Family Experiences and Pediatric Health Services Use Associated With Family-Centered Rounds

AUTHORS: Dennis Z. Kuo, MD, MHS,^a Laura L. Sisterhen, MD, MPH,^b Ted E. Sigrest, MD, MPH,^c James M. Biazo, BS,^a Mary E. Aitken, MD, MPH,^a and Christopher E. Smith, MD^d

^aCenter for Applied Research and Evaluation, ^bGeneral Pediatrics, and ^cDepartment of Pediatrics, University of Arkansas for Medical Sciences, Little Rock, Arkansas; and ^dCincinnati Children's Hospital Medical Center, Cincinnati, Ohio

KEY WORDS

family-centered care, family-centered rounds

ABBREVIATION

FCR—family-centered rounds

Drs Kuo and Sisterhen made substantial contributions to conception and design of the study, acquisition of data, analysis and interpretation of data, were responsible for drafting the manuscript, and gave final approval of the manuscript; Dr Sigrest made substantial contributions to conception and design of the study, analysis and interpretation of data, revised the manuscript critically for important intellectual content, and gave final approval of the manuscript; Mr Biazo made substantial contributions to acquisition of data, revised the manuscript critically for important intellectual content, and gave final approval of the manuscript; and Drs Aitken and Smith made substantial contributions to conception and design of the study, analysis and interpretation of data, and have given final approval of the manuscript.

www.pediatrics.org/cgi/doi/10.1542/peds.2011-2623

doi:10.1542/peds.2011-2623

Accepted for publication Apr 2, 2012

The study findings were presented in part at the 2010 annual meeting of the Pediatric Academic Societies; Vancouver, BC, Canada; the 2011 annual meeting of the Pediatric Academic Societies; April 30–May 3, 2011; Denver, CO; and the 2011 Pediatric Hospitalist Meeting; July 27–31, 2011; Kansas City, MO.

Address correspondence to Dennis Z. Kuo, MD, MHS, Pediatrics/CARE Slot 512-26, Arkansas Children's Hospital, 1 Children's Way, Little Rock, AR 72202. E-mail: dzkuo@uams.edu

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

Copyright © 2012 by the American Academy of Pediatrics

FINANCIAL DISCLOSURE: The authors have indicated they have no financial relationships relevant to this article to disclose.

FUNDING: Supported by a Children's University Medical Grant. Dr Kuo received support from grant KL2RR029883 and Dr Aitken from grant 1UL1RR029884 from the National Center for Research Resources. The funding bodies had no role in design or conduct of the study; collection, analysis, or interpretation of the data; or preparation, review, or approval of the manuscript. Funded by the National Institutes of Health (NIH).

WHAT'S KNOWN ON THIS SUBJECT: Family-centered rounds (FCR) show promise for higher patient care satisfaction. Many previous studies are limited by small sample size and observational or pre-post designs, and health care service outcomes have not been previously examined.

WHAT THIS STUDY ADDS: Our study uses an FCR assessment tool and a comparison group of non-FCR patients. We found that FCR are associated with improved family experiences, with no additional burden to health care service use.

abstract

BACKGROUND: Family-centered rounds (FCR) are defined as interdisciplinary bedside teaching rounds with active family participation. The objective of this study was to examine the association of FCR with family experiences and health services use.

METHODS: Prospective study comparing families with a child admitted to general pediatric inpatient services with and without FCR. The presence of FCR elements was assessed before study enrollment. Study data were obtained by an in-person interview, a follow-up phone interview <1 week after discharge, and medical record review. Family outcomes were informed by Consumer Assessment of Healthcare Providers and Systems measures. Health service use outcomes included hour of discharge, number of medications, and overall charges. Primary analyses included χ^2 and multivariate regression. Secondary analyses by using propensity score matching were performed to account for differences on observed variables.

RESULTS: A total of 140 of 203 eligible families were enrolled; 97 completed follow-up surveys (49 on FCR team). Compared with non-FCR, FCR families were more likely to report consistent medical information ($P < .001$), the option of discussing care plan ($P < .001$), doctors listening carefully ($P < .01$), and doctors showing respect ($P < .001$). No differences were found in number of medications (mean 2.4 vs 2.9, $P = .26$) or discharge time (mean 3:06 PM versus 2:43 PM, $P = .39$). No difference was found for hospital charges after adjusting for length of stay outliers.

