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Intimate Partner Violence and Health Care Costs and Utilization for Children Living in the Home

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ABSTRACT

OBJECTIVE. The goal was to determine whether differences in health care costs and utilization exist for children whose mothers experienced intimate partner violence versus those who did not.

METHODS. A longitudinal cohort study was performed in an integrated health care delivery organization with 760 children of mothers with no history of intimate partner violence and 631 children of mothers with a history of intimate partner violence since age 18. Health care utilization and costs for children before, during, and after intimate partner violence exposure were compared with utilization and costs for children of nonabused mothers.

RESULTS. Health care utilization and health care costs were higher in most categories of care for children of mothers with a history of intimate partner violence, with significantly higher values for mental health services, primary care visits, primary care costs, and laboratory costs. Children of mothers with a history of intimate partner violence that ended before the child was born had significantly greater utilization of mental health, primary care, specialty care, and pharmacy services than did children of mothers who reported no intimate partner violence. Children exposed directly to intimate partner violence (after birth) had greater emergency department and primary care use during the intimate partner violence and were 3 times as likely to use mental health services after the intimate partner violence ended.

CONCLUSIONS. Children whose mothers experienced intimate partner violence have higher health care utilization and costs, even if their mothers’ abuse stopped before they were born. Screening of women for intimate partner violence should be a routine part of their health care, and interventions for both the women and their children are likely necessary to minimize the effects of intimate partner violence in the family.
Intimate partner violence (IPV) is a common problem, affecting >40% of women during their adult lives, with as many as 18% of women reporting rape or intimate partner physical assault during their lives. Many women who sustain IPV have children. Previous studies enumerated adverse health effects of IPV on women in multiple domains, including physical, emotional, and mental health, substance abuse, social functioning, and financial stability. Children are also affected adversely by exposure to IPV. For example, previous studies showed that IPV-exposed children have increased risk of experiencing child abuse, internalizing and externalizing behavior problems, school problems, poor health, and later risk-taking behavior, victimization, and violence perpetration.

We demonstrated previously that abused women had higher health care costs and utilization both during and after IPV, compared with women without a history of IPV. There are limited and contradictory data on the effects of IPV exposure on use of health care services among children. A large Canadian study, using data from 1 decade ago, found that children exposed to IPV had poorer health status, increased use of prescription drugs, and increased contact with nonphysician health care workers but less contact with pediatricians than did children without exposure. However, a study of IPV in women with young infants found that they did have appropriate utilization of well-child care services. A systematic review of 22 previous studies found that children exposed to IPV were less likely to be fully immunized, although the effect on use of health services was unclear. In contrast, Casanueva et al found that children exposed to severe IPV had greater emergency department utilization than did unexposed children.

Building on our previous work, we sought to determine whether differences in health care costs and utilization existed for children whose mothers experienced IPV, compared with those who did not. We used actual health services utilization data for a wide range of services over a period of 11 years.

Methods

Study Population

This was part of a study of IPV among adult female members of Group Health, a large, integrated, health care delivery system in the United States. Sociodemographic characteristics of the Group Health population are generally similar to those of individuals in the surrounding area, as reported previously. Children <18 years of age constitute 21.2% of Group Health enrollees, which is similar to their proportions in King County (21.3%) and in the United States (24.6%).

All study procedures were approved by the Group Health institutional review board and were described previously. Briefly, we conducted telephone inter-

views with a random sample of women 18 to 64 years of age, to identify those who had been exposed to IPV since 18 years of age. Women were sampled between June 19, 2003, and May 6, 2005, and were eligible if they had been enrolled at Group Health for ≥12 of the 41 calendar quarters preceding the calendar quarter of sampling. This latter requirement was necessary for the parent study in which we examined health care costs for the women. IPV was defined by using questions from the Behavioral Risk Factor Surveillance System and the Women’s Experience of Battering scale. Women were classified as experiencing IPV if they reported physical or sexual abuse, threats, or controlling behaviors on ≥1 of the Behavioral Risk Factor Surveillance System questions or scored ≥20 on the Women’s Experience of Battering scale (score range: 10–60). If women reported IPV, then we determined the starting and ending years of IPV exposure. We reported previously that, whereas 79.6% of women with IPV in the past 5 years scored positive on the Behavioral Risk Factor Surveillance System questions, 20.4% experienced IPV as measured with the Women’s Experience of Battering scale only. Slightly more than one half of abused women had only 1 type of abuse in the past 5 years, with the most common being controlling behavior. Thirty percent had physical abuse, 11.1% forced sex, and 6.0% unwanted sexual contact; 23.7% reported verbal threats.

