

Improving donation outcomes: hospital development and the Rapid Assessment of Hospital Procurement Barriers in Donation

Context—Deficiencies in the donation process continue to contribute to the shortage of organs available for transplant. Continuous quality improvement of hospitals' donation processes is needed to identify and correct the problems.

Objective—To test the Rapid Assessment of Hospital Procurement Barriers in Donation (RAPiD), a direct observation technique with a focused ethnographic strategy, for assessing hospitals' donation processes and identifying areas in need of continuous quality improvement interventions.

Design—A pre-post assessment of hospitals' barriers to patient identification and referral, and family consent to donation.

Setting and Participants—Seventeen hospitals within the catchment area of a Northeastern organ procurement organization were assessed by using the RAPiD method. Hospital administrators, health care providers, and staff (N = 537) were interviewed as part of the assessments.

Intervention—Interventions, including on-site training and education, and the use of in-house coordinators, were specifically tailored to each hospital's unique set of barriers to donation. The interventions were delivered to the hospitals in the form of recommendations. The participating organ procurement organization was responsible for implementation of the interventions.

Results—The RAPiD hospital evaluations revealed gaps in respondents' knowledge of organ donation, brain death, and referral criteria; a reluctance to declare brain death; and a rocky relationship between the hospitals and the organ procurement organization. As a result of the interventions, 9 hospitals' environments for organ donation improved, 7 showed no change, and 1 was worse. (*Progress in Transplantation*. 2009;19:180-187)

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Requests for organ donation are made within hospitals whose primary missions are to treat and rehabilitate seriously ill patients. Indeed, on average, only 2% of all patients admitted to hospitals in the United States will die there.¹ Therefore, the immediate goals of procuring organs from deceased donor patients may seem antithetical to some hospital health care providers. Because the central mission of hospitals is to save lives, not to procure organs, the hospital environment is frequently not conducive to organ donation activities. However, deficiencies in the donation process (ie, the identification and referral of potential donors and requests for donation from deceased donor-eligible patients' families) at the hospital level are a major cause of the failure to procure scarce organs. Sheehy and colleagues² note that less than half of medically suitable patients are actually converted into donors. Hospital development efforts to improve the environment for

donation offer a promising avenue for increasing the rates of patient identification and referral and family consent to donation.

Elements within the hospital environment, for example, the attitudes, beliefs, and knowledge about organ donation held by the hospital staff and health care providers (HCPs) and the hospital's policies and procedures surrounding donation, affect donation outcomes.³⁻⁶ Thus, improvement of the hospital environment for donation involves identifying the specific impediments to the donation process and designing and implementing interventions to bring current and desired donation outcomes into alignment.⁷ The Rapid Assessment of Hospital Procurement Barriers in Donation (RAPiD) has been designed with this goal in mind. Specifically, the RAPiD is a multimethod continuous quality improvement (CQI) tool used to identify barriers to organ donation within hospital environments.

Although hospital-based CQI initiatives have been used in the past, these efforts have either used quantitative measures to assess the need for improvements or have focused on only one aspect of the referral and request process. For instance, the Donor Action program, a hospital-based international initiative to increase the number of organ donors, uses medical records reviews and quantitative HCP attitude surveys to “diagnose” problems surrounding organ donation in participating hospitals.⁸ Although the interventions developed by using these needs assessment methods are targeted at correcting the specific problems identified at each hospital and have led to significant increases in the number of potential donors identified and actual donors converted, the use of a quantitative survey to assess need severely limits the amount and quality of information obtained.⁹⁻¹² In another attempt to improve donation outcomes, Van Gelder et al³ implemented an intervention aimed at increasing the number of potential donors referred to transplant centers in 37 Belgian hospitals. In this study, the same intervention, which focused only on improving donor referrals, was implemented in each hospital. Finally, Beasley et al’s¹⁴ 2-year hospital development project focused on donor identification, referral, and family request in 50 hospitals; however, the intervention consisted of increasing awareness of referral and request protocols among hospital HCPs.

