The difference between living and merely surviving is a stark reminder that people are more than just their bodies. This is a running theme in rehabilitation medicine, where helping patients deal with their physical impairments is essential, but allowing them to adapt and actually live the lives they desire is far more meaningful.

The Pursuit of Health
While the phrase active lifestyle conjures up images of physical activities, such as exercise and competitive or recreational sports, it means living socially as well. This might include traveling, engaging in volunteer activities, enjoying public events such as concerts and professional sports, or maintaining hobbies.

The omission of physical or social activities from one’s life can impinge on rehabilitation goals and recovery. Individuals with—and without—disabilities are at risk for the negative effects of a sedentary life, such as cardiovascular disease and obesity. But for patients with disabilities, physical movement also is crucial for preventing muscle weakness or atrophy, osteoporotic fracture, loss of strength, skin ulcerations, edema and incontinence.

Furthermore, leading active lives imparts additional benefits beyond the physical dimension, including stress reduction; improved self-esteem and confidence; increased autonomy; greater socialization and family involvement; and enhanced quality of life.

Expanding the Classroom
At Kessler Institute for Rehabilitation, integration of lifestyle into treatment is highly tailored and addressed through both group-based and individual experiences. Patients receive ample information about the wide range of adaptive equipment to help them do just about everything, from wheelchairs that can navigate on sand and snow; to bowling balls with handles rather than finger holes; to video games, fishing rods and even sailboats that all can be operated with sip-and-puff mechanisms.

Education is a major component of overcoming functional barriers, like transportation difficulties. Kessler conducts group discussions focusing on travel via planes, trains, subways or buses. Patients also learn about the latest in assistive technology like a mobile app, currently available for metropolitan areas, that dispatches wheelchair-accessible taxis. Kessler therapists (continued on page 7)
Inpatient rehabilitation hospitals survive sustainable growth rate ‘fix’

While many in the health care community, including the American Medical Association, were disappointed this spring when Congress once again chose a temporary rather than permanent fix to avoid automatic cuts under Medicare’s sustainable growth rate, those of us in the rehabilitation hospital industry sighed with relief. That’s because none of the threatened cuts or regulatory changes under consideration for inpatient rehabilitation hospitals (IRHs) were adopted.

The prevailing assumption of some in Washington is that IRHs and skilled nursing facilities (SNFs) provide the same care and that SNFs can be substituted for IRH treatment since Medicare pays IRHs more, on average. The proposals would have instituted some form of “site-neutral” payment for certain case types, and returned us to the 75 percent level from the current 60 percent rule. This requires that at least 60 percent of an IRH’s admissions in a single cost reporting period must be in one or more of 13 specified clinical conditions to qualify for Medicare payment. Site-neutral payments without site-neutral regulations would unfairly push patients into SNFs. Moving to a 75 percent threshold could inappropriately divert patients in need of hospital-level rehabilitation to other settings despite their clinical status.

How did we dodge these potentially devastating bullets? Through an extensive grassroots campaign initiated by the American Medical Rehabilitation Providers Association (AMRPA), whose board I chair, to educate members of Congress and their staffs about the unwarranted, unwise and unfair implications of this approach.

Among the tools AMRPA used:
• Establishing an 800 number that made it easier for people to contact their district congressional offices to express support for IRHs and opposition to payment changes
• Engaging patients, family members and hospital staffs to share their opinions with their Washington representatives in letters, emails and phone calls
• Visiting congressional offices and inviting members to tour IRHs
• Appearing in the media and writing opinion pieces for major news outlets

We took care to keep the message clear and simple: Reducing reimbursement in our industry would restrict patient access to the level of care required and force many smaller and rural units to close. In effect, it would be rationing care.

We also argued that there has been no explosive growth in payments to IRHs. Medicare’s expenditure growth in post-acute care has come almost entirely from nursing homes and home health agencies.