The response rate for the survey among eligible women was 56.4%. As described previously, we developed a propensity score for participation in the study, on the basis of data available for both respondents and nonrespondents. The probabilities of participation were similar for women with and without a history of IPV, which indicated that nonresponse was not likely to bias the estimates of the effects of IPV on utilization and costs.

This report includes data only for children who were <18 years of age and were living in the same household as the respondent at the time of the interview, who were members of Group Health, and for whom the adult survey respondent gave consent for inclusion in the analyses. These children were identified by matching each child’s name and birth date, collected during the survey when consent was obtained, with names and birth dates in Group Health enrollment records. The respondent did not need to be a biological parent of the index child. We included all minor children in the household.

Health Care Utilization and Costs

Health care utilization was determined from Group Health automated databases, which captured all insured services, including out-of-network services, during the period from January 1992 through June 2003. The data systems and the cost methods have been used in a large number of previous studies from Group Health and
have been shown to produce reliable valid data. All costs were adjusted to 2004 dollars by using the medical care component of the Consumer Price Index for the Seattle-Tacoma-Everett metropolitan statistical area.30

Data Analyses
Children were categorized according to the IPV status of their mothers. The comparison group for all analyses included children whose mothers reported never having been exposed to IPV since age 18. Mothers who reported having experienced IPV were divided into 2 groups, namely, those for whom the IPV stopped before the child was born and those for whom the IPV occurred after the child’s birth. Within the latter group, we examined the child’s health care costs and utilization before, during, and after the period in which the IPV was reported as occurring. The period during abuse was defined as the period between the time when the mother reported first experiencing IPV and the time when the abuse ended. All time between the start and end of abuse was characterized as during abuse. This period was not necessarily a continuous period of abuse and was not necessarily confined to 1 abusive partner; therefore, we counted only the months during which the woman reported being abused as the period during abuse. The period before abuse was defined as all time after the birth of the child but before the first reported episode of abuse. The time after the last reported episode of abuse, until the end of the data period (June 2003), was defined as after abuse. Children whose mothers had a history of IPV were categorized on the basis of the end date (if ended) of the most recent IPV episode. We were unable to identify whether there was abuse during the pregnancy.

The unit of analysis was the utilization quarter, with children contributing up to 46 quarters of utilization data (mean: 25.7 quarters). To account for the within-child correlation across utilization quarters and the within-family correlation between children in the same family, we used generalized estimating equations with robust SE estimates, assuming an independent working correlation. For outcomes assessing any use of health care services, odds ratios were estimated by using generalized estimating equations with a logit link and binomial errors. The odds ratios provide good approximations to the relative risks, because the occurrence of utilization for this set of services was relatively rare across utilization quarters. For counts of health care utilization within each component of care, regression models were used to estimate incidence rate ratios by using a logarithmic link and Poisson error distribution. Cost ratios were estimated for each cost outcome by fitting the generalized estimating equation models with a logarithmic link, assuming a γ error distribution.

To improve the precision of estimated exposure effects and to control for potential confounding, all multivariate models adjusted for the child’s age and gender, the mother’s education, and the mother’s age at the time of the child’s birth (all factors that could influence health care utilization and costs). In addition, to account for possible time trends in service utilization, models adjusted for calendar year. We did not have information on whether children living in the home experienced abuse themselves; therefore, we could not adjust for that factor in the analysis.

RESULTS
We surveyed 839 women 18 to 64 years of age, with a total of 1400 children <18 years of age who were living in the home at the time of the survey. The timing of the IPV was not reported by 5 women, leaving 834 women and 1391 children for the analysis.