Thus, the RAPiD is the first to use qualitative methods to assess need for quality improvement interventions and the effects of the interventions on the hospital environment for donation. Furthermore, rather than taking a “one size fits all” approach to improving hospitals’ donation performance or advancing an intervention focused on changing one aspect of the process, the interventions developed by using the RAPiD are tailored to the specific needs of the hospital. In this article, we present the results of an initial test of the RAPiD within the service area of a Northeastern Ohio organ procurement organization (OPO).

Methods

Hospital Sample

The participating OPO serves a population of 4.3 million people and works with 80 hospitals in 20 counties. The area includes 24 hospitals with solid-organ potential as classified by the OPO. The remaining hospitals in the region had little potential for solid-organ donation. The final hospital sample included 17 (71%) of the 24 regional hospitals with consistent donor potential: 5 level 1 trauma hospitals with 15 to 80 potential donors per year, 6 hospitals with 10 to 35 potential donors per year, and 6 hospitals with at least 5 but less than 10 potential donors per year. Seven hospitals were not included because they were already engaged in internal quality improvement initiatives.

The RAPiD Hospital Assessment

The initial hospital evaluations were conducted between January and April 2004. The assessments began with qualitative, on-site evaluations of each participating hospital’s intensive care unit (ICU). Hospital visits occurred between the hours of 5:00 AM and 12:00 midnight, depending on HCP availability. Data were collected by an individual researcher during a series of scheduled hospital visits. During each visit, the researcher observed the unit’s organ donation processes, taking detailed field notes on how the unit dealt with patient referrals, brain death declarations, and discussions about donation between patients’ families and representatives from the OPO. The researcher also used a short open-ended questionnaire to conduct informal interviews with HCPs and hospital staff (eg, nurses, physicians, administration). All interviews were audio taped to ensure that participants’ responses were accurately captured. In an effort to interview all employees in each unit, interviews were conducted individually, in focus groups, or over the telephone. The interview guide was designed to capture the attitudes, beliefs, and knowledge regarding organ donation and early referral, and perceptions of policies and procedures regarding donation processes (eg, early referral and request). When necessary, the researcher used probes and prompts to elicit more detailed information from interviewees.

The audio taped interview responses, field notes, relevant thoughts the field researcher had during the interviews, and informal conversations with HCPs were transcribed within 10 days of the hospital visit. A research team, consisting of the 2 principal investigators, 2 field researchers, and 2 expert consultants, reviewed the transcripts to summarize each hospital’s organ donation environment (ie, the interaction of the HCPs and hospital staff’s knowledge, beliefs, and attitudes toward organ donation and early referral; the hospital unit’s policies and procedures regarding early referral, organ donation, and brain death; and the hospital staff and HCPs’ relationship with the OPO staff). The research team also identified assets and barriers to organ donation within each ICU. Assets were defined as activities that aided the donation process, whereas barriers impeded the process. Each hospital was assigned a rating (eg, poor, fair, good, very good) based on the evaluation of the hospital’s unique set of assets for and barriers to organ donation. Disagreements among the team members were resolved through group discussion.

Interventions, in the form of recommendations, for improving the donation process in the hospitals were designed on the basis of the set of assets and barriers identified in the assessment. Because assets and barriers to donation vary by hospital, the interventions were tailored to each hospital’s unique donation environment.