CONCLUSIONS: FCR are associated with higher parent satisfaction, consistent medical information, and care plan discussion, with no additional burden to health service use. Additional studies should assess FCR under different settings of care. *Pediatrics* 2012;130:299–305

Family-centered rounds (FCR) have been defined as “interdisciplinary work rounds at the bedside in which patient and family share in the control of the management plan.”¹ Active family participation during bedside rounds is emphasized.¹ The American Academy of Pediatrics has endorsed bedside rounds, with the family present, as the standard of care.² Proposed benefits of FCR include improved communication between family and physician, shared decision-making, student and resident education, family satisfaction, and efficient use of health care resources.^{1–3} A recent survey found 44% of pediatric hospitalists conduct FCR, with physical constraints, time concerns, and trainee apprehensions being perceived implementation barriers.⁴

Evidence supporting the benefits of FCR is limited. In the intensive care setting, families prefer teaching and care discussion at the bedside⁵ and report higher care satisfaction with FCR.⁶ With experience, residents and students generally support FCR.^{7–9} Hospital staff have reported better understanding of medical plans and perceived ability to help families.¹⁰ Evidence has been predominantly limited by observational or pre-post studies on single teams, and there is little understanding on how FCR affect health care system outcomes. The objective of this study was to evaluate the association of FCR with family experiences of care and health service use. We hypothesized that families would report improved experiences of care and that FCR would result in more efficient health care service use.

METHODS

This is a prospective cohort study, comparing families of children admitted to a general pediatrics unit–based ward team with FCR (“FCR team”) versus 2 teams without formal FCR training (“non-FCR team”). The FCR team is typically assigned infants and toddlers,

whereas the non-FCR team cares for older children, but census volume can lead to crossover. Teams are staffed by a general academic pediatrician or hospitalist, an upper-level resident, 2 interns, 2 medical students, an advance practice nurse, social worker, respiratory therapist, dietician, and discharge planner. Attending physicians typically attend in 2-week blocks for the same team throughout the year, but crossover assignments occasionally occur. All study phases were approved by the University of Arkansas for Medical Sciences Institutional Review Board.

Implementation

FCR were implemented on a unit-based general pediatric ward team at Arkansas Children’s Hospital beginning in 2005. One-on-one faculty training began after 2 study authors (L.L.S., C.E.S.) attended a national workshop on FCR. Between 2005 and 2008, FCR team attending physicians were trained on FCR elements, including bedside rounds, family permission, and encouraging questions at the end of rounds. Attending physicians were provided pocket-sized cards with reminders of key expectations. Nurses attended a mandatory half-day training session in 2008. A rolling cart was used for orders during rounds, and FCR elements were incorporated in staff training and evaluation.¹¹ Residents were informally oriented by attending physicians, and families were not formally trained other than requested permission at beginning of rounds. Attending physicians on the non-FCR teams could conduct bedside or conference room rounds at their discretion, but no other units underwent formal FCR training.

To verify key differences between FCR and non-FCR teams, an index of FCR (Table 1) was developed through literature review³ and adapted from an unpublished checklist developed by

1 of the study authors (T.E.S.). FCR were defined as conducting rounds with family at bedside, plus any 4 of the following: (1) obtain family consent to round at bedside, (2) introduce team members, (3) family member participates in discussion of patient, (4) nurse of the patient present during rounds, (5) family invited to ask questions at end of rounds. Failure to meet criteria on >75% of encounters on the FCR team would result in retraining before study enrollment. During the pre-enrollment phase in July and August 2009, a study assistant observed 100 patient encounters on the FCR team and 116 on the non-FCR team; 80% of encounters on the FCR team met criteria, compared with 20% on the non-FCR team ($P < .001$ by χ^2). When scoring was limited to encounters with bedside rounds, 100% of encounters on the FCR team met FCR criteria, whereas 40% did on the non-FCR team ($P < .001$ by χ^2).

Study Population

Study enrollment took place between September 2009 and December 2010. A sample size of 140 was projected, from 2 blocks of 70, with 35 on assigned FCR and non-FCR team during each block. A difference of 1 day between lengths of stay, with an SD of 1 for both groups, α of 0.05, and power of 0.90, resulted in a projected sample size of 44. Assuming a drop-out rate of one-third resulted in a sample size of 70. Two enrollment blocks were originally planned to account for seasonal variation in admissions; however, the H1N1 influenza pandemic in the fall of 2009 confounded the expected seasonal variation. Thus, we decided not to conduct any analyses by enrollment block.

