Emergency Department and Urgent Care for Children Excluded From Child Care

WHAT’S KNOWN ON THIS SUBJECT: Previous studies have revealed that children in child care are frequently ill with mild illness and are unnecessarily excluded from child care at high rates.

WHAT THIS STUDY ADDS: Parent race/ethnicity, single parents, and work-related concerns are associated with increased emergent/urgent care use for a sick child excluded from child care, even for mild illnesses.

abstract

BACKGROUND: Children in child care are frequently unnecessarily excluded for illness. We investigated parental use of urgent medical evaluation for sick children unable to attend child care.

METHODS: In May 2012, authors conducted a nationally representative survey of parents, who completed online questions regarding child illness causing absence from child care and their medical care-seeking behavior. Main outcome was parents’ use of emergency department or urgent care (ED/UC).

RESULTS: Overall survey participation rate was 62%. Of participating parent cohort with children 0 to 5 years old, 57% (n = 357) required child care, of which 84% (n = 303) required out-of-home child care. Over 88% of parents sought acute medical care for their sick children unable to attend child care. Approximately one-third of parents needed a doctor’s note for employers and/or child care. Parents sought medical evaluation (>1 option possible) from primary care (81%), UC (26%), or ED (25%). ED/UC use was most common for rash (21%) and fever (15%). Logistic regression indicated ED/UC use was significantly higher among single/divorced parents (odds ratio [OR] = 4.3; 95% confidence interval [CI]: 2.5–13.5); African American parents (OR = 4.2; 95% CI: 1.2–14.6); parents needing a doctor’s note (OR = 4.2; 95% CI: 1.5–11.7); and those with job concerns (OR = 3.4; 95% CI: 1.2–9.7).

CONCLUSIONS: A substantial proportion of parents whose sick children cannot attend child care seek care in ED/UC. Training child care professionals regarding appropriate illness exclusions may decrease ED/UC visits by lowering child care exclusions. Pediatrics 2014;134:e120–e127

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KEY WORDS: child care, illness, urgent care, emergency care, policy, survey, and parents

ABBREVIATIONS: AAP—American Academy of Pediatrics; ACA—Affordable Care Act; aOR—adjusted odds ratio; CI—confidence interval; ED—emergency department; GfK—GfK Custom Research, LLC; NPCH—National Poll on Children’s Health; OR—odds ratio; UC—urgent care

Dr Hashikawa conceptualized and designed the study, helped with data acquisition, and drafted the initial manuscript. Dr Brousseau helped conceptualize and design the study, contributed substantially to data interpretation, and critically reviewed and revised the manuscript. Ms Singer made substantial contributions to study design, study analysis and data interpretation, and critically reviewed the manuscript. Mr Gebremariam carried out data analysis and interpretation and critically reviewed the manuscript. Dr Davis made substantial contributions to study design and development of data collection instruments and critically reviewed and revised the manuscript; and all authors approved the final manuscript as submitted.

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More than 80% of the children in the United States will require nonparental child care by 6 years of age because of working parents, welfare reform, and economic necessity.1–3 Children in child care center settings have more upper respiratory infections, diarrheal illness, ear infections, and myringotomy tube placement than children who stay at home exclusively.4–7 Previous research demonstrates that ill children are routinely excluded from child care unnecessarily given that most child care-related illnesses are minor in severity.8–11 Unnecessary exclusions place a substantial burden on working families, businesses, and health care resources.1,9,12–18 Nationally, an estimated 44 million workers lack any paid sick leave benefits to care for sick children, disproportionately affecting poor and minority families.19

The American Academy of Pediatrics (AAP), in its publication Caring for Our Children: National Health and Safety Performance Standards for Out-of-Home Child Care and Early Education Programs,20 outlined clear child care illness exclusion guidelines, particularly if the child cannot participate comfortably in activities or needs more attention that staff can provide safely. Several studies demonstrate that child care provider adherence to the guidelines is low, however, and training is unavailable in most states.9,9,21,22

