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# Health Care

## A Fertile Field for Service Research

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*Health care is an enormously expensive, highly complex, universally used service that significantly affects economies and the quality of daily living. Service management, operations, and marketing scholars have much to offer to a critically important, intellectually challenging, but deeply troubled health care service sector. In this article, the authors use the opportunity they had to study at one of the world's most admired medical institutions—Mayo Clinic—as the basis for discussing the similarities and dissimilarities between health care and other services. The article takes the reader "inside" health care. The authors challenge service scholars to consider health care for their research activities and propose areas for future research.*

*Keywords:*    *health care service; professional services; service quality; service characteristics*

Health care is a rare service that people need but do not necessarily want. It is arguably the most personal and important service that consumers buy, yet many studies document wide variation in the quality of care delivered (McGlynn et al. 2003; Wennberg and Fisher 2006) and in patients' ability to evaluate that quality (Adams and Biros 2002). Health care has a pervasive impact on economies and the quality of daily life. America, for example, was projected to spend more than $2 trillion (approximately $7,000 per person) on health care in 2006 (Heffler et al. 2005), and yet only 44% of a national sample of Americans indicated satisfaction with the quality of U.S. health care (ABC News/Kaiser Family Foundation/*USA Today* 2006). Based on 2004 statistics, per capita health care spending in the United States ($6,102) is much higher than other countries such as Australia ($3,122), Canada ($3,043), France ($3,566), Germany ($3,502), and the United Kingdom ($2,880) (Organization for Economic Cooperation and Development Health Division 2006).

The market mechanism that is taken for granted in other service sectors is broken in American health care. Unlike other services in which demand increases supply, in health care supply increases demand. More physicians or hospital beds in a given region translate into more medical services rendered on a per capita basis with no improvement in the overall health status of that population group. In fact, medical outcomes and quality of care tend to be superior in regions with lower resource use and care intensity (Wennberg and Fisher 2006).

Consumers with health insurance do not pay the full cost of the services they use once they meet their deductible. In the United States, the "price" of a doctor's visit is $20 (the co-pay), not the $90 the insurance pays. This effect can be even greater in countries with national health care systems. For example, in Germany, patients pay only a $10 co-pay for all doctors' visits per quarter. Health care is the only service that consumers commonly purchase without knowing its actual cost. Nor is the information readily available to those who seek it. One executive tried to price a magnetic resonance imaging (MRI) exam that he needed for a shoulder injury. With a high-deductible health plan, he would be paying the full cost, and he wanted to compare prices among a dozen area hospitals. "Of all the places I called," he wrote, "only two could or would tell me the cost. The response nearly across the board was, 'Well, you have insurance, don't you? What do you care about cost?' " (Cutler 2003, p. 22).

Health care benefit costs have become a major burden for employers in the United States, threatening the global competitiveness and even the survival of some companies. General Motors, subject to considerable speculation that it is headed toward bankruptcy, estimates that its health care spending accounts for about $1,500 of the cost of each vehicle it manufactures (Hawkins 2005).

Corporations contribute to inefficiency and waste in health care. Companies that are rigorous and demanding purchasers of other goods and services are commonly timid and ill prepared when purchasing health care services. In no other area of supply would businesses tolerate the cost increases and uneven quality that characterize health care (Berry, Mirabito, and Berwick 2004).

Service disciplines developed from the fundamental belief that services are different from goods and require novel ideas, approaches, tools, and strategies (Berry and Parasuraman 1993). Health care illustrates just how much services can differ. Health care is a deeply troubled but critically important service sector. It costs too much, wastes too much, errs too much, discriminates too much. Health care needs more of the brainpower of the people who read this journal.

We have three goals in this article:

- The first is to present health care as a case study to demonstrate how it differs from other services. In doing so, we hope to underscore the need to better understand differences among services.
- The second goal is to highlight specific service quality challenges that are salient and pervasive in health care but rarely discussed in the nonmedical service quality literature. We hope to interest service quality researchers in health care as a setting for their research.
- The third goal, building on the first two, is to stimulate service operations, management, and marketing academics to become more involved with health care. Such involvement could include covering health care service issues in courses, a focused research program, a sabbatical leave in the health care sector, serving on a hospital board of directors, and many other activities.

We begin by discussing the research we conducted that provides the foundation for our discussion of health care. We then describe similarities between health care and other services. This material will be more familiar to service researchers, and we purposely are brief in this section. Next, we discuss in greater detail dissimilarities between health care and other services. Finally, we propose some promising research questions linked to these dissimilarities.

## THE RESEARCH

The basis for this article is a 6-month study of the ideal service experience from the perspectives of patients, clinicians (doctors and nurses), and nonclinical staff (allied health staff, administrative personnel). We conducted this study at Mayo Clinic, a highly regarded, multispecialty health care institution that is more than 100 years old. We did the research at Mayo Clinic's original campus in Rochester, Minnesota, and one of its newer campuses in Scottsdale and Phoenix, Arizona.