Family caregivers of children on the study teams were consecutively enrolled in 2 study blocks. Enrollment criteria enrolled children of similar characteristics between both study and

TABLE 1 Checklist Used To Verify the Presence of FCR

Conducting rounds with family at bedside, plus any 4 of the following:

- Consent to round at bedside at the beginning of rounds
- Team member introduction at the beginning of rounds
- Family member participated in discussion of patient
- Presence of patient nurse during rounds
- Invitation of family to ask unanswered questions at end of encounter

control teams. Inclusion criteria included families of patients ≤ 10 years of age; admitted from emergency department or outpatient clinic; expected stay > 24 hours and < 30 days; expected home discharge; family member present self-identified as primary caregiver of child; and English speaking. Exclusion criteria included previously enrolled in study; transfer from another specialty service or the ICU; expected transfer to another service or a chronic care facility on discharge; expected death of child while in hospital; non-English speaking; or child in state custody or under investigation. Families were not recruited when 1 of the lead study authors (L.L.S.) was the attending physician. No direct observation of rounds occurred during study enrollment to avoid influencing attending behavior.

Study Protocol

Flyers in the nursing admission packet introduced the study as an examination of family care experiences. Each weekday morning, a study assistant reviewed team censuses and identified eligible families with unit charge nurses. The study assistant approached each eligible family member to explain the study further and confirm eligibility. After informed consent was obtained, the study assistant administered an in-person survey obtaining patient and family demographics, reason for admission, and presence of special health care needs. The Children with Special Health Care Needs Screener designates special needs by an affirmative response to any of 5 screening questions

on chronic medical care use.¹² A follow-up phone interview between 5 and 7 days after discharge examined specific care experiences. The study assistant made up to 3 attempts on separate days to contact the family caregiver. A \$10 gift card to a local department store was mailed to each family completing the follow-up survey. Electronic medical chart and billing review were used to obtain health care service use outcomes.

Analyses

Independent Variable

The independent variable was assignment to an FCR team.

Outcome Variables

Study outcome variables were grouped into 2 categories:

- Family health care experience, assessed by Consumer Assessment of Healthcare Providers and Systems measures¹³; these measures are regarded as a standard used to assess family-centeredness of care.¹⁴ Additional outcomes included outpatient discharge instruction adherence, measured by understanding of discharge plan, giving medications as prescribed, and keeping follow-up appointment; being able to name any member of the care team; and overall satisfaction.
- Health care service use outcomes, measured by hour of discharge; total number of medications ordered, including as needed; and overall hospitalization charges. Length of stay was an outcome variable in

the original analytic model, but considered a covariate in an alternate analytic model using propensity score matching.

Covariates

Study covariates included parent age, child age, parent relationship to child, parent race/ethnicity, parent-reported reason for admission, and presence of special health care needs status.

Analytic Plan

Analyses were conducted by intention-to-treat, specifically assignment to FCR versus non-FCR team. Demographic variables were examined by χ^2 . Outcome continuous variables were analyzed by Student's *t* test. Multivariate analysis examined association of outcomes by FCR team status, adjusting for demographic variables significant at the $P < .05$ level.

With preexisting differences between study groups, particularly on length of stay, we constructed an alternate analytic model by using propensity score matching, a method of multivariate matching that allows for close, albeit not exact matches.¹⁵ A propensity score-matched sample can better account for selection bias based on observed variables than an unmatched regression analysis.^{16,17} The predicted probability, or propensity score, of each study subject was calculated based on covariates significant at the $P < .05$ level. We constructed the propensity score-matched analytic model with length of stay as a covariate because of its association with hospital charges. One-to-one matching without replacement was conducted with the psmatch2 module in Stata 10 (Stata Corp, College Station, TX) within the area of common support, with a caliper equal to one-tenth the SD of the propensity score. All analyses were performed with Stata 10.

Sensitivity analyses examined the association of FCR with study outcomes

regardless of team assignment. For parents reporting data on 3 FCR elements (offered bedside rounds, received bedside rounds, and participated in discussing care plan), we compared parents reporting all versus fewer-than-all of the 3 elements.