Consequently, child care providers unaware of AAP national child care recommendations may increase parents’ perceived need for urgent medical evaluations for nonurgent conditions to avoid loss of wages or missed time from work.23–26 An estimated 50% to 80% of the 25 million pediatric visits to the emergency department are for nonurgent conditions.27–30 High emergency department (ED) utilization for nonurgent conditions leads to increased cost, prolonged wait times, patient dissatisfaction, and adverse events.28,31 Studies suggest that most families seeking nonurgent pediatric ED visits report having a regular primary care physician.27,32 Multiple factors associated with pediatric nonurgent ED utilization have been identified, including single parent status, Medicaid insurance, lack of convenient/weekend hours, parent ED utilization, and quality of relationship with primary care provider.27,28,33,33 Many of these factors are prominent characteristics of parents who need child care services. No studies of pediatric ED or acute care use, however, have assessed the impact that child care illness might have on parents’ need for urgent medical evaluations.

The C.S. Mott Children’s Hospital National Poll on Children’s Health (NPCH) survey was used to investigate the prevalence and characteristics of parents who use the ED or urgent care (UC) for sick children unable to attend child care.

METHODS
Study Design and Sample
The NPCH, located within the Child Health Evaluation and Research Unit of the Division of General Pediatrics at the University of Michigan, measures perceptions concerning major health care issues and trends for US children. The NPCH is conducted in partnership with the GfK Custom Research, LLC (GfK) Group’s Web-enabled KnowledgePanel, a probability-based panel designed to be representative of the US population. The KnowledgePanel has served as the sampling frame for several other peer-reviewed studies on health topics related to children.34–37
The NPCH sample includes oversampling of parents and members of racial and ethnic minorities to ensure adequate representation of those groups. Panel participants were originally chosen through random selection of telephone numbers and residential addresses and were invited by GfK to participate by telephone or mail. If individuals agree to participate but do not already have Internet access, GfK provides them a laptop and Internet service connection at no cost. Panelists receive unique log-in information for accessing surveys online, and then are sent emails each month inviting them to participate in research on a wide array of topics. After joining the panel, participants provide individual and household demographic data, used for sampling purposes.

The survey for the current study was piloted in April 2012 by using a separate convenience sample of 105 KnowledgePanel participants. The process for the pretest sample is very similar to the process for the main survey, with identical sample definitions in both samples. When the survey items were judged by the investigators to be functioning as intended, the final survey was fielded in May 2012. Eligible participants in the survey were adults 18 years or older. This study is based on responses of parents with children 0 to 5 years old in child care. The study was approved by the University of Michigan Medical School Institutional Review Board.

Survey Items
The focus of this study was on parental responses to 5 questions related to child care and illness, within a larger survey of 52 questions on topics including bullying, hearing loss, top child health concerns in respondents’ communities, and whole genome sequencing. The survey questions related to child care and illness developed by the study team are presented in Fig 1: for purposes of analysis, “child care” also included “daycare” and “preschool” settings. Only children who required care outside their homes were included. For parents with >1 child, each parent was asked to select the youngest child as the index case for purposes of this study.
Q1. What type of school or child care does this child attend?

☐ Public/charter school
☐ Private school
☐ Home school
☐ Daycare/child care/Preschool
☐ Does not attend school/child care
☐ Other

Q2. In the past year, when your child had an illness that did NOT allow him/her to be in child care, how many times did you take him/her to the following places for care?

<table>
<thead>
<tr>
<th></th>
<th>ED</th>
<th>UC/In-Store Clinic</th>
<th>Primary Care Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–10, 10+</td>
<td></td>
<td>0–10, 10+</td>
<td>0–10, 10+</td>
</tr>
</tbody>
</table>

Q3. When your child is SENT HOME or NOT allowed in child care due to illness...