We interviewed about 1,000 individuals in person or on the telephone. One fourth of the respondents were patients, including 192 we interviewed by telephone within 90 days of their most recent visit to Mayo Clinic. These interviews lasted between 20 and 50 minutes and focused on the patients' best and worst service experiences at Mayo Clinic. Respondents were encouraged to comment on any experience with Mayo Clinic and were not restricted to their most recent visit. To strengthen generalizability, we selected a random sample of patients from 14 medical areas: cardiology, cardiac surgery, dermatology, emergency medicine, endocrinology, executive medicine, family medicine, gastroenterology, medical and radiation oncology, neurology, orthopedic surgery, transplant surgery, thoracic surgery, and urology. The disciplines were selected to provide a broad representation of inpatient and outpatient services and various levels of acuity.

In addition to the telephone interviews, we conducted a total of 10 focus group interviews with Mayo patients and with clinical and nonclinical staff. Most of the remaining interviews were personal interviews with one or several Mayo clinical or nonclinical staff members. These interviews typically lasted 1 hour.

We also collected data as participant observers. We observed numerous surgeries and more than 250 separate patient-physician encounters in examination rooms and on hospital rounds. We took detailed notes during these observations; reviewed, supplemented, and edited the notes while our memory was fresh; and had them typed. Each week, we focused on one of the 14 medical specialties listed above. We stayed in Mayo hospitals ourselves as "mystery patients" and one of us (LB) spent a day flying on the Mayo One emergency rescue helicopter service. Mayo Clinic gave us complete access to study its service culture and systems, and our study was approved by the Mayo Foundation Institutional Review Board.

Since completing our research at Mayo Clinic, we have continued to study health care service and have visited a variety of other health care institutions in the United States. The analyses that follow are informed primarily by our research experience at Mayo Clinic but also are influenced by what we have learned subsequently in other health care research and from the health care literature. Although we have done our field research in the United States, we believe our discussion of similarities and dissimilarities between health care and other services will generally apply to health care delivery in other countries.

## SIMILARITIES BETWEEN HEALTH CARE AND OTHER SERVICES

Health care services reflect several characteristics commonly associated with other services. They are, in essence, intangible in that the core benefits of medical diagnosis, treatment, and patient education derive primarily from performances. Patients (and third-party payers) incur an expense rather than acquire tangible assets. Treatment itself frequently combines intangible services supported by goods (e.g., surgery in a well-equipped operating room) and tangible goods supported by intangible services (e.g., pharmaceuticals and pharmacy services).

Health care services are both labor and skill intensive, contributing to considerable variability in performance from one clinician to another. The variability is not just in the service style and communication skills of clinicians but also in their technical skills. The latter is dramatically illustrated by a RAND Corporation study that found, on average, American patients receive appropriate medical treatments only 55% of the time. The researchers analyzed the medical records of 6,712 patients in 12 cities to assess treatment of 30 medical conditions and compared the findings to accepted definitions of standard care for the conditions (McGlynn et al. 2003). In Europe, 47% of European Union citizens think it is fairly likely or very likely that a hospital patient would suffer a serious medical error because of the hospital doctors or medical staff (Eurobarometer 2006).

Because health care services are provided for people, rather than for people's property, they typically are inseparable. Patients must be physically present where the service is rendered (such as a doctor's office or hospital) when the doctor or nurse is available to deliver the service. Inseparability can pose a hardship on patients who are elderly, nonambulatory, or inconveniently located, and it often frustrates patients who may have to wait for extended periods to receive service.

Like most other services, health care is perishable. Health care organizations create value through staff time and expertise, equipment, and physical space. When these resources are unused, the value that could have been created perishes. Medical administrators and physicians are well aware of the perishability of their service and may overbook appointments or charge a no-show fee to compensate for missed appointments.

Similar to the use of other technical services, such as repair or appraisal services, customers are at a considerable knowledge disadvantage when they use health care services. Health care is a credence service in that clinical quality often is difficult for the patient to judge even after the service is performed. Our patient interviews at Mayo Clinic underscore patients' limitations in judging clinical quality. When we asked patients in the telephone interviews to describe their best and worst experiences with Mayo Clinic doctors, virtually all responses concerned how the physician behaved ("the bedside manner") rather than the physician's technical skills or expertise. This finding suggests not only the importance of physicians' interpersonal skills but also patients' comparative ease in evaluating them. Technical quality clearly is vital to patients but more difficult to evaluate. Our findings may also reflect patients' inclination to assume a doctor is clinically capable (Bendapudi et al. 2006).

Following one of our patient focus groups at Mayo Clinic, a breast cancer patient who participated sent us a handwritten note eloquently summarizing the complexity of health care services, the information and power advantage of doctors, and patients' need for doctors to be behaviorally competent, not just technically competent (Bendapudi et al. 2006).