RESULTS

A total of 1262 children were admitted during the enrollment windows, of whom 964 were present during the weekday (Fig 1). After exclusion criteria, 104 families on the non-FCR team and 99 families on the FCR team were eligible for enrollment, of which 70 were enrolled from each team. One family on the non-FCR team disenrolled at the follow-up interview; 48 non-FCR and 49 FCR families completed the follow-up phone survey.

In the sensitivity analysis, 92 respondents were eligible for analysis; 68 (74%), including 90% of FCR team respondents and 56% of non-FCR team respondents, reported meeting all 3 FCR elements.

Demographics

Demographic and descriptive data can be found in Table 2. Parents on the FCR team were more likely to be younger (26.6 years vs 30.7 years, $P < .01$) and children on the FCR team were more likely to be younger (1.2 years vs 2.5 years, $P < .01$). Children on the FCR team were less likely to have special health care needs ($P < .01$) and more likely to have longer lengths of stay (5.8 days vs 2.3 days, $P < .01$). There were no observed differences in parent ethnicity, parent relationship to child, or reason for admission. No differences were found in observed characteristics between families who completed versus did not complete the telephone follow-up survey (data not shown). After propensity score matching the study sample on parent age, child age, special needs, and length of stay, no remaining differences were found between the

FIGURE 1
Study enrollment.

TABLE 2 Demographic Characteristics of Study Sample, by FCR Team Assignment

	Full Sample			Propensity Score–Matched Sample		
	Non-FCR (n = 69)	FCR (n = 70)	P	Non-FCR (n = 28)	FCR (n = 28)	P
Parent age, y (SD)	30.7 (8.4)	26.6 (6.3)	<.01	29.9 (2.4)	28.5 (2.9)	.47
Child age, y (SD)	2.5 (2.7)	1.2 (2.5)	<.01	1.4 (0.50)	1.6 (0.50)	.77
Parent white, non-Hispanic, n (%)	51 (73.9)	52 (74.3)	.95	26 (92.9)	25 (89.3)	.64
Mother/stepmother, n (%)	60 (87.0)	63 (90.0)	.37	23 (82.1)	22 (78.6)	.55
Admitted for fever/infection, n (%)	32 (46.4)	31 (44.3)	.56	14 (50.0)	13 (46.4)	.42
Child has special health care needs, n (%)	39 (56.5)	20 (28.6)	<.01	12 (43.9)	11 (39.3)	.77
Length of stay, d	2.3	5.8	<.01	2.8	2.4	.48

All figures are means unless otherwise indicated.

non-FCR and FCR study samples for any observed study characteristic.

Family Health Care Experience

Experiences of enrolled families who completed the follow-up telephone survey can be found in Table 3. All parents assigned to the FCR team reported that they were given the option of discussing the care plan with the medical team, compared with approximately half of the non-FCR parents ($P < .001$). On a Likert scale of 1 to 4, with 4 representing “always” and 1 “never,” parents on the FCR team were more likely to report that they had the care team meet at bedside (3.4 vs 2.8, $P < .01$), participated in the care team meeting (3.8 vs 3.4, $P < .01$), and received consistent medical information (4.0 vs 3.6, $P < .001$). FCR team parents were more likely to report that doctors

listened carefully to their concerns (4.0 vs 3.8, $P < .01$) and showed respect (4.0 vs 3.7, $P < .01$). There were no differences in parents reporting that doctors explained things clearly, understanding the discharge plan, keeping follow-up appointments, or remembering a physician’s name. FCR team families were significantly more likely on a 10-point Likert scale to be satisfied with the care provided (9.9 vs 9.1, $P < .01$).

For the propensity score–matched sample ($n = 21$ for both groups), significant differences included parents given the option of discussing care plan ($P < .01$), care team meeting at bedside ($P < .05$), receiving consistent medical information ($P < .001$), and satisfaction with care ($P < .001$). FCR parents were less likely to report doctor spending enough time with child ($P < .05$). In the sensitivity analysis, FCR doctors were