*Select one box in each row*

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>The child care requires a doctor’s note in order for my child to return.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My employer requires a doctor’s note if I take time off work to care for my child.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q4. Here are 5 common symptoms of childhood illness. If your child has these symptoms, would you send him/her to child care? *Please check one box in each row.*

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No—he/she would NOT be allowed at child care</th>
<th>No—he/she WOULD be allowed at child care, but I would not send him/her</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear runny nose and dry cough, no fever</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red eyes, clear drainage from eyes, no fever</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Threw up once and had 2 loose, watery stools</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Felt warm, fever (101°F armpit), acting his/her usual self</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Circular rash on scalp, child care thinks it might be ringworm</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q5. Imagine your child has the following symptoms the evening before you need to be at an important meeting the next day. Where would you take your child for medical care? *Select one box in each row.*

<table>
<thead>
<tr>
<th></th>
<th>ED</th>
<th>UC</th>
<th>Primary care provider</th>
<th>I would not take my child for care for these symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear runny nose and dry cough, no fever</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Red eyes, clear drainage from eyes, no fever</td>
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<td>Felt warm, fever (101°F armpit), acting his/her usual self</td>
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<td></td>
</tr>
<tr>
<td>Circular rash on scalp, child care thinks it might be ringworm</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

FIGURE 1
Survey questions in NPCH survey related to child care illness and management.
Parents completed survey questions regarding illnesses that caused absence from child care and medical care-seeking behavior when their children could not attend child care. Five hypothetical vignettes about a child with illness symptoms (cold symptoms without fever, conjunctivitis, gastroenteritis, mild fever, and ringworm), adapted from Copeland et al²¹ were presented to each respondent (Fig 1). For each of the illness vignettes, parents chose whether the child would be a) sent to child care despite symptoms; b) excluded by child care because of illness; or c) kept at home even if the child was allowed at child care. Parents were also asked if they would take their children for medical care if their children developed symptoms the evening before an important parent meeting. The median time to complete the survey was 10 minutes.

Survey Analysis

Deidentified data were presented from the survey partner to the authors, with sampling weights on the basis of the US Census to yield nationally representative estimates. All result data are presented weighted for the US population. Bivariate analyses ($\chi^2$ tests) were conducted for the relationship between parent-reported ED/UC use and several parent (gender, race, parent education, household income, house ownership status, housing type) and child (insurance status, allergy status, asthma status, seizure, lung disease from prematurity, obesity) characteristics. The primary outcome was parent's use of either the ED or UC for their child. Parents' choices of site of urgent medical care (ED, UC, or primary care provider) were initially analyzed separately, but UC and ED were then combined for final analysis, given the sample size and distribution of answers.

The authors then applied logistic regression models to examine the associations between parent-reported ED/UC use and child variables. All variables achieving a $P < .05$ level of significance in bivariate analyses were retained in our final multivariate model. Descriptive statistics were used to summarize responses to vignettes.

RESULTS

Study Participants

Overall survey participation rate was 62%. Among the participating cohort of parents with children 0 to 5 years old ($n = 630$), 57% of parents ($n = 357$) required child care for at least 1 child, of which 84% ($n = 303$) of parents had a child requiring child care outside the home. Parent and child demographics are presented in Table 1.

Overall, 38% of parents required a doctor's note either for their own work (20%), and/or so their children could return to child care (30%). One-third of parents (33%) were concerned about loss of job or pay when taking time off of work to care for their sick children when those children were unable to attend child care.

Most parents (88%) took their children to a medical provider when their sick children were unable to attend child care. Although 80% of parents reported seeking medical care for their sick child in the past year at a primary care physician's office, substantial proportions of parents also reported choosing UC (28%) or ED (25%) settings.

Factors Associated With ED/UC Utilizations: Bivariate Analysis

In bivariate analyses, ED/UC use was significantly higher among parents needing a doctor's note (versus those who did not), parents with work concerns (versus those without), African American parents (versus all others), single/divorced parents (versus married parents), and parents with annual household income <$60,000 (vs $\geq$60,000). Parent education level, child insurance status, and other child variables were not statistically significantly associated with ED/UC use in our analysis.