> We want doctors who can empathize and understand our needs as a whole person. We put doctors on a pedestal right next to God, yet we don't want them to act superior, belittle us, or intimidate us. We want to feel that our doctors have incredible knowledge in their field. But every doctor needs to know how to apply their knowledge with wisdom and relate to us as plain folks who are capable of understanding our disease and treatment. It's probably

difficult for doctors after many years and thousands of patients to stay optimistic, be realistic, and encourage us. We would like to think that we're not just a tumor, not just a breast, not just a victim. Surely, if they knew us, they would love us.

## DISSIMILARITIES BETWEEN HEALTH CARE AND OTHER SERVICES

Health care clinicians may have to respond on demand to medical issues ranging from the mundane (a common cold) to the critical (a heart attack). They must minister to their patients' physical and emotional needs in a humane manner regardless of often less-than-ideal circumstances. Even a "normal" day in a primary care medical practice presents a potential rollercoaster of emotions and demands. Although similar to other services in certain respects, health care also has uncommon characteristics. The following sections highlight dissimilarities that merit attention in service research.

### Customers Are Sick

Health care customers are usually ill and under stress and (sometimes) live in the service "factory"—they are patients. Serving a customer who arrives with some combination of illness, pain, uncertainty, and fear presents a unique challenge to health care service providers. The circumstances of medical customers can cause them to be far more emotional, demanding, sensitive, and/or dependent than they would normally be as consumers. Emotions, in turn, influence their ability to make choices. For example, increased levels of stress-induced anxiety have been found to trigger preference for options that are safer (low risk, low reward) and provide a sense of control. On the other hand, when patients experience sadness, they tend to prefer options that are more rewarding (high risk, high reward) and comforting (Raghunathan, Pham, and Corfman 2006). Furthermore, patients are often likely to experience mixed emotions, such as hope that a surgery will treat their illness, mixed with fear that something will go wrong during surgery.

For inpatient health care services, the customer not only visits the service facility but also lives in it. Few service industries have their customers sleep over; hospitals do. Even when service quality is superb, the experience of hospitalization is likely to compound the inherent stress that accompanies illness. Hospitals are frightening places where patients undergo medical procedures and/or receive medical treatment. Patients are not in control and cannot come and go at will. Patients do not enjoy themselves in hospitals. Hospital-related

stressors include lack of contact with nature, lack of physical and mental stimulation, and, in double-occupancy patient rooms, lack of privacy. One of the most egregious sources of stress in a hospital is noise. Noise sources are both numerous (alarms, hallway activity and conversations, roommates) and loud (use or movement of medical equipment, nursing shift changes) (Berry et al. 2004). One hospital study, for example, continuously measured decibel levels during night shifts and found that moving a portable x-ray machine in the hallway outside a patient room was as loud as if a motorcycle roared by (Cmiel et al. 2004).

### Customers Are Reluctant

The presence or possibility of illness thrusts people into the role of health care consumers. They often approach a medical service such as an annual physical exam, mammogram, or surgical procedure with reluctance, even dread. Much of the services literature naturally focuses on "want" services, such as recreation, entertainment, personal grooming, and communications services; less attention is devoted to the study of services customers need but may not want, such as health care and certain public services, for example, airport security and motor vehicle regulation.

Customer reluctance may affect service quality perceptions. Do customers evaluate desired and dreaded services differently? It may also affect the degree to which customers accept the "coproducer" role necessary for a favorable outcome (Bendapudi and Leone 2003). The successful delivery of health care service typically requires a patient's cooperation both during the encounter (e.g., answering the clinician's questions honestly) and afterwards (e.g., taking the prescribed medication).

Service scholars rarely consider the issue of customer unwillingness to perform the coproducer role. In health care, customer wants and needs frequently conflict. Customer coproduction often involves directly confronting fears ("Will the test reveal cancer?"), considerable inconvenience and cost ("I can't miss two weeks of work to have the surgery"), and making lifestyle changes ("The doctor wants me to stop smoking, but I've never been able to do it before"). A large part of the customers' unwillingness may stem from their sense of loss of control over outcomes. When customers experience threat emotions (e.g., anxiety) in face of low self-efficacy (i.e., capability to affect change), Duhachek (2005) finds that customers are more likely to engage in avoidant coping strategies, which can lead to suboptimal decision making and behavior. For many medical services that patients need but do not want, avoidant coping strategies may play an important role.

We observed the clash between patient wants and needs at Mayo Clinic. One memorable service encounter involved a male patient during his first appointment with a family medicine physician. The patient's wife made the appointment against her husband's wishes. The patient was experiencing pain in his side. Suspecting early-stage liver disease, the doctor questioned the patient about his alcohol consumption. He insisted he did not have a problem. The doctor was friendly but persistent. She told him, "Honestly, I'm worried about your liver. If the drinking is affecting your liver, it can kill you. You need your liver." The doctor wanted to admit the patient into the hospital for detoxification. He was adamant about not going to the hospital. The doctor then recommended other alternatives, including one-on-one alcohol abuse counseling and Alcoholics Anonymous. The patient was not interested. Pleasantly but firmly, the doctor told the patient that she wanted to help him and that she "could be a hard-ass." She asked the patient to come again the next day with his wife when the results of laboratory tests would be available. "Let's approach this together," the doctor concluded.

