance before their cancer diagnosis.

We divided patients by their insurance status, in the same manner as other large studies on this topic.⁹ Patients were categorized by their insurance into the following groups: Medicaid, Medicare, Medicare (age < 65 years), commercial, uninsured, and unknown. The different groups were compared with regard to what percentage presented in each stage of disease. For the purposes of this study, stages III and IV disease were considered advanced-stage disease. Subgroup analysis was performed for breast and colorectal cancers separately. Finally, differences between racial and ethnic groups were examined. The percentage of patients with health insurance in each group was compared, as was the percentage of patients with advanced-stage disease.

Statistical analysis was performed using SPSS version 17.0 (SPSS, Chicago, IL). The groups were compared using Pearson χ^2 tests, and *P* values < .05 were considered significant.

Results

In the 10-year study period, there were 1,000 patients in our tumor registry with breast or colorectal cancer. Of these, 910 (91.0%) were fully staged in our institution and were included in the study: 476 (52.3%) with breast cancer and 434 (47.7%) with colorectal cancer. The average age was 61.4 ± 13.8 years (standard deviation), and there were 695 women and 215 men. An overwhelming majority of patients were minorities: 340 (37.4%) were black; 516 (56.7%), Hispanic; 15 (1.6%), white; 32 (3.5%), other; and seven (0.8%), unknown. Full demographic details are available in Table 1.

There were 158 (17.4%), 213 (23.4%), 252 (27.7%), 164 (18.0%), and 123 patients (13.5%) with stages 0, I, II, III, and IV disease, respectively; 287 patients (31.5%) presented with advanced stage disease. With regard to insurance, 836 (91.9%) had some form of insurance, and 54 (5.9%) were uninsured; for 20 (2.2%) patients, insurance status could not be determined. Among the insured patients, the majority had Medicare (38.9%) and Medicaid (33.1%); only 13.4% had commercial insurance, and 6.5% had Medicare at age < 65 years. Among insured patients younger than age 65 years, a majority (62.4%) were insured through Medicaid.

The effect of insurance payer on stage of diagnosis is summarized in Table 2. Among the various insurance categories, distribution was quite similar, with no significant differences. In fact, patients with Medicaid had a slightly lower rate of advanced-stage disease, although this was statistically similar to other insured patients (*P* = .285). In comparing uninsured to insured patients, there was a significant difference: 50.0% of uninsured patients presented with advanced-stage disease, compared with 30.7% of insured patients (odds ratio [OR], 1.63; *P* = .003).

In subgroup analysis, this difference was stronger in colorectal than in breast cancer. Among patients with colorectal cancer, the uninsured group had an advanced-stage rate of 62.5%, compared with 35.8% in the insured group (OR, 1.75; *P* = .009). Among those with breast cancer, the rates of advanced disease were 40.0% in the uninsured group and 26.0% in the insured group (OR, 1.54; *P* = .095).

The impact of race and ethnicity is summarized in Table 3. Black patients were more likely than Hispanic patients to be uninsured and more likely to have advanced-stage disease. White patients had a high rate of advanced disease, but because there were only 15 white patients, this was not significant. The relationships between race and ethnicity and both insurance status and advanced disease were highly significant. Because there were few patients in the white, other, and unknown groups, the effect of race and ethnicity on both insurance status and advanced disease was re-examined between blacks and Hispanics only. In this subgroup, the association between black patients and advanced-stage disease was significant (*P* = .021), whereas the association between black patients and lack of insurance only approached significance (*P* = .099).

In multivariate logistic regression, independent predictors of advanced disease were location of tumor (colorectal *v* breast; *P* = .001), race (black *v* Hispanic; *P* = .032), and insurance status (uninsured *v* insured; *P* = .002). Age and sex were not predictive of advanced disease.