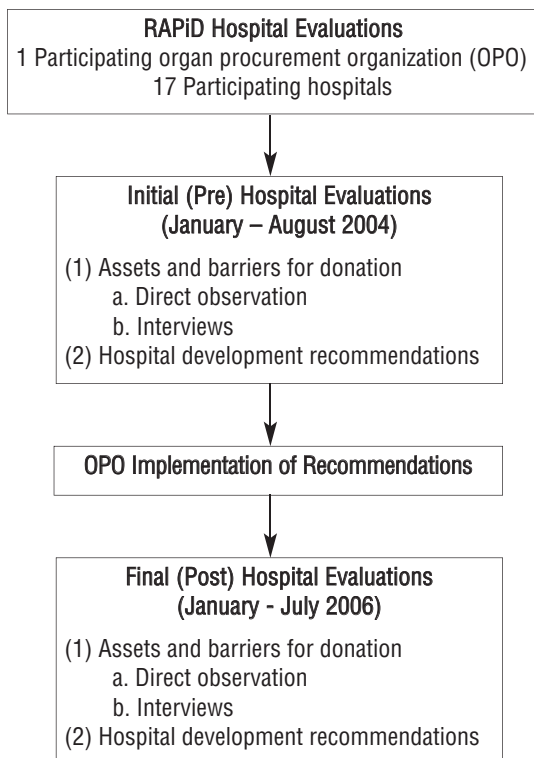


Figure The RAPiD process.

In hospitals where a lack of understanding of brain death or early referral was found, the OPO was responsible for overseeing the implementation of those recommendations. Twelve months after the initial RAPiD assessments, the hospitals were reevaluated by using the same procedures to determine the effects of the recommended changes on each hospital’s organ donation environment. A flow chart of the RAPiD process is provided in the Figure. These protocols were deemed exempt by the institutional review boards at Case Western Reserve University and each participating hospital; no personal identifiers or sociodemographic data were collected from participants aside from job titles.

Results

Hospital visits lasted from 4 to 31 hours, depending on the availability of HCPs. The total time spent in each type of hospital is reported in Table 1. Five hundred thirty-seven hospital staff and HCPs (396 nurses, 57 physicians, 43 residents, and 41 hospital administrators, social workers, and members of the clergy) were interviewed as part of the assessment. The interviews lasted from 2 to 45 minutes, with a median duration of 14 minutes, depending on HCP availability; interviews that were curtailed for any reason were completed at a later date.

For each hospital, results were summarized to reveal the overall hospital environment for donation,

Table 1 Total time spent in hospitals

Hospitals	Hours/hospital	No. of days
Larger type “A” (Donor potential >10; n = 11)		
Median	17	3
Maximum	31	6
Minimum	5	1
Smaller type “B” (Donor potential ≤10; n = 6)		
Median	9	2
Maximum	16	4
Minimum	4	2

assets, and barriers. Although results were specific to each hospital, common themes and findings emerged in 6 key areas: general knowledge of the early referral and organ donation processes, HCPs’ attitudes toward organ donation, HCPs’ advocacy for patients and organ donation, HCPs’ perception of patients as potential donors, specific practices related to donation, and the quality of the relationship between the hospital and the OPO.

General Knowledge

In hospitals with a high volume of traumas, frequent contact with the OPO and familiarity with the organ donation process was an asset. Most HCPs in these settings had some exposure to the OPO and the organ donation referral and procurement process. Where organ donation occurred infrequently, there was limited exposure to organ donation or early referral and lack of differentiation between organ and tissue donation. HCPs in these hospitals displayed limited understanding of the organ donation process, hospital policies regarding donation, and how early referral and request constitutes good family care and end-of-life decision making. Some respondents expressed confusion between brain death and coma and fears of misdiagnosis. For most HCPs, the focus was on “young, healthy” trauma patients as potential candidates for donation. HCPs seemed unaware that more than 50% of the potential donor pool comprises patients with medical presentations and that 35.8% of donors are more than 50 years old.¹⁵

Attitudes

General support for organ donation among nursing staff was evidenced by their recognition of organ donation as a necessary medical good. The overall culture was receptive to organ donation in hospitals where systems were in place to support the process. In other hospitals, physician resistance to early referral was indicated by general discomfort or disagreement

with the practice. Respondents expressed concern about families' perceptions and potential legal issues, fearing liability and the family's potentially negative interpretation of the OPO's presence.

Advocacy

The ICUs had a high level of patient advocacy, with HCPs building strong rapport and trust with patients' families. Advocacy for organ donation, however, faltered. Many respondents perceived the organ donation process, for example, the time required for phone evaluation and/or care for the potential donor patient after brain death, as a burden on unit resources. In addition, respondents expressed reticence about speaking with potential donors' families about donation and were unsure what to say to a family who inquired about organ donation before the OPO arrived.