Parents' need for a doctor's note, parent race/ethnicity, marital status, and parent work concerns remained statistically significant in multivariate analyses. ED/UC use was higher among parents needing a doctor's note (adjusted odds ratio $[aOR] = 4.2$; 95% confidence interval [CI]: 1.5–11.7). African American parents were more likely than...
white or Hispanic parents to use the ED/UC (aOR = 4.2; 95% CI: 1.2–14.6). Single or divorced parents (aOR = 4.3; 95% CI: 1.4–13.5), and parents with job concerns (loss of pay or job when taking time off work to care for a sick child unable to attend child care; aOR = 3.4; 95% CI: 1.2–9.7) were also more likely to use the ED/UC.

**Vignettes and Medical Care-Seeking Behavior**

Collectively across all vignettes, >85% of parents would seek acute medical care for their children for any symptoms presented. Parent responses to illness vignettes are presented in Fig 2. Parent preference for the type of acute medical care (primary care provider versus ED/UC versus no visit) also varied depending on illness symptom in each vignette (Fig 3).

**DISCUSSION**

Our survey is the first study to demonstrate that a high proportion of parents report seeking medical evaluation in acute care settings when their children’s illnesses prevent attendance at child care. The potential impact of this type of health care-seeking behavior on health care resources may be substantial given the sheer number of children currently using child care services nationally. Reasons for seeking acute medical care for a child excluded from child care may be multifactorial, with ED/UC use higher among single-parent households, African American parents, parents concerned about job threats to their job or job-related income, and parents in need of a doctor’s note.

Our results concur with previous studies that revealed factors associated with nonurgent pediatric emergency visits include single-parent status and the need for convenient before- and after-work hours.27,33 Our additional findings that parents at higher risk for using ED/UC settings for child care illnesses were African American parents and single parents are also consistent with previous studies.23,25 Our study did not find that Hispanic families were at higher risk for ED/UC use, consistent with studies revealing that Hispanic families are more dependent on child care provided by extended families.38,39 Parents without sick leave benefits face a considerable dilemma as they risk either loss of wages or loss of a job to stay home with a sick child excluded from child care. Parents may view the situation as a socioeconomic emergency, choosing the inconvenience of an urgent medical evaluation over the inability to return to work in a timely manner. This choice may partially explain why almost 9 of 10 parents in our study chose to seek medical evaluation when their sick child could not attend child care. Lack of health insurance was not associated with increased ED/UC use because the majority of children in our survey, similar to 2011 national statistics, had health insurance coverage.40

**FIGURE 2**

*Will parents send a child with symptoms to child care?*

**FIGURE 3**

*Parent preference for acute medical care.*
Child care illness policies that differ from AAP child care guidelines may impact parent medical care-seeking behavior. The need for a doctor’s note, as reported by almost one-third of parents in our survey, was associated with increased ED/UC use for sick children excluded from child care. Many child care settings, in contrast to AAP guidelines, require health care visits before a child can return to child care.21 National AAP child care guidelines no longer require a mandatory health visit for many symptoms of illness and children can usually return to child care as long as general exclusion criteria are resolved, the child can participate in usual activities, and child care providers can provide and maintain safe staffing ratios.19,41 A previous study revealed that the majority of parents of children excluded from child care reported they would not have scheduled the medical visit if it were not required by child care policies.42 Our study revealed that with almost one-third of parents (for fever, pink-eye, rash, and gastroenteritis vignettes) reporting their children would not be allowed in child care, a substantial proportion of parents may be scheduling medical visits on the basis of unnecessary child care illness exclusion policies. Interventions targeting child care providers to use AAP guidelines to make appropriate exclusion and return-to-care decisions may decrease parents’ need to seek urgent medical evaluation for nonurgent child care illnesses.