From a service research perspective, this encounter is fascinating. The physician delivered outstanding service from a customer-need perspective. She was determined to help her patient. The patient did not at all seem to appreciate the service, however. Had the patient received a satisfaction survey from Mayo Clinic following the visit, the doctor probably would not have fared well.

## Customers Relinquish Privacy

Health care services are inherently personal but not private. Other services do not require customers to relinquish so much of their privacy or to bare themselves physically and emotionally as is required by medical services. To receive the best possible care, patients may not only have to disrobe, but also they may have to discuss highly personal matters that they have revealed to few other people. Patients may have to undergo this experience with clinicians they are meeting for the first time.

In observing doctor-patient interactions in examination rooms and in the hospital, we were surprised by the frequency and variety of patient psychosocial issues addressed by clinicians. Service providers outside of health care are not required to tell their customers that they must lose weight, stop driving a car, or stop drinking alcohol. They typically do not ask their customers to undress. In health care, clinician roles require all of this and much more.

In 1 week of observing doctor-patient interactions in Mayo's Family Medicine practice, we observed the following: a young, overweight female patient who was continuing to use an over-the-counter weight-loss drug that the doctor had previously asked her not to use and who asked the doctor how often she should take an AIDS test and if marijuana use could be causing her depression; a father who was concerned about the effect his son's disease was having on himself and on his relationships with other family members; an 87-year-old female patient with multiple medical problems who explained that she could not afford her medications; a patient complaining of stomach problems who showed signs of clinical depression ("You are describing a woman in distress," stated the doctor to this patient); a 97-year-old woman with heart disease who was under considerable stress because her daughter had cancer; and multiple patients who smoked or were overweight.

During our time at Mayo Clinic, we continually were struck by how little guidance our knowledge of service quality offered for many kinds of service encounters we observed. For example, one doctor kindly said to a patient, "You wouldn't feel that you had a full experience if I didn't remind you to stop smoking." The doctor could not have been nicer to this patient. But is this quality service? Would the doctor have delivered better quality had he emphatically stated, "Your smoking may be slowly killing you. You must stop. Let me help you stop smoking, starting today."

## Customers Need "Whole Person" Service

The need to understand the individual customer *holistically*—and to customize the service accordingly—is pronounced in health care. Health care services need to be customized to fit not only a patient's medical condition but also the patient's age, mental condition, personal traits, preferences, family circumstances, and financial capacity. Delivering quality service to all of the patients described in the preceding section depends on a clinician's ability and willingness to couple knowledge of medicine with knowledge of the individual patient. The requirement of whole person service characterizing all forms of health care intensifies when patients become seriously ill. The diagnosis of a serious disease turns a patient's life upside down and can greatly affect the patient's family.

We selected excerpts from interviews with three Mayo Clinic clinicians to share in this section. They illustrate the emotional impact of a serious illness on a patient—cancer in these examples—and the service quality opportunity embedded in truly understanding the patient and tailoring the service accordingly. (The quotes also suggest the emotional impact on the clinician, a topic to be discussed).

### A MEDICAL ONCOLOGIST

I want to know the person. What do they understand about their situation and what do they want to know.

I want to inform them, answer their questions, and resolve disparities. I want my patients to feel in control. Patients often feel cancer has taken over their life and I try to help them regain a sense of control over their life. I like to give them something positive to think about and there almost always is something positive I can relate. I want them to find reason to have hope. I do tell them this has to be a priority for them, an investment in the future.

The first visit is a very delicate time. When patients come to see their oncologist they are incredibly vulnerable. I don't want to brand someone with a number or a prediction.

One patient had recurrent breast cancer. The last three visits it was worse news each time. I like to give good news. It's hard not to feel like you are inflicting this.

When September 11th happened, I thought now people know what cancer patients deal with everyday when a renegade fireball hits their lives. I have the privilege of talking to these people. The firefighter heroes have fascinated many. I get to see a lot of personal heroism.

**A HOSPITAL CRITICAL CARE NURSE**

I took care of a breast cancer patient who had plastic work that failed. Going into surgery, she thought that she would have her breast removed and then reconstructed. She developed bleeding and they couldn't reconstruct. Now she has a whole other burden. She not only has cancer, but she also is leaving without a breast. I spent a lot of time with her, mostly listening and we had some "spa" time—(that's what I call it)—washing, rubbing the feet, washing or braiding hair, mild massage. I took care of her for three days in a row—three 12-hour shifts; I was ready for the patient to leave; you can't get too emotionally attached.