Patients as Potential Donors

Advocating for a patient and notifying the OPO about a potential donor were perceived as incongruent. Several manifestations of this perception were revealed, including the notion that notifying the OPO was a last resort and was associated with a bad outcome for the patient and the perception that early notification was a conflict of interest. HCPs reported discomfort with early presence of a representative from the OPO and lack of clarity on the proper time to call. Finally, and perhaps most importantly, the presence of the OPO representative indicated a failure on the part of the clinical team to save the patient.

Specific Practices

In hospitals with the greatest success, nurses identified candidates for early referral and placed referral calls without having to wait for the approval of a physician. However, HCPs often made their own determination of who was eligible for donation, and their perceptions were not always correct. In a few hospitals, a key physician determined when to notify the OPO on the basis of his or her individual practice preferences; in these instances, calls were frequently few and late. The timing of the referral was also often based on HCPs' perception of families' potential receptiveness to organ donation.

The assessment also revealed physicians' reluctance to declare brain death, with HCPs in children's hospitals being especially cautious. Delays were present where brain death declaration was not perceived as an integral part of patient care. In some instances, patients were withdrawn from support before progression to brain death or the decision to withdraw support occurred before families had the opportunity to consider organ donation. Thus, urgency of optimizing each rare opportunity for a transplant patient did not seem to be present.

Table 2 Sample assets for early referral and request

General support for organ donation among nursing staff (n = 17)
Overall culture receptive to organ donation (n = 13)
Nurses place referral calls without approval or directive from physicians (n = 9)
Health care providers build strong rapport with families (n = 8)
High volume of traumas—frequent contact with organ procurement organization and familiarity with organ donation process (n = 4)
Positive perception of integrating organ procurement organization into the hospital team (n = 3)
Influential physician advocates for organ donation (n = 2)

Quality of the Hospital-OPO Relationship

Some respondents had a positive perception of integrating the OPO into the hospital team. In these settings, the OPO was not only well regarded, but a system was in place to integrate the OPO staff into the hospital team. In other hospitals, OPO coordinators were considered unwelcome interlopers. Residents in these hospitals reported a negative perception of the OPO, discomfort with the OPO on the unit, and concerns about a negative past experience that they were unable to move past. Residents also reported a perception of exclusion of the hospital staff by the OPO. Their perception was that the OPO forbade HCPs from mentioning organ donation, in which case any relationship of family trust with HCPs was being underused.

Table 2 presents the assets for donation for the hospitals sampled. The most commonly identified assets included support for donation among the nursing staff (n = 17), a hospital culture receptive to donation (n = 13), and nurses referring patients without physicians' approval (n = 9). Barriers to donation included limited knowledge of the hospital's organ donation processes, the perception that calling the OPO means "giving up" on the patient, and HCPs' determination of patients' donor eligibility.

Interventions tailored to address each hospital's unique set of barriers were designed and delivered to the hospitals in the form of recommendations. Table 3 displays a list of commonly identified barriers with their corresponding corrective recommendations. Recommendations for improving the early referral and organ donation processes focused largely on ongoing education and training for HCPs and hospital staff to increase knowledge of the donation processes, benefits of early OPO involvement to families, and ways in which delayed initiation of patient evaluation unnecessarily prolongs the family's anguish. The participating OPO used the RAPiD evaluations to guide its hospital development activities during the following year.