All the illness symptoms in the vignettes, per AAP child care guidelines, would not have required immediate exclusion from child care settings. In our study, few parents would send their child with mild symptoms to child care for ringworm, gastroenteritis, or fever. Most parents reported wanting to seek acute medical care for at least 1 of the illnesses in the vignettes. Moreover, parents’ decisions to seek urgent medical evaluation varied by vignette, suggesting parents are more concerned about certain symptoms (eg, fever, rash) compared with others. These findings are consistent with a previous survey of child care center directors, which reported that children with these same symptoms (rash or fever) would be more likely than children with other symptoms to be excluded from child care centers.9 Consistent with previous studies, parents in our national survey reported self-excluding their children from child care, suggesting a lack of knowledge regarding AAP national child care guidelines by parents.1,8 We were surprised by the proportion of parents who reported they would seek medical care for mild upper respiratory symptoms, with almost one-fifth of parents reporting they would seek primary care provider evaluation for their child. Given the large number of children in child care settings, parents with sick children unable to attend child care seeking acute medical evaluation may profoundly impact available primary care resources.

Our study also indicates that “fever phobia,” described for many years in the literature, continues to exist among parents.65 Fever education and anticipatory guidance may benefit parents.44 New parents with young children in child care should be given regular anticipatory guidance regarding the expected increase in frequency of infections and the management of common child care related illnesses. Targeted parent educational interventions in child care could help decrease the demand for antibiotics for viral or respiratory conditions. It is unclear how implementation of the Affordable Care Act (ACA) may affect health care-seeking behavior of parents for children in child care. In this study and others, most families have primary care providers for their child, and expansion of children’s coverage is not a major focus of the ACA. The ACA’s emphasis on providing care in patient-centered medical homes may encourage providers to expand service hours, which can help decrease ED/UC visits for primary care-appropriate conditions.

The child care industry and child care providers face numerous challenges with respect to managing illness in child care settings. Many child care settings are faced with high-turnover of staff, poor pay, and lack of available health-related training; children with mild illness may place a significant strain on child care provider ratios. Additionally, child care providers may face considerable opposition from some parents who feel any illness should be excluded from child care. To help child care providers establish policies for safe and appropriate management of mildly ill children, the AAP has established national recommendations that include guidelines that allow for exclusion if staff to child ratio is not adequate or the child cannot participate comfortably in activities. The AAP has created a new free online learning course via PediaLink available through the AAP’s Healthy Child Care America Web site (http://www.healthychildcare.org) for child care providers to learn how to prevent and manage infectious diseases in child care settings on the basis of AAP national child care guidelines. Additionally, the AAP Web site offers free, in-training materials that health care trainers can use to teach groups of child care professionals and parents about AAP national child care illness guidelines.45 Widespread dissemination of AAP child care guidelines at the state and national level along with active child care trainer training has the potential to decrease parental work absenteeism and health resource utilization.

Our study has several potential limitations. First, similar to any survey, selection bias and response bias may exist. We used an established survey process recognized as valid and nationally representative in previous peer-reviewed...
publications, but it is possible that unforeseen biases related to the perspectives of parents with children in child care may have influenced the findings. Another limitation in our study design is the use of vignettes to assess decisions about child care attendance and care-seeking behavior. It is possible that parents’ responses may not reflect actual medical care-seeking behavior. Nevertheless, the vignettes provided a standardized approach to assess parents’ care-seeking behavior tendencies, in a manner aligned with AAP guidelines. Another potential limitation is that the language and structure of the survey items may have been challenging for parents with low literacy. For this reason, we designed the survey at a Flesch-Kincaid reading level of 3.1 (third grade); additionally, the vignette items have been previously and successfully used in a survey for parents. Finally, the fifth vignette presented a situation that may potentially represent a bias toward parents in professional job settings. The scenario, however, was intentionally non-specific (parent faced with an important meeting the next day) so that the scenario could still occur for parents employed in minimum wage or job-training settings and not just in professional settings.

CONCLUSIONS
A substantial proportion of parents seek care in ED/UC settings for children excluded from child care for nonurgent conditions. Socioeconomic and parent concerns about loss of pay or job may be significant contributors to urgent medical care-seeking behavior among parents with sick children unable to attend child care. Adoption of national AAP child care guidelines by states and the training of child care providers and parents may reduce the unnecessary exclusion of ill children and the unnecessary utilization of ED/UC resources.

REFERENCES
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