**A MEDICAL ONCOLOGIST**

The patient I most enjoyed taking care of here was a Mayo doctor. This person brought knowledge to the table. He listened to my advice, I gave him choices, and he made decisions. He chose treatment at various times, and chose not to have treatment other times. He lived his life and used his time as well as possible. He was an opera buff. He would say: "Doctor, you have to keep me going for the next opera." We were both fighting an enemy— his disease. This person was able to live hard and fight hard for the three years he had once he got the disease. This person took advantage of the time he had and that was very satisfying for me.

## Customers Are at Risk

It is difficult to imagine a service where customers are more at risk than the health care service. A profession that is supposed to heal too often harms. Imagine an airline pilot making the following welcome announcement to passengers:

> Ladies and gentlemen, welcome aboard flight 600 bound for Dallas. This is your captain speaking. Our flight time is three hours and 10 minutes and I am pleased to report that you have a 97% chance of reaching Dallas without being significantly injured or killed during your flight. Please enjoy the flight and be sure to keep your seatbelts fastened. (Berwick and Leape 1999)

Such an announcement, of course, would be ludicrous. No customer would take the risk. Fortunately, commercial air transportation is remarkably safe. Health care is quite unsafe; patients just do not get the statistical announcement upon entering the health care system. Hospital-acquired infections (called *nosocomial infections*) are estimated to affect 2 million American patients each year, leading to 90,000 deaths (Burke 2003). Not all of these infections are preventable, but many are through improved safety practices such as proper hand hygiene of caregivers, raising the head of the bed for patients on mechanical ventilators to lower their chances of getting pneumonia, proper administration of antibiotics prior to surgery, and putting patients in single-occupancy rooms so they are not exposed to the germs of a roommate (Berry et al. 2004; Berwick 2004; Burke 2003; Trampuz and Widmer 2004).

Millions of patients are also harmed by medication errors (Institute of Medicine 2006). Such errors include administering the wrong drug, the wrong dose of the right drug, or administering the wrong combination of drugs. The number of medicines some patients take and the number of different caregivers serving one patient can create confusion, as can the many drugs with similar names.

Handwritten prescriptions also can lead to mistakes. Drs. Robert Wachter and Kaveh Shojania (2004), authors of *Internal Bleeding, the Truth Behind America's Terrifying Epidemic of Medical Mistakes*, describe a study in which they asked 159 physicians to look at a handwritten prescription. Half of them thought it was for Plendil, a calcium channel blocker, one third thought it was Isordil, a drug for angina, and the rest thought it was Zestril, a blood pressure drug. This was an actual prescription that was written for Isordil but filled as Plendil. The patient died.

Applying bar-coding technology in dispensing and administering drugs to hospital patients and computerized order entry significantly lower the incidence of medication errors, but these are not yet widespread practices.

Communication errors of one type or another frequently contribute to errors in diagnosis and treatment. One study of 75 error reports from 18 family physicians in five states found that 80% of the errors were initiated by communication failures such as misinformation in medical records or missing records, poor communication among clinicians, mishandling of patient requests and messages, and inadequate reminder systems (Woolf et al. 2004). The National Quality Forum has identified 27 "never events" for hospitals, that is, adverse events that are totally preventable and should not occur. Minnesota was the first state to publicly release a report on how many times a never event occurred in a Minnesota hospital. The information compiled between July 2003 and October 2004 indicated that 99 events were reported, resulting in 20 patient deaths and four cases of serious disability. Of the 99 events, 52 occurred during surgery, including operating on the wrong patient or wrong body part or leaving foreign objects in the patient (Minnesota Department of Health 2005).

Donald Berwick, MD, cofounder and president of the Institute for Healthcare Improvement (IHI) and a noted health industry reformer, wrote a request for proposals (RFP) for a total knee replacement he needs and published it in a leading medical journal. He begins his RFP with these words: "Don't kill me" (Berwick 2005). Berwick's IHI embarked on an unprecedented campaign in 2004 called "100,000 Lives." Collaborating with industry associations and government agencies, the campaign persuaded more than 3,000 hospitals to implement some or all of six changes based on best available evidence that could save patients' lives. The goal was to save 100,000 lives over the following 18 months. In June 2006, the results were in: An estimated 122,000 lives had been saved, perhaps the clearest documentation yet of how a service designed to help can needlessly harm, and how much opportunity exists to improve the quality of this service.

Harm to patients is not always as overt as a botched surgery or medication error. Kahn and Luce (2003) conducted an experiment with women in a mammogram context that showed patients receiving a false-alarm test result experienced more stress and were more likely to delay future mammograms than a control group receiving normal results. Delaying future mammograms does not occur with false-alarm patients under two conditions: if patients are told they have an increased risk of developing breast cancer or if they receive information that a positive mammogram result does not necessarily indicate breast cancer and is just the first step in the screening process.