Table 3 Summary of barriers to donation with corresponding RAPID recommendations

Barriers to donation	Recommendations
Physicians perceive that notifying organ procurement organization (OPO) is incongruent with advocating for the patient and the family	Provide physicians with clinical rationale for how OPO notification constitutes quality care for the patient and the patient's family Routine professional education should include donation as a part of informed end-of-life decision making and family care
Superficial understanding of OPO and the function it serves	Provide high impact teaching on the purpose of OPOs and organ donation and the importance of early referral and request processes
Referral calls are deferred, and sometimes forgotten until later, when stabilizing patients	Reinforce referral criteria and reference card usage to help remind health care providers (HCPs) to place referral calls at the earliest opportunity Define the optimal referral process in a simple written format with a clear clinical rationale
HCPs excluded from introducing organ donation to families	Train procurement coordinators to provide coaching on the language to be used by hospital staff on a case by case basis for family introductions Involve a member of the caregiving team in family approaches
Use of profiling in assessing families' potential receptiveness to organ donation	Define the optimal family communication process in a simple written format with clear clinical rationale Use evidence-based teaching to support the process being promoted
Critical care unit (CCU) has minimal knowledge or involvement in the referral/donation process	Maximize CCU potential through teaching to include neurological assessments and data presentations of potential donor outcomes based on medical record review findings
Gaps in HCPs' understanding of brain death	Provide continuing education to HCPs, defining brain death and providing associated protocols
Nurses wait for physician's approval or directive before placing a referral call	Leverage nurses by working with the hospital to allow nurses to refer patients prior to brain death declaration Provide additional education to nurses in terms of technical issues of donation
Physician resistance to early referral Timing of referral driven by practice preferences of individual physicians	Explain why early involvement, partnering, and collaboration benefits the family Educate physicians as to why delayed initiation of patient evaluation unnecessarily prolongs the family's anguish Chart timing of referral calls against donation outcomes and aggregated over time, or in multiple centers
HCPs are controlling and protective of families	Establish trust—ask for and use feedback from HCPs to find mutually agreeable solutions. Communicate and provide feedback to nurses and physicians after every interaction via e-mail
Discomfort with early OPO presence	Build real relationships, so as to be seen as a member of the team, integrating with the policies and procedures of the unit, rather than as an outside agency coming in and imposing their own protocol Be a visible presence in the hospital – position an In-house coordinator within the hospital

Each hospital was reevaluated 12 months after the recommendations were made and the interventions implemented. Of the 17 hospitals, 9 hospitals' environments for organ donation improved, 7 showed no change, and 1 was worse. Of the 7 hospitals that showed no change, 5 continued to be rated as fair and 2 as good. Of the 9 hospitals that showed improvement, 1 hospital progressed from poor to good, 1 from poor to fair, 1 from fair to very good, 4 from fair to good, and 2 from good to very good.

A specific example of the RAPID evaluation is presented in the Appendix. The initial evaluation of this small urban hospital with low donor potential resulted in a rating of fair. Although an influential

physician was supportive of organ donation, a number of barriers severely impeded the donation process; the most notable barrier was the largely negative perceptions of OPO staff held by hospital HCPs. HCPs also perceived referral calls as burdensome and the concepts of early referral and patient care as incompatible. Recommendations for hospital development included providing feedback and guidance to HCPs on the optimal communications during requests for donation, incorporating nurses into family discussions, and providing personal follow-ups to referrals. The second evaluation identified 4 assets to donation that were not present during the first evaluation. The second evaluation also showed improvements in half of the hospital's

Small Urban Hospital
First Evaluation: Fair
Second Evaluation: Good

OVERALL HOSPITAL ENVIRONMENT

Hospital with low organ donor potential, primarily tissue. Staff reports that most potential organs donors would be sent elsewhere. Supportive of donation in principle, but disagrees with some practices (see barriers). Significant variability in these opinions.

ASSETS

	Evaluation I	Evaluation II
Influential MD is an advocate for organ donation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
MD supports separation of caregiver and requester	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Clinical manager recognizes OPO's role as supporters and educators	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Education regarding donation after cardiac death (DCD)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mention of clinical triggers for referral	<input type="checkbox"/>	<input checked="" type="checkbox"/>

BARRIERS

	Evaluation I	Evaluation II
MD perceive early referral as incongruent with patient care	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Referrals based on perceived eligibility for donation	<input checked="" type="checkbox"/>	2
Perception of being reprimanded for discussion of organ donation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Negative perception of a "stranger" approaching family	<input checked="" type="checkbox"/>	1
Perceived inappropriate aggressiveness of OPO in following referrals	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Perceived referral calls as burdensome	<input checked="" type="checkbox"/>	1
Tissue requests via phone perceived negatively	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Note: = absent, = present; 1 = some improvement, 2 = moderate improvement.