While we won the battle, the war still rages. It is important to continue to collect data to support our assertions that the care provided in IRHs is appropriate, necessary and cost effective; we also need to cultivate and educate stakeholders. As we embrace changes that may be possible within health care reform, we must protect our capacity to care for patients within the current system.
Putting the Data to Work
Quality and safety data are routinely synthesized to establish priorities, such as the need to charter performance improvement teams. The COC report cards track and trend data over the previous six quarters and compare outcomes with other rehabilitation facilities across the country or to other internal targets; this helps ensure continuous quality improvement.

Results also are often used for clinical research purposes. For instance, Kessler data on hospital-acquired infection rates was used to analyze whether a link between brain lateralization and immune function exists. Findings showed that patients with left-sided brain injury had a significantly higher rate of infection than those with right-sided brain injury—crucial information that consequently has affected clinical care protocols.

Sharing findings is essential because quality of care is relevant to all health care providers and facilities. But outcomes must be presented in a meaningful and understandable way. Although driven by sophisticated statistical techniques, the final report must describe data that is clinically useful in order for patients to benefit optimally from this critical evaluation tool.

Spreading the Word
Communication is tailored to specific groups of stakeholders, such as staff, who stay informed about safety and quality outcomes through quarterly reports called dashboards and data posted on bulletin boards at each hospital campus. Patients and their families receive the annual stakeholders’ report, Patient Profile, which provides a succinct but content-rich summary of populations treated at Kessler as well as data related to quality of care, such as length of stay and patient satisfaction. Similar findings are also shared with referring hospitals and physicians.

Information is also disseminated nationwide as Kessler, like many other rehabilitation hospitals, provides safety and quality data to several databases, including eRehabData and the National Database of Nursing Quality Indicators. These allow clinicians to track and trend data—by hospital and by clinical population on several key indicators, including Functional Independence Measure outcomes, patient satisfaction and mortality rates. Kessler also examines how patients compare on several of these parameters at 90 days post-discharge. Contributing to these national databases gives Kessler the ability to monitor how its clinicians are performing relative to the region and the nation—ensuring patient care at Kessler meets or exceeds local and national benchmarks.

Pasquale Frisina, Ph.D., is director of Quality Management at Kessler’s West Orange campus and an assistant professor, Department of Geriatrics and Adult Development, Mount Sinai School of Medicine. He can be reached at pfrisina@kessler-rehab.com.
Clinical research spotlight

BY STEVEN KIRSHBLUM, M.D., NEIL N. JASEY, M.D., AND A.M. BARRETT, M.D.

THE FOCUS OF rehabilitation research is to develop evidence-based care and treatment that lead to improved function, enhanced quality of life and fewer medical complications. With these objectives close at heart, clinicians from Kessler Institute for Rehabilitation are engaged in dozens of research projects, many in collaboration with researchers at Kessler Foundation. The main areas of study are stroke, traumatic brain injury (TBI) and spinal cord injury (SCI).

Funding for these programs comes from the National Institutes of Health (NIH), the National Institute on Disability and Rehabilitation Research (NIDRR), other government agencies, private organizations and pharmaceutical companies. In fact, Kessler Institute for Rehabilitation in collaboration with Kessler Foundation has been designated by the NIDRR as a Model System for both SCI and TBI research and treatment. Only eight centers in the country hold this dual designation.

Focus on Rehabilitation spoke with Steven Kirshblum, M.D., Neil N. Jasey, M.D., and A.M. Barrett, M.D., about several studies that are making major inroads toward fulfilling that purpose and expanding clinical knowledge along the way.

Combination Therapy for Spinal Cord Injury

Steven Kirshblum, M.D.: In 2012, we initiated a randomized, placebo-controlled, double-blind phase 2 clinical trial of dalfampridine treatment versus placebo combined with locomotor training (LT) as therapy for adult patients with chronic, motor incomplete SCI. The objectives of this ongoing study are to determine the efficacy, safety and tolerability of this combination treatment. The primary outcome measure is change in the 6-Minute Walk Test distance after 10 weeks of treatment. Patients are also monitored for 12 weeks following treatment. Secondary outcome measures include other tests of mobility, balance and physiologic functions. This study is funded through the Northern New Jersey Spinal Cord Injury System.