## Clinicians Are Stressed

Serving acutely ill people is exceedingly stressful work. We have studied many kinds of service providers, but never have we studied service providers who are as visibly tired and fatigued on the job as doctors and nurses treating people with acute illnesses.

The physical stress of the work can be daunting. Hospital nurses commonly work shifts for 12 or more hours with little downtime. They are on their feet much of the time, do considerable "heavy" work such as lifting or turning patients or helping them to the bathroom, and may walk the equivalent of several miles while gathering needed supplies and medications (Hendrich, Fay, and Sorrells 2002). A busy physician may start and end the "regular" workday doing hospital rounds, see 25 to 40 patients in the outpatient clinic between hospital rounds, return a dozen patient phone calls after evening rounds, and then be awakened in the middle of the night by a phone call concerning a patient having difficulties. It was instructive for us to eat with Mayo Clinic physicians, which we did frequently. Most of them have learned to eat very fast because they know their pagers can sound at any moment, calling them back to a sick patient.

Following are excerpts from detailed notes one of us took while observing a live-donor liver transplant. The same surgical team performed two back-to-back surgeries—harvesting the organ from the donor and transplanting it into the recipient. Time was of the essence, with no opportunity to rest between the two surgeries. The precise time was noted at various intervals during the procedures:

> This is a big procedure today—the epitome of transplant surgery technology, skill, and a pioneering spirit. A male (J) is donating about 60% of his liver to a female co-worker (D). This is a story of courage and friendship.
>
> The first incision is made at 9:02 a.m.
>
> This is a stressful operation for the team. Taking out part of the liver of a healthy person is no walk on the beach. It has to be perfect. Dr. M can't be off even slightly in dividing the liver.
>
> Dr. M is doing the resection assisted by Dr. J and Dr. A. Both Drs. M and A wear magnifiers. Operating under three lamps, they can see about as well as humanly possible.
>
> Dr. M had ultrasound images taken of the liver. The radiologist comes in to take a look at the images and Drs. M and A go to the monitor to

review the image together and discuss. Mayo teamwork at its best.

It's now 10:45 a.m. and Dr. M is ready to cut the liver. The map has been drawn using the advice of the radiologist looking at the ultrasound images.

This is the most delicate part of the operation; you can feel the atmosphere in the room change. Very little talking; very intense.

At 12:10 p.m., Dr. M says, "So far, so good."

The concentration, the focus, the stamina required of the surgeon in a procedure as complex as this is quite remarkable. These surgeons need to prepare themselves physically and emotionally like athletes.

The liver comes out at precisely 1:14; it's drained of blood by Dr. A as Dr. M closes the patient. The liver is tied in a wrapper and put in the ice at 1:32.

At 1:40, Dr. M calls the donor's father to tell him his son did very well and to tell him he would call him again when the transplant is completed. The donor's liver will regenerate in 2 to 4 weeks.

It is now 2:00 p.m. and Drs. M and A are opening the recipient. At 2:50, the diseased liver comes out and at 2:53, the donated liver is placed in the body.

It is 3:15 p.m. and Drs. M and A are hooking up the veins to the new liver—the portal vein and the hepatic vein.

At 4:33 p.m. Dr. M says: "OK, that's a finished product." The clamps come off at 4:43 and Dr. A and Dr. J close while Dr. M gives medication dosages to his physician assistant and then dictates for the medical record. The procedure is done at 5:08 p.m.

Dr. M takes the team to meet the family of the recipient and explains what occurred. He states "both of them did great" and says they can see D in about 45 minutes. At 5:35, Dr. M and the team begin hospital rounds.

The remarkable physical intensity required of the surgeons is evident in the liver transplant transcript. What may be less apparent is the emotional intensity. Losing concentration for just a moment can harm the patient; the slightest carelessness can lead to catastrophe. Fatigue is inevitable, but its negative consequences are unacceptable. The emotional pressure is palpable. In an interview with the primary surgeon, Dr. M, 3 days prior to the described transplant, he indicated that live-donor transplants are extremely stressful for him because he is performing major surgery on a healthy person, the donor.

Emotional exhaustion in the workplace is posited to be partially a result of emotional display frequency, duration, and intensity, as well as the variety of emotions to be displayed (Morris and Feldman 1996). Without a doubt, many clinicians would be high on each of these dimensions.

Emotional stress is an inescapable companion to serving people who are seriously ill and undoubtedly contributes to the physical stress that accompanies such work. Dr. Richard Hollis (1994, p. 1) captures the emotional content of providing health care service:

> It is the patient who carries the burden of illness, but the compassionate physician shares that burden, lifting it when possible and lightening it when that is all that can be done. This sharing of the burden has always been the hallmark of the medical profession.