Among the mothers, 46.6% reported experiencing IPV since age 18. Among the mothers who reported IPV, there were 191 women with IPV that ended before the child was born and 198 who experienced IPV during the child’s lifetime.

Among the 1391 children in the analysis, 760 had mothers who reported no IPV since age 18. Among the 631 children of mothers with a history of IPV, IPV was reported to have ended before (mean: 8.0 years before; SD: 5.0 years; range: 1–27 years) the year of the child’s birth for 303 children (21.8% of total) and to have occurred during the child’s lifetime for the remaining 328 children (23.6% of total).

Mothers who reported IPV had lower household incomes, were less educated, and were less likely to be married than were mothers who reported no IPV (Table 1). Children exposed to IPV during their lifetimes were somewhat older than children born to mothers who reported never having been abused, as well as children born to mothers for whom the IPV ended before the child’s birth. The numbers of children living in the home were not significantly different between the groups.

Unadjusted total costs were slightly higher in the no-IPV group (Table 2); however, after adjustment for calendar year, child’s age and gender, and mother’s education and age at the birth of the child, health care utilization and health care costs in most categories were greater for children of mothers with a history of IPV, with significantly greater values for mental health services, primary care visits and costs, and laboratory costs. There was a complex relationship between the timing of IPV and the potential exposure of the child to IPV and effects on health care utilization and costs. The unadjusted costs and utilization are shown in Table 3. The adjusted results shown in Table 4 indicate that children of mothers with a history of IPV that ended before the year the child was born had significantly higher utilization of mental health, primary care, specialty care, and pharmacy services than did children of mothers who reported no IPV. The costs of care were higher in all categories of services, and costs of primary care and
laboratory services and total costs were significantly higher.

During the period of reported IPV, children exposed to IPV in the home had significantly greater use of the emergency department and more primary care visits, although they had significantly fewer hospital outpatient visits, compared with children whose mothers had no IPV history. Their primary care costs were 15% higher, although their overall health care costs were not different from those of the comparison group.

Among children for whom IPV occurred after their birth, we examined the health care costs and utilization after IPV was reported to have ended (Table 4). They were 3 times more likely to use mental health services and had 16% higher primary care costs than did children of mothers without IPV. Their overall costs were no higher, however.

**DISCUSSION**

This study has important implications for pediatric health care and for interventions to prevent IPV and its consequences. Forty-five percent of children had mothers with a history of IPV. Before the child was born and/or after his or her birth. Health care utilization and costs were higher for those children for mental health services, primary care, and use of the laboratory. Long-term adverse effects of IPV were observed; health care costs were 24% higher for children whose mothers’ IPV was reported to have stopped before the child was born. For children exposed to IPV, their utilization of mental health services after the IPV had ended was threefold higher than the mental health service use of children never exposed to IPV.

There are limitations to consider when interpreting these results. We did not know specifically whether children in this sample were also abused, which is an important limitation in the study. Previous studies indicated that children who reside in homes where IPV occurs are at significantly higher risk of experiencing abuse themselves, compared with children in homes where IPV does not occur. Being abused as a child is associated with short- and long-term adverse health effects, which could potentially account for some of the health care utilization and cost differences. Our sample was largely middle class and insured through employment, although it did include children insured by Medicaid. It might not be representative of all children living in homes with mothers who have been abused. Recall bias for IPV also might be a limitation, although this would tend to bias the results toward the null hypothesis.