Dalfampridine is a potassium channel blocker that has a Food and Drug Administration indication to improve walking in patients with multiple sclerosis. In clinical studies of other formulations of this drug, some patients with SCI experienced significant improvement. In our group’s experience and in published work by others, LT improves the ability to walk and maintain balance in patients with neurologically incomplete SCI. In LT, patients are harnessed to support their weight as therapists help them move on treadmills.

Because of the supporting studies and our own positive results with both treatment modalities, we hypothesized that combining them would have an additive effect that might enhance our patients’ medical rehabilitation, physiologic functions and quality of life. None of the patients enrolled so far in the study has reported serious adverse events related to the intervention. We expect to enroll a total of 46 patients and complete the study in 2016.

Cranioplasty Timing in Traumatic Brain Injury

Neil N. Jasey, M.D.: Among many TBI research projects currently underway, we are looking into the impact of cranioplasty surgery on recovery from TBI. To reduce secondary complications following a TBI, some patients undergo decompressive craniectomy, whereby a portion of their skull is removed to allow for brain expansion and evacuation of blood, if needed. After a variable period, ranging from days to months, the detached portion of the skull or a synthetic replacement is reattached through cranioplasty to restore the normal architecture. Case studies have reported that after cranioplasty, patients showed improvement in neurological symptoms, possibly due to normalized blood and cerebrospinal fluid (CSF) flow. This anecdotal evidence suggests that the rate of improvement increases following cranioplasty.

The timing of cranioplasty ranges widely because there is an insufficient body of data to help guide the neurosurgeon’s decision. Some individuals complete acute inpatient rehabilitation without cranioplasty surgery, with potential negative consequences for rehabilitation. There are no large-scale studies that look beyond the endpoint of survival from the initial injury to assess the potential impact of cranioplasty timing on long-term functional recovery. These results are sorely needed to help optimize patient care.

To fill this vacuum, our research team has initiated a pilot retrospective, chart-review study that examines the impact of cranioplasty after craniectomy and the effects of cranioplasty timing on recovery of TBI patients who are undergoing inpatient rehabilitation. We hope to use the results to design a prospective clinical trial that would utilize MRI to test the hypothesis that improved blood or CSF flow supports faster functional recovery following cranioplasty. For this future study, we would take advantage of the fact that Kessler is the only freestanding rehabilitation hospital to have a 3T MRI scanner strictly dedicated to research, located at the Kessler Foundation Neuroimaging Center.

Taking Care of Sidedness in Stroke

A.M. Barrett, M.D.: In a study published in 2013 in partnership with Pasquale Frisina, Ph.D., director of quality management at Kessler, we reported that individuals with left-sided brain injury
are more susceptible to develop hospital-acquired infection (HAI) during inpatient rehabilitation compared with people with right-brain injuries. These results are consistent with other published studies supporting the long-standing hypothesis that there is a strong link between left-dominant brain immune network (LD-BIN) and immune function. It is also possible, however, that there may be other reasons to explain the differences in HAI incidence. In the last year and a half, we have worked on developing practical ways to reduce these complications. For example:

• In collaboration with the Kessler infection control groups, we found that because people with left-side stroke often have right-hand paralysis, many could not perform effective hand washing. To address this issue, we reviewed with Kessler nurses and other clinicians the techniques they were using to teach and monitor hand washing in patients with right-hand paralysis. At the next step, we are looking forward to assessing the impact of these hand hygiene quality improvement interventions.

• Working with Frisina and Kimberly McGuire, Ph.D., clinical psychologist at Kessler, we assessed psychology treatments that might improve the function of the immune system. Both had worked on expressive writing—the written expression of emotions as a therapeutic tool—which they and others have shown to reduce physical indicators of stress and ill health, such as abnormal blood pressure, and to improve immune function. Currently, we are developing a systematic program to provide expressive writing therapy for patients at Kessler. Unlike other kinds of psychological therapy, this useful patient-centered exercise does not require continuous clinician supervision after initial training.