Discussion

Almost 50 million people in the United States do not have medical insurance.²² This has an impact on many medical problems²³⁻²⁵ and is a major barrier to preventive care.^{26,27} In particular, not being insured represents a major barrier to screening programs for cancer.^{3,6-8,28} Presumably as a result of this, several large studies have demonstrated that patients without insurance present with more advanced stages of cancer.⁹⁻¹⁵

This widespread lack of insurance was a major issue in the recent health care debates in this country. A major part of the new health care law—PPACA—was to increase access to health insurance for more Americans. It is estimated that 32 million Americans will gain access to health insurance as a result of this law.²⁹ According to the Centers for Medicare and Medicaid Services, the majority of these newly insured patients will be in the Medicaid program, with 20 million new enrollees expected by 2019.¹⁶

Many studies have shown that patients insured with Medicaid often have health care outcomes similar to those of patients without insurance.^{10,12-15,30,31} In a large study investigating the association between payer status and cancer stage in 12 cancer sites, both uninsured and Medicaid patients had increased rates of advanced disease.⁹ In many of the sites, Medicaid patients had higher rates than those without insurance at all.

Patients insured through Medicaid often have difficulty gaining adequate access to care.³² Many physicians do not accept Medicaid-insured patients in their practice, and many neighborhoods do not have adequate numbers of clinics or practices accepting Medicaid.

Table 1. Patient Demographics and Clinical Characteristics

Characteristic	Total (N = 910)		Colorectal Cancer (n = 434)		Breast Cancer (n = 476)		P*
	No.	%	No.	%	No.	%	
Sex							< .001
M	215		210		5		
F	695		224		471		
Age, years							< .001
Range	21-96		24-96		21-94		
Mean	61.4		64.5		58.6		
SD	13.8		13.3		13.7		
Race/ethnicity							.491
White	15	1.6	7	1.6	8	1.7	
Black	340	37.4	163	37.6	177	37.2	
Hispanic	516	56.7	249	57.4	267	56.1	
Other	32	3.5	14	3.2	18	3.8	
Unknown	7	0.8	1	0.2	6	1.3	
Stage							< .001
0 (CIS)	158	17.4	109	25.1	49	10.3	
I	213	23.4	74	17.1	139	29.2	
II	252	27.7	90	20.7	162	34.0	
III	164	18.0	76	17.5	88	18.5	
IV	123	13.5	85	19.6	38	8.0	
Insurance							< .001
Commercial	122	13.4	59	13.6	63	13.2	
Medicaid	301	33.1	106	24.4	195	41.0	
Medicare	354	38.9	209	48.2	145	30.5	
Medicare (age < 65 years)	59	6.5	28	6.5	31	6.5	
Uninsured	54	5.9	24	5.5	30	6.3	
Unknown	20	2.2	8	1.8	12	2.5	

Abbreviations: CIS, carcinoma in situ; SD, standard deviation.

* Comparing breast with colorectal cancer.

Our hospital is based in an inner-city setting, and a large majority of our patients are insured through Medicaid. There are few privately practicing physicians in the hospital system; the vast majority are employed by the hospital. As such, all physicians in our hospital system see Medicaid patients, and many of the barriers to care have been removed. Hospitals such as this have been termed safety-net hospitals.¹⁸⁻²¹ The data from this study show that in terms of stage of cancer at diagnosis, patients in our hospital insured through Medicaid are similar to patients with other kinds of insurance. Even patients with commercial insurance had no advantage over Medicaid patients. We feel that this is the result of Medicaid patients having equal access to care in our safety-net hospital.

In the setting of the new PPACA law, this has important significance. Although many new patients will acquire health insurance, a majority of these patients will be enrolled in Medicaid.^{16,33,34} Medicaid patients in other settings have tended to present with later stages of cancer; however, if they seek care in safety-net hospitals, it is possible that they can expect to have results similar to those of other insured patients.

With regard to uninsured patients, our results confirm the findings seen in other studies: patients without insurance presented with more advanced stages of cancer. In addition to being set up to treat Medicaid patients, our hospital also has mechanisms in place for uninsured patients. We have an extensive charity care program, and uninsured patients are able to obtain mammograms and colonoscopies. Nonetheless, they presented with later stages of disease. It is possible that the added hassle of having to apply for charity care was a barrier to care. It is also possible that uninsured patients are seeing fewer health care providers outside of the hospital setting and are not receiving the same amount of screening. Furthermore, many uninsured patients are unaware of the safety-net programs available to them.³⁵