We did not adjust for some variables that differed

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Characteristics of Children and Their Mothers at Time of Survey, According to IPV Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No IPV</td>
</tr>
<tr>
<td>Mothers, N</td>
<td>445</td>
</tr>
<tr>
<td>Age at survey, mean ± SD, y</td>
<td>41.7 ± 7.5</td>
</tr>
<tr>
<td>White, %</td>
<td>80.6</td>
</tr>
<tr>
<td>Household income, %</td>
<td></td>
</tr>
<tr>
<td>&lt;$25 000</td>
<td>4.8</td>
</tr>
<tr>
<td>$25 000 to $49 999</td>
<td>17.8</td>
</tr>
<tr>
<td>$50 000 to $74 999</td>
<td>29.2</td>
</tr>
<tr>
<td>≥$75 000</td>
<td>48.3</td>
</tr>
<tr>
<td>Employed at least part time, %</td>
<td>81.8</td>
</tr>
<tr>
<td>High school graduate or less, %</td>
<td>8.1</td>
</tr>
<tr>
<td>Other children in home, %</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>43.4</td>
</tr>
<tr>
<td>1 or 2</td>
<td>53.0</td>
</tr>
<tr>
<td>3+</td>
<td>3.6</td>
</tr>
<tr>
<td>Duration of IPV, %</td>
<td></td>
</tr>
<tr>
<td>&lt;1 y</td>
<td>21.9</td>
</tr>
<tr>
<td>1–2 y</td>
<td>15.7</td>
</tr>
<tr>
<td>3–5 y</td>
<td>15.4</td>
</tr>
<tr>
<td>6–10 y</td>
<td>17.0</td>
</tr>
<tr>
<td>&gt;10 y</td>
<td>30.1</td>
</tr>
<tr>
<td>Mental status at time of survey, %</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>90.3</td>
</tr>
<tr>
<td>Dating/life partner</td>
<td>3.6</td>
</tr>
<tr>
<td>Separated/divorced</td>
<td>4.3</td>
</tr>
<tr>
<td>Other</td>
<td>1.8</td>
</tr>
<tr>
<td>Children, N</td>
<td>760</td>
</tr>
<tr>
<td>Age at time of survey, mean ± SD, y</td>
<td>10.6 ± 4.7</td>
</tr>
<tr>
<td>Male, %</td>
<td>52.0</td>
</tr>
</tbody>
</table>

* P < .01, compared with the no-IPV group.

b P < .05, compared with the no-IPV group.
between the IPV and no-IPV groups, such as maternal depression and marital status. First, these variables may be in the causal pathway between IPV of the mother and increased health care utilization for the child. Treating these variables as potential confounders would thus represent overadjustment. Second, we had maternal function data for only 1 point in time; extrapolation of those data to past periods during which we determined health care utilization would be hazardous. Health care utilization occurs in the context of a variety of individual and familial factors, because of a variety of genetic and environmental influences. IPV is one of the factors that interact in a causal chain to affect this utilization. Although maternal income differed between the groups, all health care was prepaid and thus income should not be a barrier to utilization. We also did not adjust for abuse or neglect of the mother as a child, because we thought that would have represented overadjustment.

The complex relationship between the timing of IPV for the mother and the effect on children’s health care utilization and costs, as well as the variation according to