SUMMARY

In the second evaluation, MDs continue to support organ donation. In addition, there was specific mention of support for separation of caregiver and requester by MDs, and MDs no longer perceive early referral as a conflict of interest. RN manager also expressed increased support for OPO by recognizing OPO's role as supporters and educators. The RN staff seems to be more educated about the OPO policy due to the increased knowledge level of referral criteria and DCD. Although knowledge level of referral criteria has increased, there are still gaps in knowledge about early referral. Negative perception of HCPs being reprimanded for discussing organ donation and the negative perception of OPO as aggressive are still prevalent. The negative perception of OPO requesters as "strangers" approaching families and the negative perception of referral calls as burdensome are only slightly improved. In the second evaluation, RNs expressed an additional negative perception of tissue request over the phone.

RECOMMENDATIONS FOR HOSPITAL DEVELOPMENT

- Present the organizational rationale for tissue request method: has it been shown to increase consent to tissue donation?
- While continuing to emphasize that the OPO prefers to make the approach with families (being an advocate, specialized training), allow for flexibility with staff who wish to be included as part of the approach.
- If possible, increase the proportion of referrals followed up in person; creates a presence and may reduce the perceived time burden. For phone referrals, is it possible to adapt the flow of question to facilitate a quicker process? Alternately, establish a preset form that staff can prepare before hand in order to minimize phone time.
- Reinforce existing education regarding specific referral criteria, reinforce reference card usage.
- Identify a standard mechanism for feedback to hospitals in a data driven format to eradicate the tone of "scolding." Define for RNs the optimal referral and family communication process in order to clarify role and appropriate dialogue concerning organ donation.*

* Recommendation from first evaluation that requires further implementation.

Appendix Sample hospital report.

Abbreviations: HCP, health care provider; MD, physician; OPO, organ procurement organization; RN, registered nurse.

barriers to donation; a negative perception of telephone requests for tissue donation was also identified. Overall, the hospital showed marked improvement and its donation environment was rated as good.

Another evaluation of a large inner city hospital with high donor potential (not shown here) initially indicated a need for increased knowledge of donation among the nursing staff, but also indicated that the overall hospital climate was favorable toward donation. In addition, the evaluation identified the hospital's high volume of traumas, the nursing staff's general awareness of early referral, and the ability to refer patients without physicians' approval as assets while the hospital's size was identified as a potential barrier to donation. To address this barrier and heighten knowledge of donation, the research team recommended HCP education on referral criteria and evidence-based presentations supporting the separation of HCP and OPO roles in the donation process. The team also suggested the addition of an in-house coordinator and on-site patient screening to lighten nurses' workload. Although the number of assets for donation at the hospital increased after implementation, the number of barriers did as well. Upon reevaluation, there was widespread support for the in-house coordinator, but confusion among HCPs about what donation-related topics were allowed in family discussions and negative perceptions of the OPO (eg, a perception of being reprimanded and of reported rudeness in telephone interactions). As a result, the hospital's initial rating of good remained unchanged.

Discussion

The results of the RAPiD's initial test provide preliminary evidence of its utility as a CQI method. The hospital assessments found general support for organ donation within many of the hospitals sampled. In addition, HCPs exhibited a strong sense of patient advocacy and a priority for establishing rapport and trust-based relationships with patients' families. However, the RAPiD also identified multiple barriers to the donation referral and request process, including limited knowledge of brain death protocols, donation processes, and hospital policies regarding organ donation, a conflict between patient advocacy and organ donation, and a strained relationship between the study OPO and many of its regional hospitals. In addition, many respondents expressed reticence toward discussing the option of donation with families of potential donors. By avoiding any discussion of donation, HCPs and hospital staff delay the donation process and reduce the likelihood of obtaining family consent.