One of the limitations of this study is that it was a single-institution study. However, although it may not translate to every hospital setting, we feel that in contrast to national database studies, this study provides a clearer picture of cancer care in safety-net hospitals. In addition, we were able to review each medical record individually. This allowed us to more accurately identify the true insurance status of each patient, especially with

Table 2. Cancer Stage by Insurance Status

Stage	Medicaid		Commercial		Medicare		Medicare (age < 65 years)		Unknown		Insured		Uninsured		P†	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Total															.137	.003
No.	301		122		354		59		20		836		54			
0	51	16.9	24	19.7	65	18.4	12	20.3	6	30.0	152	18.2	0	0		
I	78	25.9	24	19.7	77	21.8	16	27.1	6	30.0	195	23.3	12	22.2		
II	89	29.6	33	27.0	94	26.6	16	27.1	5	35.0	232	27.8	15	27.8		
III	51	16.9	29	23.8	61	17.2	7	11.9	2	10.0	148	17.7	14	25.9		
IV	32	10.6	12	9.8	57	16.1	8	13.6	1	5.0	109	13.0	13	24.1		
Advanced	83	27.6	41	33.6	118	33.3	15	25.4	3	15.0	257	30.7	27	50.0		
Colorectal cancer															.483	.009
No.	106		59		209		28		8		402		24			
0	33	31.1	17	28.8	47	22.5	8	28.6	4	50.0	105	26.1	0	0		
I	20	18.9	8	13.6	35	16.7	3	21.4	2	25.0	69	17.2	3	12.5		
II	18	17.0	11	18.6	50	23.9	2	17.9	0	0.0	84	20.9	6	25.0		
III	13	12.3	16	27.1	36	17.2	3	10.7	1	12.5	68	16.9	7	29.2		
IV	22	20.8	7	11.9	41	19.6	6	21.4	1	12.5	76	18.9	8	33.3		
Advanced	35	33.0	23	39.0	77	36.8	9	32.1	2	25.0	144	35.8	15	62.5		
Breast cancer															.542	.095
No.	195		63		145		31		12		434		30			
0	18	9.2	7	11.1	18	12.4	4	12.9	2	16.7	47	10.8	0	0		
I	58	29.7	16	25.4	42	29.0	10	32.3	4	33.3	135	29.0	9	30.0		
II	71	36.4	22	34.9	44	30.3	11	35.5	5	41.7	157	34.1	9	30.0		
III	38	19.5	13	20.6	25	17.2	4	12.9	1	8.3	80	18.4	7	23.3		
IV	10	5.1	5	7.9	16	11.0	2	6.5	0	0.0	33	7.6	5	16.7		
Advanced	48	24.6	18	28.6	41	28.2	6	19.3	1	8.3	113	26.0	12	40.0		

* Pearson χ^2 , comparing advanced-stage disease in Medicaid patients v otherwise insured patients.

† Pearson χ^2 , comparing advanced-stage disease in insured v uninsured patients.

Table 3. Effect of Race and Ethnicity

Race/Ethnicity	Insured		Uninsured		Early Stage		Advanced	
	No.	%	No.	%	No.	%	No.	%
Black	308	92.8	24	7.2	219	64.4	121	35.6
Hispanic	483	95.5	23	4.5	371	71.9	145	28.1
White	15	100	0	0.0	6	40.0	9	60.0
Other	25	80.6	6	19.4	24	75.0	8	25.0
Unknown	5	83.3	1	16.7	3	42.9	4	57.1
P								
Comparing black and Hispanic only					.006		.008	
					.006		.021	

regard to uninsured patients receiving emergency Medicaid coverage. These patients, who received coverage only after their diagnosis (even if it was retroactive to the date of diagnosis), have been shown to present with more advanced stages of cancer.³⁶ Another weakness is that there were few white patients; almost the entire patient population was either black or Hispanic. However, perhaps this too is more representative of safety-net hospitals.

Finally, we did not look at whether our individual patients were screened. We relied on well established and pre-

viously published data showing that uninsured patients are screened less frequently. However, a future study could look specifically at the rates of screening in different groups of patients. This would let us determine whether the higher rates of advanced-stage disease seen in the uninsured patients in this study were actually a result of less screening or not.