TABLE 3 Family Outcomes of Study Sample, by FCR Team Assignment

	Full Sample			Propensity Score–Matched Sample		
	Non-FCR (<i>n</i> = 48)	FCR (<i>n</i> = 49)	<i>P</i> ^a	Non-FCR (<i>n</i> = 21)	FCR (<i>n</i> = 21)	<i>P</i>
Parent had option to discuss care plan with team, <i>n</i> (%)	27 (55.1)	49 (100)	<.001	13 (61.9)	21 (100)	<.01
Care team usually/always met at bedside (1–4)	2.8	3.4	<.01	2.8	3.3	<.05
Parent participated in bedside meeting (1–4)	3.4	3.8	<.01	3.4	3.8	<.05
Consistent medical information (1–4)	3.6	4.0	<.001	3.7	4.0	<.001
Clear language used (1–4)	3.5	3.3	.10	3.6	3.4	.37
Doctors listened carefully (1–4)	3.8	4.0	<.01	3.9	4.0	.15
Doctors explained things in a way easy to understand (1–4)	3.6	3.7	.19	3.6	3.8	.10
Doctors showed respect (1–4)	3.7	4.0	<.01	3.9	4.0	.08
Doctors spent enough time with child (1–4)	3.6	3.4	.22	3.8	3.3	<.05
Doctors made me feel like partner (1–4)	3.7	3.7	.93	3.8	3.7	.55
Understand discharge plan (1–10)	9.5	9.6	.43	9.6	9.4	.85
Had unanswered questions, <i>n</i>	1	0	.71	0	0	—
Filled new prescription, took as prescribed (<i>n</i> / <i>n</i> with new prescription)	29 / 30	30 / 32	.77	12 / 12	14 / 14	—
Kept follow-up appointment, <i>n</i>	41 (85.4%)	43 (87.8%)	.77	3 (14.3%)	2 (9.5%)	.63
Recalled a doctor's name, <i>n</i>	7 (14.6%)	13 (26.5%)	.32	3 (14.3%)	6 (28.6%)	.30
Satisfied with care (1–10)	9.1	9.9	<.01	9.3	9.9	<.001

All figures are means unless otherwise indicated. —, indicates no *p* value is available because compared data values are equal.

^a Multivariate for full sample adjusted for parent age, child age, special health care needs status, and length of stay.

also more likely to explain things clearly, spend enough time with child, and make the parent feel like a partner (all *P* < .01; data not shown).

Health Care Service Use

Health care service use can be found in Table 4. No differences were found in discharge hour for FCR team versus non-FCR team patients (3:06 PM versus 2:43 PM, *P* = .32) or the number of medications used (2.86 vs 2.42, *P* = .26). Children on the FCR team incurred more hospital charges (\$10 762 vs \$7604) but this was not significant in multivariate analysis, which controlled for length of stay (*P* = .55).

For the propensity score–matched sample (*n* = 28 for both groups), no difference was found for discharge time (3:01 PM versus 2:28 PM, *P* = .42). No difference was found for the number of medications used (2.68 vs 2.36, *P* = .53). Children on the FCR team incurred fewer hospital charges (\$6683 vs \$9529), although this was not statistically significant (*P* = .26). There were no differences in the sensitivity analysis outcomes.

DISCUSSION

We found that FCR were associated with several positive family outcomes. Families on the FCR team were more

likely to report the option of discussing the care plan, participation in decision-making, and consistent medical information. Families were more likely to respond that their physicians listened carefully to their concerns and showed respect for them. Sensitivity analyses, examining study outcomes by receipt of FCR regardless of team assignment, found even more positive associations with FCR. Although not all statistically significant findings held up in the propensity score–matched sample, all *P* values remained <.20, making it possible that small sample sizes were responsible for the lack of statistical significance. More striking was the consistency of the positive results in the FCR study group, who, with almost no exceptions, rated their responses at the highest level possible for all study questions.

In contrast, we found no statistically significant differences in 3 health service outcome items (time of discharge, medications used, or hospital charges) after multivariate analysis controlled for length of stay. The hour of discharge was hypothesized to be earlier for FCR teams because of more efficient hospital discharges post-rounds; this turned out not to be the case. However, FCR did not result in later discharge times. We suggest that the improvement in family experiences and participation is a worthy benefit with little impact on hospital turnover.

The propensity score–matched sample offered intriguing results, particularly for hospital charges. There were several outliers for the length-of-stay variable on the FCR team group, including 1 patient who stayed 88 days. Accordingly, the higher charges for the FCR team in the unadjusted, unmatched sample are likely a result of such outliers. Propensity score matching eliminated outliers, but we were surprised to find such different findings in the propensity score–matched sample. Although the lower charges were not

TABLE 4 Health Care Service Outcomes, by FCR Team Assignment

	Full Sample			Propensity Score–Matched Sample		
	Non-FCR (<i>n</i> = 69)	FCR (<i>n</i> = 70)	<i>P</i> ^a	Non-FCR (<i>n</i> = 28)	FCR (<i>n</i> = 28)	<i>P</i>
Discharge time (SD, min)	2:43 PM (149)	3:06 PM (173)	.32	2:28 PM (135)	3:01 PM (159)	.42
Medications used, <i>n</i> (SD)	2.42 (2.1)	2.86 (2.4)	.06	2.68 (2.2)	2.36 (1.7)	.53
Hospital charges, \$ (SD)	7601 (8086)	10 762 (9510)	.55	9529 (11 579)	6683 (6456)	.26

All figures are means unless otherwise indicated.