In another major research effort—funded through grants from the NIH since 1999 and more recently also by NIDRR—we have been studying spatial neglect, an underdiagnosed disability of visual and motor function present in 30 percent to 70 percent of right-side stroke survivors. Essentially, this disorder impairs the automatic systems that compute the body’s spatial relationship with its surroundings and its own movements. People with this disorder have an increased risk of falls, burns and other accidents, and a reduced ability to recognize and report their own physical and functional impairment. Family members often interpret the individual’s difficulties as problems with intellectual function, personality or motivation.

We recently reported that acute spatial neglect negatively impacts the restoration of functional mobility when stroke survivors return to their community. To improve the identification and treatment of patients with this disorder, our group developed the Kessler Foundation Neglect Assessment Process (KF-NAP). In related research, we have been studying how best to implement prism adaptation training. In our experience, this therapy—which involves off-the-shelf optical prisms in 20-minute daily visual-motor training sessions for 10 days—has noticeably improved patients’ posture and ability to groom and dress the impaired side of the body.

This research experience has been so successful that we have trained Kessler occupational therapists to use KF-NAP to identify patients with spatial neglect and to administer the prism treatment to supplement standard care. To measure these initiatives, we are collecting outcomes data on functional improvement, events such as falls and rehospitalization, as well as changes in caregiver burden when patients return home.

A.M. Barrett, M.D., is director of Stroke Rehabilitation Research at Kessler Foundation, and chief of Neurorehabilitation Program Innovation and co-leader of the Stroke Rehabilitation Program at Kessler Institute for Rehabilitation. She can be reached at abarrett@kesslerfoundation.org.

Neil N. Jasey, M.D., is director of Brain Injury Rehabilitation, director of the Traumatic Brain Injury fellowship program, and medical director of the Northern New Jersey Traumatic Brain Injury Model System at Kessler. He can be reached at njasey@kessler-rehab.com.

Steven Kirshblum, M.D., is medical director of Kessler’s West Orange campus, director of the hospital’s Spinal Cord Injury Rehabilitation Program, chief academic officer for Select Medical’s Inpatient Rehabilitation Hospital Division, and co-project director of the Northern New Jersey Model Spinal Cord Injury System. He can be reached at skirshblum@kessler-rehab.com.
IRH versus SNF—new evidence, new challenges, ongoing debate

BY BRUCE M. GANS, M.D.

RECENT RESEARCH has found that individuals treated in inpatient rehabilitation hospitals or units (IRH/Us) showed better long-term clinical outcomes than those treated in skilled nursing facilities (SNFs). The study was commissioned by the ARA Research Institute, a subsidiary of the American Medical Rehabilitation Providers Association, whose board I chair. Our board contracted with health policy researchers Dobson DaVanzo & Associates of Vienna, Va., to conduct this analysis, designed to clarify the clinical distinctions between these two post-acute care settings.

The researchers used Medicare fee-for-service claims data to identify more than 100,000 clinically similar patient pairs—based on age/gender, comorbidities, diagnosis-related groups and prior health care utilization—who had been discharged from a short-term acute care hospital to either an IRH or an SNF. They assessed outcomes for two years after discharge from the IRH or SNF.

Better Outcomes for IRHs
The study revealed dramatic evidence that people cared for in IRHs had better outcomes, spending half as much time in their initial rehabilitation setting and living months longer than those treated in SNFs. It also found that, on average, IRH patients resided two months longer in the community rather than institutional settings, thus experiencing a better quality of life.

This analysis suggests that patients shifted to SNFs because of regulatory demands, such as the 60 percent rule related to Medicare payments or fears of a recovery audit, who otherwise could have been treated in an IRH, may have been adversely affected and exposed to a higher risk of death and an increased use of facility-based care.