Another potential study, which might be easier to conduct after the start of the new health care law, would be to determine whether providing health insurance for previously uninsured patients affects their rates of screening and/or of

advanced disease. Is it really their insurance status that is the deciding factor of their cancer presentations, or are there other related factors?

In conclusion, our study has a few major implications relating to the new PPACA. For one, patients gaining access to health insurance may present with earlier and more treatable stages of cancer. Even if the insurance they obtain is Medicaid, they will still be at an advantage over patients without insurance at all. However, our study has only demonstrated this in a safety-net hospital, and the same findings were not seen in the general population. Safety-net hospitals will play an increasingly large role as we move forward, as was seen after health care reform in Massachusetts.²¹ As financial pressures on safety-net hospitals increase,³⁷ this could present a major concern for the millions of new Medicaid enrollees. For the new health care law to be successful as we move forward, the strength and security of safety-net hospitals will be of key importance.

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References

- American Cancer Society: Cancer Facts & Figures 2011. Atlanta, GA, American Cancer Society, 2011
- Smith RA, Cokkinides V, Brooks D, et al: Cancer screening in the United States, 2011: A review of current American Cancer Society guidelines and issues in cancer screening. *CA Cancer J Clin* 61:8-30, 2011
- American Cancer Society: Cancer Prevention & Early Detection Facts & Figures 2011. Atlanta, GA, American Cancer Society, 2011
- Duffy SW, Tabar L, Olsen AH, et al: Absolute numbers of lives saved and overdiagnosis in breast cancer screening, from a randomized trial and from the Breast Screening Programme in England. *J Med Screen* 17:25-30, 2010
- Winawer S, Fletcher R, Rex D, et al: Colorectal cancer screening and surveillance: Clinical guidelines and rationale—Update based on new evidence. *Gastroenterology* 124:544-560, 2003
- Shi L, Lebrun LA, Zhu J, et al: Cancer screening among racial/ethnic and insurance groups in the United States: A comparison of disparities in 2000 and 2008. *J Health Care Poor Underserved* 22:945-961, 2011
- Sabatino SA, Coates RJ, Uhler RJ, et al: Disparities in mammography use among US women aged 40-64 years, by race, ethnicity, income, and health insurance status, 1993 and 2005. *Med Care* 46:692-700, 2008
- Trivers KF, Shaw KM, Sabatino SA, et al: Trends in colorectal cancer screening disparities in people aged 50-64 years, 2000-2005. *Am J Prev Med* 35:185-193, 2008
- Halpern MT, Ward EM, Pavluck AL, et al: Association of insurance status and ethnicity with cancer stage at diagnosis for 12 cancer sites: A retrospective analysis. *Lancet Oncol* 9:222-231, 2008
- Halpern MT, Pavluck AL, Ko CY, et al: Factors associated with colon cancer stage at diagnosis. *Dis Dis Sci* 54:2680-2693, 2009
- Robbins AS, Pavluck AL, Fedewa SA, et al: Insurance status, comorbidity level, and survival among colorectal cancer patients age 18 to 64 years in the National Cancer Data Base from 2003 to 2005. *J Clin Oncol* 27:3627-3633, 2009
- Chen AY, Schrag NM, Halpern M, et al: Health insurance and stage at diagnosis of laryngeal cancer: Does insurance type predict stage at diagnosis? *Arch Otolaryngol Head Neck Surg* 133:784-790, 2007
- Chen AY, Schrag NM, Halpern MT, et al: The impact of health insurance status on stage at diagnosis of oropharyngeal cancer. *Cancer* 110:395-402, 2007
- Halpern MT, Bian J, Ward EM, et al: Insurance status and stage of cancer at diagnosis among women with breast cancer. *Cancer* 110:403-411, 2007
- Fedewa SA, Lerro C, Chase D, et al: Insurance status and racial differences in uterine cancer survival: A study of patients in the National Cancer Database. *Gynecol Oncol* 122:63-68, 2011
- Centers for Medicare and Medicaid Services: 2010 Actuarial Report on the Financial Outlook for Medicaid. Washington, DC, US Government Printing Office, 2010
- US Census Bureau: American Community Survey 2010 1-Year Estimates. Washington, DC, US Government Printing Office, 2011
- Zwanziger J, Khan N: Safety-net hospitals. *Med Care Res Rev* 65:478-495, 2008
- Bradley CJ, Dahman B, Shickle LM, et al: Surgery wait times and specialty services for insured and uninsured breast cancer patients: Does hospital safety net status matter? *Health Serv Res* [epub ahead of print on September 23, 2011]
- Werner RM, Goldman LE, Dudley RA: Comparison of change in quality of care between safety-net and non-safety-net hospitals. *JAMA* 299:2180-2187, 2008
- Ku L, Jones E, Shin P, et al: Safety-net providers after health care reform: Lessons from Massachusetts. *Arch Intern Med* 171:1379-1384, 2011
- US Census Bureau: Income, Poverty, and Health Insurance Coverage in the United States: 2010. Washington, DC, US Government Printing Office, 2011
- Brown TM, Parmar G, Durant RW, et al: Health professional shortage areas, insurance status, and cardiovascular disease prevention in the Reasons for Geographic and Racial Differences in Stroke (REGARDS) Study. *J Health Care Poor Underserved* 22:1179-1189, 2011
- Lyon SM, Benson NM, Cooke CR, et al: The effect of insurance status on mortality and procedural use in critically ill patients. *Am J Respir Crit Care Med* 184:809-815, 2011
- Fowler RA, Noyahr LA, Thornton JD, et al: An official American Thoracic Society systematic review: The association between health insurance status and access, care delivery, and outcomes for patients who are critically ill. *Am J Respir Crit Care Med* 181:1003-1011, 2010
- Chung PJ, Lee TC, Morrison JL, et al: Preventive care for children in the United States: Quality and barriers. *Annu Rev Public Health* 27:491-515, 2006
- DeVoe JE, Fryer GE, Phillips R, et al: Receipt of preventive care among adults: Insurance status and usual source of care. *Am J Public Health* 93:786-791, 2003
- Adams EK, Florence CS, Thorpe KE, et al: Preventive care: Female cancer screening, 1996-2000. *Am J Prev Med* 25:301-307, 2003
- Graves JA, Curtis R, Gruber J: Balancing coverage affordability and continuity under a basic health program option. *N Engl J Med* 365:e44, 2011
- Roetzheim RG, Pal N, Tennant C, et al: Effects of health insurance and race on early detection of cancer. *J Natl Cancer Inst* 91:1409-1415, 1999