^a Multivariate for full sample adjusted for parent age, child age, special health care needs status, and length of stay.

statistically significant, the study was not powered to detect a charge difference with the smaller sample size of the propensity score–matched sample. This finding deserves further consideration in future studies, particularly how savings in charges are realized if borne out.

The main study strength is the comparison group of families on a team without consistent FCR. We demonstrated the presence of important FCR elements on the FCR-assigned team, and the relative lack of such elements on the non-FCR team. We reiterate that bedside rounds are not likely sufficient to achieve FCR, and affirm that a system-based effort, involving leadership, attending physician, and nursing and staff support, is necessary.¹⁸ Although we cannot establish causality of FCR elements with the positive family outcomes in this study, consistent information and participation in developing care plans are part of the recognized principles of family-centered care.

Families assigned to the FCR team did not indicate significant differences in use of clear terms and a sense of partnership; however, families reporting FCR in the sensitivity analyses, regardless of team assignment, reported higher rates of clear terms and a sense of partnership. Physician participation and family presence in bedside rounds may be the

driving factors. The use of clear and simple medical terminology is not explicit in our FCR training, and some families may not feel empowered to clarify ambiguous or complicated terms. Another study found that parents' participation in inpatient rounds met expectations for understanding the care plan but not their child's medical condition, and several parents requested more use of lay terminology.¹⁹ The exact roles of families in FCR remain unclear²⁰ and should continue to be investigated. Interestingly, FCR team families within the propensity score–matched sample were less likely to report the doctor spent enough time with the child. Team-based care may subjugate one-on-one time that families may also value.¹⁹

Several limitations remain in our study. Our findings represent 1 general pediatric inpatient service in a large academic children's hospital, yet may not be representative of patients excluded by criteria or refusal. The original study sample calculation was based on a hypothesized study outcome (length of stay) likely associated with inherent age and diagnosis differences between the study samples. A future randomized controlled trial could address this limitation. We did not verify FCR elements through direct observation during study enrollment, although the pre-enrollment observation

and the sensitivity analysis enabled us to avoid study personnel influencing attending behavior. Although our study controls for observed variables, remaining unobserved variable differences likely remain, such as parental education, patient census size, attending physician, or previous family experience with bedside rounds. All residents and a few attending physicians serve on both FCR and non-FCR teams; however, any crossover would have likely negated significant findings with regression to the mean and observed benefits of FCR could be accordingly larger. Family report of care experiences may change with different follow-up periods. Finally, we enrolled subjects based on criteria presumptions, such as length of stay, that may not have borne out; however, propensity score matching addresses some of these issues.

CONCLUSIONS

FCR are associated with improved family experiences, particularly in clarity of the care plan and overall satisfaction in care. FCR are not associated with any additional burden in overall health care use. Further studies should examine FCR under different settings of care to test the robustness of the FCR model and be powered to test for mechanisms of potential savings in charges.