### TABLE 2  Quarterly Health Care Costs and Utilization for Children With and Without Exposure to IPV

<table>
<thead>
<tr>
<th></th>
<th>No IPV</th>
<th>IPV Ever</th>
<th>IPV Ever vs No IPV, Ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of children</td>
<td>760</td>
<td>631</td>
<td></td>
</tr>
<tr>
<td>No. of follow-up quarters</td>
<td>20503</td>
<td>15315</td>
<td></td>
</tr>
<tr>
<td>Any utilization of services, %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental health services</td>
<td>0.9</td>
<td>1.9</td>
<td>1.98 (1.28–3.05)</td>
</tr>
<tr>
<td>Inpatient admissions</td>
<td>0.5</td>
<td>0.4</td>
<td>0.82 (0.55–1.21)</td>
</tr>
<tr>
<td>Hospital outpatient visits</td>
<td>1.8</td>
<td>1.2</td>
<td>0.85 (0.61–1.18)</td>
</tr>
<tr>
<td>Emergency department visits</td>
<td>1.4</td>
<td>1.9</td>
<td>1.30 (1.03–1.64)</td>
</tr>
<tr>
<td>No. of visits/prescriptions, mean ± SD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary care</td>
<td>0.68 ± 1.08</td>
<td>0.76 ± 1.17</td>
<td>1.17 (1.10–1.25)</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>0.79 ± 1.81</td>
<td>0.90 ± 1.76</td>
<td>1.14 (1.00–1.30)</td>
</tr>
<tr>
<td>Specialty care</td>
<td>0.10 ± 0.43</td>
<td>0.12 ± 0.55</td>
<td>1.16 (0.97–1.38)</td>
</tr>
<tr>
<td>Costs for services, mean ± SD, 2004 dollars</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary care costs</td>
<td>114 ± 229</td>
<td>122 ± 237</td>
<td>1.16 (1.07–1.25)</td>
</tr>
<tr>
<td>Pharmacy costs</td>
<td>23 ± 148</td>
<td>27 ± 190</td>
<td>1.13 (0.82–1.55)</td>
</tr>
<tr>
<td>Specialty costs</td>
<td>24 ± 162</td>
<td>26 ± 309</td>
<td>1.05 (0.84–1.31)</td>
</tr>
<tr>
<td>Laboratory costs</td>
<td>6 ± 27</td>
<td>7 ± 68</td>
<td>1.25 (1.09–1.42)</td>
</tr>
<tr>
<td>Radiology costs</td>
<td>10 ± 67</td>
<td>11 ± 63</td>
<td>1.08 (0.91–1.28)</td>
</tr>
<tr>
<td>Total costs</td>
<td>284 ± 2102</td>
<td>280 ± 1559</td>
<td>1.11 (0.94–1.30)</td>
</tr>
</tbody>
</table>

Ratios were adjusted for calendar year, child’s age, child’s gender, mother’s education, and mother’s age at the birth of the child. CI indicates confidence interval.

a Odds ratio.
b Incidence rate ratio.
c Cost ratio.

### TABLE 3  Quarterly Health Care Costs and Utilization for Children of Mothers With Exposure to IPV, According to Timing of IPV

<table>
<thead>
<tr>
<th></th>
<th>Abuse Stopped Before Child Was Born (n = 303)</th>
<th>IPV Occurred During Child’s Life (n = 328)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Utilization/Costs Before IPV</td>
<td>Utilization/Costs During IPV</td>
</tr>
<tr>
<td>No. of follow-up quarters</td>
<td>7170</td>
<td>625</td>
</tr>
<tr>
<td>Any utilization of services, %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental health services</td>
<td>1.6</td>
<td>0.3</td>
</tr>
<tr>
<td>Inpatient admissions</td>
<td>0.6</td>
<td>0.5</td>
</tr>
<tr>
<td>Hospital outpatient visits</td>
<td>1.7</td>
<td>1.0</td>
</tr>
<tr>
<td>Emergency department visits</td>
<td>1.7</td>
<td>3.2</td>
</tr>
<tr>
<td>No. of visits/prescriptions, mean ± SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary care</td>
<td>0.83 ± 1.22</td>
<td>0.94 ± 1.29</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>0.98 ± 1.91</td>
<td>0.86 ± 1.50</td>
</tr>
<tr>
<td>Specialty care</td>
<td>0.14 ± 0.67</td>
<td>0.11 ± 0.39</td>
</tr>
<tr>
<td>Costs for services, mean ± SD, 2004 dollars</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary care costs</td>
<td>136 ± 263</td>
<td>145 ± 268</td>
</tr>
<tr>
<td>Pharmacy costs</td>
<td>36 ± 418</td>
<td>18 ± 70</td>
</tr>
<tr>
<td>Specialty costs</td>
<td>32 ± 436</td>
<td>24 ± 122</td>
</tr>
<tr>
<td>Laboratory costs</td>
<td>9 ± 97</td>
<td>9 ± 29</td>
</tr>
<tr>
<td>Radiology costs</td>
<td>10 ± 64</td>
<td>10 ± 45</td>
</tr>
<tr>
<td>Total costs</td>
<td>342 ± 2171</td>
<td>259 ± 602</td>
</tr>
</tbody>
</table>

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type of service, may account for the disparate findings found in previous studies that did not stratify their data.\textsuperscript{12,13} Utilization of mental health services was higher for all groups of children with abused mothers, with the exception of the period during which children were living in the home but the IPV had not yet begun. For all types of utilization and costs, these children were no different from those whose mothers reported never having been abused. This finding suggests that it is IPV itself and not other characteristics of the women that accounted for the greater utilization during and after abuse.