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Author Contributions

Conception and design: Daniel T. Farkas, Vinay Singhal

Collection and assembly of data: Daniel T. Farkas, Arieh Greenbaum, Vinay Singhal

Data analysis and interpretation: Daniel T. Farkas

Manuscript writing: All authors

Final approval of manuscript: All authors

Corresponding author: Daniel T. Farkas, MD, 1650 Selwyn Ave, Suite 4E, Bronx, NY 10457; e-mail: dfarkas@bronxleb.org.

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31. Fedewa SA, Etzioni R, Flanders WD, et al: Association of insurance and race/ethnicity with disease severity among men diagnosed with prostate cancer, National Cancer Database 2004-2006. *Cancer Epidemiol Biomarkers Prev* 19: 2437-2444, 2010
32. Medicaid and CHIP Payment and Access Commission: Report to the Congress on Medicaid and CHIP. http://healthreformgps.org/wp-content/uploads/MACPAC_March2011_web.pdf
33. Ku L: Ready, set, plan, implement: Executing the expansion of Medicaid. *Health Aff (Millwood)* 29:1173-1177, 2010
34. Sommers BD, Swartz K, Epstein A: Policy makers should prepare for major uncertainties in Medicaid enrollment, costs, and needs for physicians under health reform. *Health Aff (Millwood)* 30:2186-2193, 2011
35. May JH, Cunningham PJ, Hadley J: Most uninsured people unaware of health care safety net providers. *Issue Brief Cent Stud Health Syst Change* 90:1-4, 2004
36. Bradley CJ, Given CW, Roberts C: Late stage cancers in a Medicaid-insured population. *Med Care* 41:722-728, 2003
37. Mobley L, Kuo TM, Bazzoli GJ: Erosion in the healthcare safety net: Impacts on different population groups. *Open Health Serv Policy J* 4:1-14, 2011



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