Lower Mortality, Readmission Rates
Specifically, over the two-year episode, IRH patients had an 8 percent lower mortality rate and made 5 percent fewer emergency room visits a year than SNF patients. People in five of the 13 condition categories evaluated also experienced significantly fewer hospital readmissions. In fact, amputation patients treated in an IRH had a hospital readmission rate 43 percent lower than those treated in an SNF, while individuals with stroke or brain injury who were treated in an IRH survived an average of three months longer than those cared for in an SNF.

The study also found hip fracture patients discharged to an SNF incurred higher costs than those in an IRH. Over the two-year episode, the additional cost to Medicare for an IRH patient stay was only $12.59 a day. Potential cost savings from lower utilization of outpatient services or other health care services were not studied.

The researchers concluded that rehabilitation in IRHs improves quality of life, defined as living longer and residing longer in the home. They pointed out the clinical service differences between IRHs and SNFs, such as the presence of specialized nursing staff and on-site physician direction and significantly more hours of daily medical and therapy care in the IRH setting. They observed that SNFs have more diverse practice patterns with lower intensity nursing and therapy care than IRHs, limited requirements for on-site physician involvement, and no regulatory standards for the rehabilitation programs they offer.

Policy Implications
The question then becomes: Where is the value in discharging patients who qualify for IRH care to an SNF? Where is the value of the 60 percent rule, which requires that at least 60 percent of an IRH’s admissions in a single cost reporting period must be in one or more of 13 specified clinical conditions to qualify for Medicare payment?

While more research is needed, this study represents an important opportunity for those of us in the field to educate clinicians and policymakers, as well as payers, on the value of IRH care, both from an economic standpoint and from a quality of life perspective.

Advocates for IRHs should become familiar with the study (available at amrpa.org), and use it to support efforts to ensure access to IRH care for the appropriate patients.
Rehabilitation goals help patients resume active lifestyles
(continued from page 1)

accompany patients to the annual Abilities Expo, a nationwide traveling convention that features hundreds of vendors of equipment, home modification technology and other services and products for persons with disabilities.

While group and individual education imparts core information, experiential learning imprints knowledge. Weekly community-skills outings take people into public locations like malls, supermarkets or train stations to apply strategies learned in occupational, physical, speech and recreation therapies. Kessler also teams with United Airlines to let rehabilitation patients practice checking in, boarding and sitting in an airplane seat to learn firsthand about potential challenges and how best to overcome them. For persons unable to participate in these outings, classes focusing on problem-solving and role-playing help patients learn how to react to common accessibility situations and how to advocate for themselves. Such forms of active learning are invaluable for the transfer of knowledge from the rehabilitation setting to the real world.

Beneath the Surface
Psychosocial barriers can be as difficult to surmount as functional ones, and staff psychologists and neuropsychologists work closely alongside therapists to intervene if depression, anxiety or other issues arise. This also may involve enlisting the help of family to encourage the patient to participate in these therapy activities and education classes to improve functional abilities.

Clinicians need to be mindful that treatment may mean facilitating attitudinal change so that patients feel more confident and empowered. But not all patients have the same types of needs. Some may enthusiastically embrace the information and experiences offered to them, while others may be more comfortable initiating entirely new hobbies and activities rather than adapted versions of previous ones.

The Full Picture
While disabilities may be viewed in a physical sense as impairments and limitations arising from a pathophysiological origin, a more social perspective suggests that one’s ability to function well is multifactorial and highly influenced by the individual’s environment, such as social attitudes and ideological or political beliefs.

The International Classification of Functioning, Disability and Health (ICF) from the World Health Organization (WHO) is a compendium of terms and codes that provides a uniform framework for categorizing and communicating about medical conditions. It is considered a companion to the WHO’s International Classification of Diseases, which details diagnostic terms and codes for diseases and other health conditions. The ICF more thoroughly describes an individual’s functioning and disability rather than focusing solely on a physical diagnosis.

Under the ICF, the term functioning broadly includes not only body functions and structures but also activities and participation in society. Disability refers to one’s impairments and limitations in activities and other forms of participation in society. Thus, the ICF integrates these two perspectives to describe functioning and disability as biopsychosocial processes.