During the period of abuse, children whose mothers were abused were more likely to have an emergency department visit but had fewer hospital outpatient (urgent care) visits and had more primary care visits. Their utilization of mental health services was not significantly greater. The greater use of primary care and emergency department services may reflect more-frequent acute illnesses in these children or may reflect increased help-seeking behaviors for the children on the part of their mothers. Other studies have shown that family stress increases the frequency of respiratory and other illnesses in exposed children.\textsuperscript{32–34} Major depression in a parent is associated with a nearly fourfold increase in the risk of respiratory illness in the children.\textsuperscript{35}

After the abuse ended, exposed children had threefold greater utilization of mental health services. The adverse emotional and behavioral effects of IPV on children have been well described\textsuperscript{32–34,36} and indicate that this utilization of mental health services may be appropriate. The finding that mental health utilization was not increased during the time when children were exposed to IPV may be related to the overwhelming situational demands placed on the mother by the IPV, her resultant depression and poorer social functioning,\textsuperscript{3} and her increased use of quick-access services, such as the emergency department, for the child during that period. In addition, the differences in utilization may be related to differences in the relationship of these children to their fathers or another parental figure, the effects of the absence of a father or other parental figure on the child, and comorbidity (such as alcoholism) in other caregivers in the household.\textsuperscript{37–39} We were not able to examine these effects because we did not collect data on the fathers/partners of the child’s mother.

The findings from this study parallel our previous work demonstrating that health care costs of abused women continued to be elevated long after IPV ended.\textsuperscript{20} There are a number of possible interactive mechanisms to explain elevated costs for children in homes with IPV. Other analyses from this same cohort documented the long-term effects of IPV on women’s mental, physical, emotional, and social health, even many years after the abuse stopped.\textsuperscript{3} Many studies have detailed the effects on children of living in a household with maternal depression, including increased illness,\textsuperscript{35} increases in some types of health care utilization,\textsuperscript{41,42} poorer health status,\textsuperscript{43} and greater risk of mental health problems.\textsuperscript{44} As described, children living in households with chronic stress are at increased risk of a variety of acute disorders, especially respiratory problems. These factors together can increase the prevalence of acute and chronic health problems in children with mothers who were previously exposed to IPV.