REFERENCES

1. Sisterhen LL, Blaszk RT, Woods MB, Smith CE. Defining family-centered rounds. *Teach Learn Med*. 2007;19(3):319–322
2. Committee on Hospital Care and Institute for Patient- and Family-Centered Care. Patient- and family-centered care and the pediatrician's role. *Pediatrics*. 2012;129(2):394–404
3. Muething SE, Kotagal UR, Schoettker PJ, Gonzalez del Rey J, DeWitt TG. Family-centered bedside rounds: a new approach to patient care and teaching. *Pediatrics*. 2007;119(4):829–832
4. Mittal VS, Sigrest T, Ottolini MC, et al. Family-centered rounds on pediatric wards: a PRIS network survey of US and Canadian hospitalists. *Pediatrics*. 2010;126(1):37–43
5. Landry MA, Lafrenaye S, Roy MC, Cyr C. A randomized, controlled trial of bedside versus conference-room case presentation in a pediatric intensive care unit. *Pediatrics*. 2007;120(2):275–280
6. Aronson PL, Yau J, Helfaer MA, Morrison W. Impact of family presence during pediatric intensive care unit rounds on the family and medical team. *Pediatrics*. 2009;124(4):1119–1125
7. Cox ED, Schumacher JB, Young HN, Evans MD, Moreno MA, Sigrest TD. Medical student outcomes after family-centered bedside rounds. *Acad Pediatr*. 2011;11(5):403–408
8. Rappaport DI, Cellucci MF, Leffler MG. Implementing family-centered rounds: pediatric residents' perceptions. *Clin Pediatr (Phila)*. 2010;49(3):228–234
9. Paradise Black NM, Kelly MN, Black EW, Sessums CD, DiPietro MK, Nowak MA. Family-centered rounds and medical student

- education: a qualitative examination of students' perceptions. *Hospital Pediatrics*. 2011; 1(1):24–29
10. Rosen P, Stenger E, Bochkoris M, Hannon MJ, Kwok CK. Family-centered multidisciplinary rounds enhance the team approach in pediatrics. *Pediatrics*. 2009;123(4). Available at: www.pediatrics.org/cgi/content/full/123/4/e603
 11. Neal A, Frost M, Kuhn J, Green A, Gance-Cleveland B, Kersten R. Family centered care within an infant-toddler unit. *Pediatr Nurs*. 2007;33(6):481–485
 12. Bethell CD, Read D, Stein RE, Blumberg SJ, Wells N, Newacheck PW. Identifying children with special health care needs: development and evaluation of a short screening instrument. *Ambul Pediatr*. 2002;2(1):38–48
 13. Bethell CD, Read D, Brockwood K; American Academy of Pediatrics. Using existing population-based data sets to measure the American Academy of Pediatrics definition of medical home for all children and children with special health care needs. *Pediatrics*. 2004;113(suppl 5):1529–1537
 14. Silow-Carrol S, Alvarez T, Stepnick L. *Patient-Centered Care for Underserved Populations: Definition and Best Practices*. Washington, DC: Economic and Social Research Institute; 2006
 15. Silber JH, Rosenbaum PR, Trudeau ME, et al. Multivariate matching and bias reduction in the surgical outcomes study. *Med Care*. 2001;39(10):1048–1064
 16. Rosenbaum PR, Rubin DB. Reducing bias in observational studies using subclassification on the propensity score. *J Am Stat Assoc*. 1984;79(387):516–524
 17. Rosenbaum PR, Rubin DB. The central role of the propensity score in observational studies for causal effects. *Biometrika*. 1983; 70(1):41–55
 18. Knoderer HM. Inclusion of parents in pediatric subspecialty team rounds: attitudes of the family and medical team. *Acad Med*. 2009;84(11):1576–1581
 19. Latta LC, Dick R, Parry C, Tamura GS. Parental responses to involvement in rounds on a pediatric inpatient unit at a teaching hospital: a qualitative study. *Acad Med*. 2008;83(3):292–297
 20. Shields L, Pratt J, Hunter J. Family centred care: a review of qualitative studies. *J Clin Nurs*. 2006;15(10):1317–1323

SOLACE BY THE SEA: *When planning where to spend our next vacation, there is often a split within my family. My mother prefers to visit the coast, while my father would much rather camp or ski. Although both types of vacation sound terrific, research suggests that my mother may have it right. As reported by the BBC (Education & Family: April 18, 2012), a recent study examined the emotional effects of different types of outdoor environments. Over two years, 2,750 adults were queried about their well-being and calmness after a visit to the seaside, countryside, or an urban park. While visits to all outdoor locations were associated with increased feelings of well-being including calmness, enjoyment, and refreshment, visits to the shore were linked to the highest amount of positive feelings, while urban parks were the lowest. The increased benefit of a trip to the seashore was seen regardless of who the individuals traveled with, distance traveled, location of primary domicile, level of exercise, or age of the participant. The reason for the increased sense of well-being after a visit to the coast is not known. Researchers speculate that various factors, including childhood memories or the increased exposure to light, may all play a role. Keeping these findings in mind, I think I will support my mother's position. A beach vacation might not only provide a scenic reprieve from daily life, but boost our happiness more than any other vacation spot.*

Noted by Leah H. Carr, BS, MS-III