Many of the RAPiD's findings are supported in the literature. Past research has unequivocally shown that HCPs' attitudes toward and knowledge of organ donation affect the referral and consent process. Siminoff

et al⁴ identified donation-related knowledge gaps among 1797 US HCPs. Most notably, 55.7% of HCPs were not aware of the donor age limit and 78% mistakenly thought that hypertensive patients were eligible for donation. Similarly, Kent¹⁶ recently found that 207 of 776 nurses surveyed in the United Kingdom correctly identified elements of diagnosing brain death. Nurses in this study also displayed limited knowledge of organ and tissue donation exclusion criteria. These factors affect engagement in discussions about donation and success in obtaining family consent.^{4,16}

Clearly, knowledge deficits persist, as does the fear of family reprisal. Physicians in this study expressed fear of family members' potentially negative reactions to the OPO and legal reproach. This fear may have led many HCPs to profile families for their receptivity to donation and wait until brain death was declared before making a referral. Past research, however, has shown that HCPs often misjudge families' willingness to donate. In one study,¹⁷ researchers found that HCPs incorrectly predicted families' response to the request in more than 50% of cases.

Thus, it is critical that hospitals provide ongoing education to HCPs and staff to promote and maintain awareness of the importance of organ donation and familiarity with the hospital's donation-related policies and procedures. Furthermore, research has shown that OPO coordinators are best suited to request donation from the families of brain-dead patients.^{17,18} However, HCPs and hospital staff should have the knowledge and ability to communicate about donation with family members in the event that questions arise. In fact, the Organ Donation Breakthrough Collaborative, a national CQI initiative with documented success, champions the use of "team huddles" wherein OPO coordinators collaborate with HCPs to "develop the best possible plan for approaching the potential donor's family to request consent for organ donation."^{19,20} Toward this end, OPOs must strive to maintain healthy working relationships with their regional hospitals. Although HCPs in many of the hospitals sampled held positive perceptions of the study OPO and sought to integrate OPO staff into the hospital team, some did not. In fact, many HCPs thought that the OPO was overly controlling, forbidding the HCPs from discussing donation with family members, and HCPs tended to focus on past negative experiences with the OPO. Such feelings are likely to inhibit full cooperation from HCPs and hospital staff.

Limitations

Although the study yielded valuable information for the design of tailored interventions to improve hospitals' donation processes, it is not without limitations. First, this research was conducted within the

confines of the catchment area of 1 OPO, limiting the number of hospitals available for inclusion in the study. In addition, only 9 of the 17 hospitals' donation environments showed improvement upon reevaluation. The manner in which the interventions were implemented at each hospital may explain these findings. The OPO underwent considerable organizational change during the study and, as the OPO was charged with overseeing the implementation of the hospital recommendations, the degree to which these changes affected the fidelity of the hospital interventions is unknown. A large-scale test of the RAPID, with strict monitoring of the interventions' implementation within each hospital, would provide conclusive evidence of the method's effectiveness as a CQI tool.

Conclusion

The RAPID's initial test clearly demonstrates the complexity of the donation process. A variety of intersecting elements affect identification and referral of potential donors, and family consent to donation, including the psychosocial characteristics of hospital administrators, staff, and HCPs, knowledge of and adherence to hospital policies regarding donation, patient advocacy, and the hospital/OPO relationship. Thus, CQI interventions designed to improve donation outcomes must be sensitive to the interplay of these factors (ie, the overall hospital environment). Although interventions addressing only 1 element may show some success, other aspects of the hospital environment will most likely need improvement as well if the donation process is to be optimized. The RAPID was created to acknowledge this complexity. Data collected by using the RAPID paint a holistic portrait of the hospital environment that is easily translated into action-oriented recommendations for improving the donation process. The recommendations are specifically tailored to a hospital's unique set of barriers to donation. Indeed, the Organ Donation Breakthrough Collaborative advocates tailoring best practices to meet the needs of individual hospitals.²¹ Although the RAPID clearly indicates where barriers exist within the hospital environment, additional tests are needed to determine whether attempts at identifying and remedying barriers to donation are useful.

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