A powerful source of emotional stress for clinicians is delivering bad news to patients and families. Other kinds of service providers deliver bad news to their customers—"The flight is delayed" or "The product is sold out"—but the information typically is not life changing; in health care it often is. Based on behavioral science findings, Chase and Dasu (2001) offer several principles to improve service encounters. The first principle is to "finish strong." But how does a doctor finish strong when informing a patient that he or she is paralyzed from the accident, has had a stroke, or has a terminal disease? In commenting on a *Journal of Clinical Oncology* article (von Gunten 2002) proposing how a doctor might best inform a patient that death is near, Groopman (2002, pp. 69-70), an oncologist, wrote,

> Today, after caring for patients with cancers for more than 25 years, I have told nearly 500 people that they were going to die; rarely has such a conversation gone as smoothly or the conclusion been as tidy as the journal's model.

What is service communication quality in medicine when the news is bad? It is not an easily answered question. Patients differ in how much they really want to know about their prognosis, and they may be vague in conveying what they want to know. And even if a patient does not want the entire truth, is it good service to withhold it? Sometimes a patient will ask a question such as "What are my odds of remission, Doctor?" while the doctor mentally juggles, in real time, the average statistics from the literature, his or her own personal instincts with this patient, his or her own personal style and preference in addressing such questions, and the fact that the patient's spouse had earlier requested that the doctor not disclose the dire prognosis. Clearly, this type of service situation is different in kind and degree from what researchers study and report on in business-oriented service literatures. In medicine, bad news commonly is far more consequential and relationships among clinicians and patients far more personal.

A medical oncology nurse practitioner at Mayo Clinic explains how she approaches the "bad news" service:

I try to set the stage for patients with suspicious tests or symptoms. I don't like going for the dramatic moment. I suggest to patients that they bring their spouse when they come back. When I go in the room I have a plan. Patients remember the moment when they hear bad news and I want to handle it as well as possible. I say a prayer before I walk in the room and try to center myself. The harder part is the patients I've come to know. The doctor comes in afterwards, but I deliver the hard news to the ones I know well. It is a tearful time.

Another cause of emotional stress for health care providers is the possibility or actual occurrence of a medical malpractice claim. The service quality literature stresses the importance of reliability (e.g., Zeithaml, Parasuraman, and Berry 1990) and recovery when failures occur (e.g., Tax, Brown, and Chandrashekaran 1998), while acknowledging the inevitability of service failures (e.g., Keaveney 1995). As noted earlier, medical errors are common, yet service recovery is more difficult to pursue in practical terms because the errors may harm patients and may result in a malpractice action. Individuals providing other services do not normally get sued when they make a mistake. In health care, the individual may be sued along with the institution. Moreover, many malpractice claims are pursued in the absence of definitive medical errors (Studdert, Mello, and Brennan 2004). In the 1990s, approximately 70% of U.S. malpractice claims resulted in no payment, and defendants won the majority of cases going to trial (*Data Sharing Project Information Manual* 2001).

Medical malpractice has become a crisis in American health care and by all accounts is exacting a considerable emotional and financial toll on physicians. Many doctors in high-risk, high-liability specialties such as emergency medicine, neurosurgery, and obstetrics and gynecology are closing their practices, moving to a state with lower malpractice insurance costs, refusing to perform certain procedures or serve sicker patients, and practicing defensive medicine by ordering extra diagnostic tests or referring for a second opinion (Studdert et al. 2005).

Apologizing to customers for service failures is standard recommended practice in the service recovery literature. It also is recommended in some medical literature (Gallagher et al. 2003; Kraman and Hamm 1999). A study of patients' and physicians' attitudes concerning disclosure of medical mistakes that caused harm found that patients wanted to know what happened and why, what it would mean for their health, and how the problem would be corrected for them and prevented in the future.

They also wanted an apology. Most physicians in the study wanted to apologize for a mistake but were concerned that their statements could increase their vulnerability in a legal proceeding. This study exposes the strong emotions physicians can experience when patients have a bad outcome, when the possibility of having made a mistake arises, and/or when the doctor is accused of malpractice unjustly. As one physician respondent stated, "If something goes wrong with a patient . . . the things that come to the doctor's mind are 'Was it something I prescribed? Was it an instruction I failed to give? Did I do something wrong?' You get that sinking feeling probably on a daily basis almost" (Gallagher et al. 2003, p. 1003).

## HEALTH CARE: AN OPPORTUNITY FOR SERVICE RESEARCHERS

The health care services sector offers talented academics an area of research with high potential for making significant contributions. In addition to the social, psychological, moral, and economic impact of health care, it also is an intellectually challenging field of study. The problems are perennial (mortality and suffering) but also mutable (technology, advances in science, and social mores continually affect the delivery of health care). A goal of this article is to provoke further interest and research in health care service. Toward this end, we have created Table 1, which summarizes promising areas for inquiry categorized by the health care service dissimilarities discussed. These inquiry areas are neglected or underresearched and would benefit from study by service researchers in management, operations, and marketing. Health care service aligns well with the research training academics receive in business school PhD programs. Health care also fits the purview of business disciplines given the complex service provider, consumer, organizational, technological, productivity, and safety issues it presents and its pervasive economic and social influence.