In rehabilitation, the ICF provides a standardized way for the health care team to communicate about a patient’s current and previous functioning, set intervention goals, and describe outcomes. A common language also allows for more uniform comparisons of clinical data across medical disciplines and services.

Further, the ICF’s endorsement of this biopsychosocial model can impact clinical thinking and decision-making with regard to promoting rehabilitative care that fully addresses the patient’s social, environmental and personal needs, rather than just physical aspects. This in turn means individuals receive more comprehensive treatment toward the goal of reestablishing functioning that spans the full picture of both physical and social well-being. When clinicians define a patient’s condition to develop an effective treatment plan, including social as well as physical considerations, it increases the likelihood that a broader range of needs will be addressed and may contribute to better outcomes.

Thomas Lammertse, M.D., is the associate medical director and director of Quality Management Services at Kessler’s Chester campus, and an assistant clinical professor, Department of Physical Medicine and Rehabilitation, at Rutgers New Jersey Medical School. He can be reached at tlammertse@kessler-rehab.com or 973-252-6304.

Jessica Marchesani, CTRS, is a recreation therapist at Kessler’s West Orange campus. She can be reached at jmarchesani@kessler-rehab.com or 973-414-4725.
Driving cultural change

BY BRUCE POMERANZ, M.D.

SAFETY AND QUALITY are at the core of the day-to-day operations of rehabilitation hospitals to enhance outcomes and the overall rehabilitation experience for patients, families and staff. At Kessler Institute for Rehabilitation, interdisciplinary program teams analyze health quality and safety data, patient satisfaction surveys, and findings from patient and staff focus groups, and identify best practices from the evidence-based medical literature. Worthy innovative approaches to improve the care delivery system are piloted and evaluated.

Engaging Staff
Making meaningful changes to workplace culture and behavior goes beyond the dissemination of protocols and policies. True cultural transformation requires team members to understand the evidence and appreciate the reasons supporting changes in their routine practice. This process involves not only education but also leadership open to addressing staff concerns and challenges, and a willingness to adapt and modify plans, if warranted. Follow-up audits serve to determine whether things are proceeding as expected and, if not, to find out why. Success stories are shared to acknowledge efforts and help shape those experiences, beliefs and values that lead to changes in behavior and culture.

For example, an initiative to promote hand washing with our staff emphasized all the typical and appropriate reasons, such as infection control and the drive to keep people healthy. One patient noticed the hand-washing practices here and said something to this effect: “I can see how good everybody here is about washing their hands. That says to me they really care about my health, safety and well-being. Even for the other things that I don’t see relating to my care, these people are obviously doing what is right for me.”

When we shared this patient’s perspective with our staff, hand washing gained a greater value and purpose in fostering a caring patient-provider relationship. This patient’s perspective helped change people’s beliefs system about hand washing in a way that was more powerful than posters and emails.

Connecting with Patients
The implementation of the ICARE provider-to-patient experience initiative is another important effort that has advanced the positive experience that Kessler staff members create for their patients. This easy-to-remember acronym, based on a system developed by UCLA Health in 2006, helps team members develop and maintain caring, supportive relationships with patients that foster their safety and satisfaction, promote their health and overall well-being, and help them achieve their rehabilitation goals.

• I = introduce yourself and your role
• C = communicate what you are doing
• A = ask the patient what he or she needs and wants (and anticipate to the extent possible)
• R = respond to the patient’s and family’s questions and requests
• E = exit courteously (after explaining the next steps, when warranted)

To share with the broader rehabilitation community and learn together, Kessler recently sponsored its second annual National Summit on Safety and Quality for Rehabilitation Hospitals. Highlights from the program will be shared in future issues of Focus on Rehabilitation.

Bruce Pomeranz, M.D., is medical director for Kessler and chief quality officer at Select Medical, and is board-certified in physical medicine and rehabilitation, pain medicine and electrophysiology. He can be reached at bpomeranz@kessler-rehab.com.