\begin{table}
\caption{Adjusted Odds Ratio for Health Care Utilization, Adjusted Rate Ratios for Quarterly Number of Utilizations, and Costs Ratios for Children With and Without Exposure to IPV, According to Timing of IPV}
\begin{tabular}{|l|l|l|l|}
\hline
IPV Occurred During Child’s Life (n = 328) & Utilization/Costs Before IPV vs No IPV & Utilization/Costs During IPV vs No IPV & Utilization/Costs After IPV vs No IPV \\
\hline
Adjusted odds ratio for utilization of services & & & \\
(95% CI) & & & \\
Mental health services & 1.71 (1.01–2.91) & 0.42 (0.07–2.46) & 1.31 (0.68–2.52) & 3.25 (1.80–5.87) \\
Inpatient admissions & 0.92 (0.58–1.48) & 0.47 (0.16–1.43) & 0.65 (0.35–1.20) & 0.98 (0.45–2.14) \\
Hospital outpatient visits & 1.18 (0.82–1.69) & 0.48 (0.14–1.64) & 0.57 (0.35–0.90) & 0.55 (0.30–0.99) \\
Emergency department visits & 1.14 (0.85–1.52) & 1.62 (0.87–3.02) & 1.55 (1.13–2.14) & 1.23 (0.84–1.80) \\
\hline
Adjusted incidence rate ratio for visits/utilizations (95% CI) & & & \\
Primary care & 1.18 (1.09–1.28) & 1.17 (0.96–1.42) & 1.19 (1.08–1.30) & 1.13 (0.99–1.29) \\
Pharmacy & 1.22 (1.02–1.45) & 0.96 (0.71–1.29) & 1.14 (0.97–1.34) & 0.99 (0.78–1.25) \\
Specialty care & 1.36 (1.08–1.71) & 1.01 (0.58–1.75) & 0.98 (0.77–1.26) & 0.95 (0.72–1.25) \\
\hline
Cost ratio (95% CI) & & & \\
Primary care costs & 1.16 (1.05–1.28) & 1.16 (0.94–1.43) & 1.15 (1.03–1.39) & 1.16 (1.01–1.34) \\
Pharmacy costs & 1.43 (0.89–1.69) & 0.95 (0.53–1.69) & 0.89 (0.68–1.16) & 0.86 (0.58–1.27) \\
Specialty costs & 1.22 (0.91–1.65) & 0.92 (0.44–1.93) & 0.95 (0.73–1.24) & 0.85 (0.61–1.19) \\
Laboratory costs & 1.35 (1.12–1.64) & 1.60 (1.07–2.40) & 1.12 (0.95–1.31) & 1.10 (0.92–1.32) \\
Radiology costs & 1.03 (0.83–1.29) & 1.02 (0.65–1.60) & 1.19 (0.94–1.51) & 1.05 (0.81–1.37) \\
Total costs & 1.24 (1.00–1.54) & 0.91 (0.62–1.35) & 0.98 (0.61–1.18) & 1.03 (0.80–1.32) \\
\hline
\end{tabular}
\end{table}
abused, as well as increasing health care utilization per episode of illness.

We previously showed that the annual costs of the 19% increase in health care utilization for women attributable to IPV results in $19.3 million per year for every 100,000 women. To this must be added the 11% higher annual costs of health care for their children. These data provide additional impetus for the development and implementation of interventions by health care organizations to attend to the needs of all persons affected by IPV, including women and their children. These interventions include screening to identify the occurrence of IPV and appropriate referral to community agencies and to mental health care for both the mother and the child. These interventions are unlikely to be cost-effective in the short term, because the increased health care utilization of IPV victims seems to be elevated for a number of years after IPV ceases. Nevertheless, such services are necessary to attend appropriately and responsibly to the long-term consequences of violence.

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**HIKIKOMORI**

“Across Japan, more than one million men and boys have chosen to withdraw completely from society. These recluses hide in their homes for months or years at a time, refusing to leave the protective walls of their bedrooms. They are as frightened as small children abandoned in a dark forest. Some spend their days playing video games. A few—an estimated 10 percent—surf the Internet. These men are called *hikikomori,* which translates loosely as one who shuts himself away and becomes socially withdrawn. (The Japanese word joins together the word *hiku* or ‘pull,’ with the word *komoru,* or ‘retire,’ to render the meaning ‘pulling in and retiring.’) These men—and 80% of *hikikomori* are males—cannot be diagnosed as schizophrenics or mental defectives. They are not depressives or psychotics; nor are they classic agoraphobics, who fear public spaces but welcome friends into their own homes. When psychiatrists evaluate the *hikikomori* using the *Diagnostic and Statistical Manual,* or DSM IV, the standard guide used in the West to diagnose mental disorders, their symptoms cannot be attributed to any known psychiatric ailment. Instead, Japanese psychiatrists say that *hikikomori* is a social disorder, only recently observed, that cannot be found within other cultures. These men—as I found during months of conversations with them—are often intelligent, stimulating, highly open and responsive adults full of cogent ideas and fascinating insights into society and themselves.”

Zielenziger, M. *Shutting Out the Sun: How Japan Created Its Own Lost Generation.* Nan A. Talese, an imprint of Doubleday, a division of Random House, Inc. 2006

Noted by JFL, MD
Intimate Partner Violence and Health Care Costs and Utilization for Children Living in the Home
Frederick P. Rivara, Melissa L. Anderson, Paul Fishman, Amy E. Bonomi, Robert J. Reid, David Carrell and Robert S. Thompson

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