The health care system differences in various countries offer an excellent opportunity to compare and contrast system effects on a wide variety of issues. A commonly asked question is which country's health care system is the best? It is not an easily answered question despite published data that rank countries on various criteria such as costs, survival rates (e.g., breast cancer), avoidable events (e.g., smoking rates), and process indicators (e.g., cervical cancer screening rates) (Hussey et al. 2004; Reinhardt, Hussey, and Anderson 2004; Schoen et al. 2004). For example, Canada's nationalized health system costs far less per capita than America's (Reinhardt, Hussey, and Anderson 2004). Yet, Canadian citizens may have to wait several years before they can have what is classified

## TABLE 1
## Promising Areas for Scholarly Inquiry in Health Care Service Provision

1. Customers have some combination of illness, pain, uncertainty, fear and perceived lack of control.
   a. How can health care services be delivered to increase patients' perception of control?
   b. Would increased perceived control in nonmedical decisions (e.g., when meals are served, adjusting room lighting, choosing music when undergoing a medical procedure) improve clinical outcomes and/or patient satisfaction?
   c. What differences occur, if any, in how patients evaluate the quality of service in extended service encounters (such as a hospital stay) compared to brief service encounters (such as an office visit)?
   d. What is the role of learned hopefulness in patients' evaluations? How does hope affect patients' evaluations of risks and payoffs of medical treatments (Macinnis and de Mello 2005)?

2. Customers may be reluctant coproducers because health care is a service they need but may not want.
   a. What can clinicians do to increase the ability and the motivation of reluctant coproducers?
   b. What role can technology (such as telemedicine) and customer communities (such as support groups) play in enhancing the patient coproduction role?
   c. Is patient satisfaction always the appropriate metric when clinicians focus on needs rather than wants? What other metrics should be considered?
   d. What influences surrogate coproduction such as when a family member or agent of the patient must make difficult choices about a loved one's care? Do current models of risk-reward decision trade-offs and attendant satisfaction (Bendapudi and Leone 2003) apply when the decision maker is the agent versus the actor?

3. Customers relish privacy physically, emotionally, and spiritually.
   a. What are predictors of customer self-disclosure?
   b. How does self-disclosure manifest in different cultures that place differing levels of emphasis on privacy?
   c. As patients develop closeness with a specific clinician, how can this trust be "transferred" to others in the focal health care system (Bendapudi and Leone 2002)?

4. Customers need "whole person" service.
   a. How should clinicians be trained to read patients' needs for psychosocial support as well as medical care?
   b. Given that patients may face difficult trade-offs between sacred values such as health and well-being versus secular values such as frugality (Tetlock 2003), what can be done to help them make sound financial decisions as well as medical ones?
   c. What differences occur, if any, in how patients evaluate the quality of medical service when they have a serious illness compared to when they do not?

5. Customers are at risk of being harmed.
   a. How can patients best be motivated and educated to evaluate safety information across complex health care services?
   b. How can policy makers best communicate risk to different populations with varying needs and abilities for cognitive processing (Vidrine, Simmons, and Brandon 2007)?
   c. How do patients determine whether a medical problem was caused by a medical error? How is blame apportioned in a patient's mind? What factors guide this process?

6. Clinicians are stressed physically and emotionally.
   a. What can be done to reduce burnout among clinicians?
   b. What impact does the "acting" that clinicians engage in when interacting with patients have on their emotional well-being (Hennig-Thurau et al. 2006)?
   c. What conventional health care delivery processes can be restructured or reengineered to reduce the physical strain of being a clinician?
   d. What nonclinical training do clinicians need to be effective in a role that requires they interact not only with patients but with families, other health care providers, insurance companies, government agencies, and the broader community?

as elective surgery even if they are in considerable discomfort. Insured Americans could usually have the same surgery in a matter of days or weeks. The background and perspective of service researchers would be useful in comparisons of these two health systems. Which of these health systems is best is probably not the right question; the better question is what can the United States and Canada learn from each other?

Enormous sums of money are invested and spent in creating and consuming a health care service crucial to people's well-being. Yet, health care is fraught with problems. Purchasers face continually rising costs for a service that is too often inefficient, ineffective, and dangerous. Providers frequently endure considerable physical and emotional stress, which can manifest itself in on-the-job fatigue and mistakes, job-related burnout, and

the decision to leave their profession prematurely. Although health care shares common characteristics with other services, it also has uncommon characteristics that set it apart; studying health care service reveals its salient differences from other services.

No other service sector affects the quality of life more than health care. No other service commands more resources or is more challenged as it faces the future. Health care needs the expertise, objective point of view, and fresh ideas of service scholars in operations, management, and marketing. As a field of inquiry, health care poses many questions that service researchers could pursue. As professionals, we have an opportunity to help shape the future of health care service delivery.

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