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Journal discussion

Connecting inadequate health insurance to poorer cancer treatment outcomes

by Allison Grady

McDavid K, Tucker TC, Sloggett A, Coleman MP. Cancer survival in Kentucky and health insurance coverage. *Arch Intern Med.* 2003;163:2135-2145.

The high cost of cancer treatment is well known. Also well known is the fact that the costs increase—while the likelihood for treatment success decreases—as the disease progresses. It has been hypothesized that individuals with adequate health insurance—usually defined as employer-provided—have a greater chance of being diagnosed with cancer at an earlier stage because they have more ready access to preventive services and screening tests and have a lighter financial burden when seeking treatment [1].

In 2003 Kathleen McDavid and colleagues published research in the *Annals of Internal Medicine* that had studied whether type of health insurance played a significant role in a patient's chances for survival after cancer diagnosis. The article, "Cancer Survival in Kentucky and Health Insurance Coverage," used the Kentucky Cancer Registry (KCR) as a data source [2]. This study, while similar to others [3], distinguishes itself because "most cancer survival studies did not use individual level health insurance data collected by the cancer registry, control for treatment, or examine as many sites" [4].

The study

Kentucky requires that all health care facilities and doctors "report new cancer cases to the KCR within four months of diagnosis" [4]. The KCR works collaboratively with the death clearance registry (that matches KCR files with the state death records) to locate

cancer patients who have not been identified and registered through the health care system, and it allows the registry to update vital status information on those who have been registered. Vital status is also updated by regular contact with reporting hospitals, private pathology laboratories, freestanding treatment facilities and physician offices [4].

McDavid and colleagues collected information on patients between the ages of 18 and 99 who had diagnoses of female breast, prostate, colorectal or lung cancer.

Subjects of this inquiry had been diagnosed between 1995 and 1998 and followed for at least one year. Patients were then classified by the type of cancer they had, the stage at diagnosis (local, regional, distant, unknown/unstaged), the first-course treatment—that is, treatment received during the initial four months following diagnosis—and type of insurance that the patient had at the time of diagnosis. Insurance status was classified into one of seven categories: private, Medicare plus a supplemental insurance, Medicare only, other federal source (e.g., Veteran’s Administration), Medicaid/welfare, uninsured (this included self-pay and charity care) and unknown [4].

McDavid and colleagues’ findings were characterized by health insurance, cancer site, relative survival by age and sex, crude and relative survival by type of insurance, and relative risk of death within three years by type of cancer [5]. The study found that the age group most represented for each cancer site was 65-74 years, but breast cancer had similar incidence numbers for patients aged 45-54 and 55-65 [6]. Breast cancer and prostate cancers were the most likely to be found while the disease was still local, whereas only 20.8 percent of lung cancer and 34.8 percent of colorectal cancer were found that early. In the study, the Medicare-plus-supplement was the most frequently cited type of insurance for all cancers studied except for breast cancer where private insurance ranked highest. This is probably because of the large proportion of participants in the 65-74-year-old age range who are Medicare eligible and the high number of breast cancer patients who were under 65 and not Medicare eligible [6]. An interesting demographic statistic was noted by McDavid and colleagues who found that even though only 6.5 percent of all study participants were African American, they accounted for 11.6 percent of members in the “other federally funded” insurance category and 10.3 percent of the Medicaid/welfare insurance group [6].

The role of insurance was particularly revealing when comparing disease stage at the time of diagnosis. Of those diagnosed with distant, advanced stage cancer, 31.4 percent were uninsured and 31.2 percent were on Medicaid. Type of insurance seemed to be most influential for patients with breast, prostate and colorectal cancer. McDavid writes, “patients with Medicare had a 32% higher risk [of death] than those privately insured, while those with Medicaid/welfare had a 56% higher risk and those with unknown coverage a 66% greater risk of death” [7]. For breast cancer, the privately insured were the most likely to survive three years while “women insured by Medicaid/welfare were at 66% higher risk of death than women who were privately insured” [7]. Prostate cancer figures also bore out the important role that insurance plays. McDavid et al. observe, “Men in the Medicaid/welfare and unknown insurance groups had elevated risks of death within 3 years of diagnosis compared with men privately insured” [7].

Overall McDavid and colleagues found that “colorectal, prostate, and breast cancer had similar patterns of survival by insurance category. Patients insured privately or by Medicare, Medicare plus supplement, or other federally funded [sources] had relatively better survival compared with patients in the other insurance categories”

[8]. For those with lung cancer, private insurance was even more significant. The relative one-year survival rate for a patient with private insurance was 49.7 percent but there was less than a 40 percent one-year survival rate for those in every other insurance category except Medicaid [9].

Discussion

McDavid and colleagues have presented compelling evidence to affirm that private insurance coverage is associated with optimal outcomes but that any form of insurance is better than no insurance. This conclusion is supported by the success rates of privately insured women with breast cancer whose 3-year survival was 90.6 percent compared to 57.5 percent for those with unknown insurance [8]. It is worth noting, however, that of those in the unknown insurance type category, nearly three-fourths of participants did not receive treatment [8]. The findings also seem to suggest that screenings and preventive services are lacking for those who are uninsured or insured by Medicaid, based on the fact that the percentage of those diagnosed at late stages of disease was nearly 14 points higher among those with Medicaid or no insurance than among the privately insured [6].

Regrettably this research did not control for socioeconomic status but relied on type of insurance as a proxy for income level. This may not accurately capture the socioeconomic picture, given the hyperspecific qualifying criteria for many of these programs and the rising cost of private health insurance that has forced many with middle-class incomes to forgo coverage. Further, as in similar studies, the racial breakdown was simply black or white, thus limiting the scope of the study. It might be worthwhile to compare survival rates and diagnosis patterns based on finer ethnic distinctions, given the known disparities in health care among members of various ethnic groups. Although the authors of this study used a wide range of insurance types, the “unknown” category still presents a challenge because, while this group almost always fares the worst of the seven, it cannot be determined what effect this population’s insurance status data would have on the study’s findings.

Finally, an obvious limitation of the study is its non-transferability. All of the data collected was specific to one state— Kentucky—and some of its demographics, including the percentage of the uninsured (3 percent) and the socioeconomic status of the state (Kentucky is the sixth poorest state in the U.S.), set it apart from much of the country [10]. Further, few states keep records as detailed and up-to-date as the KCR does. The amount of time, money and staff needed to create either a similar nationwide registry or one for each individual state would be high and perhaps, impractical.

Overall the Kentucky study is valuable because it demonstrates a long-held, but largely anecdotal, notion that lack of adequate insurance results in worse outcomes for patients.

References

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