

CROR Outcomes

Inside

Health Differences

exist in rehabilitation outcomes for racial and ethnic minorities according to a new study. See *Page 2* for additional information.

Dr. Larry Manheim

an economist from Northwestern University assists CROR with health services research. Turn to *Page 3* for more information.

Technical Assistance

is available to rehabilitation stakeholders. Details on *Page 6*.

Symposium Articles

from the State-of-the-Science Symposium on postacute rehabilitation have been published in a special section of the Archives of PM&R. See *Page 7* for more information.

Fall 2007: 1st Anniversary Edition of CROR Outcomes

I am pleased to announce this is the 1st Anniversary edition of our quarterly newsletter! One year ago, the Center for Rehabilitation Outcomes Research (CROR) at the Rehabilitation Institute of Chicago published the inaugural edition of CROR Outcomes. During the past year, CROR Outcomes has highlighted information on a variety of topics, including: Medicare's inpatient prospective payment system; local coverage decisions; model spinal cord injury care systems;

measuring community participation as an outcome; the impact of physical activity on arthritis; screening for alcohol and drug abuse in vocational rehabilitation settings; and health literacy.

If you missed any of our previous editions, an archive of CROR Outcomes is available online: <http://www.ric.org/research/centers/cror/CRORsNewsletters.aspx>.

Allen W. Heinemann, PhD
Director, CROR



Equating Outcomes Across PAC Rehabilitation Settings

Most patients who require post-acute rehabilitation care, receive it in one of three settings: an inpatient rehabilitation facility (IRF), a skilled nursing facility (SNF), or a home health agency (HHA). Undoubtedly, consumers would benefit from the ability to compare health outcomes and cost effectiveness across these three settings to determine which environments are best for which patients. However, this type of comparison is challenging given current federal requirements.

The Centers for Medicare and Medicaid Services (CMS) use a different patient assessment instrument in each of the three post-acute care (PAC) settings – the Inpatient Rehabilitation Facility Patient Assessment Instrument (IRF-PAI), which includes the FIM™ instrument, for IRFs, the Outcome and Assessment Information Set (OASIS) for HHAs, and the Minimum Data Set (MDS) for SNFs.

In order to receive reimbursement for services, CMS mandates that

“...it is extremely difficult to compare results of one [functional assessment instrument] with another... From a care delivery perspective, that means we aren't able to determine if there are real differences in functional status and outcomes across settings.”

Dr. Trudy Mallinson, Associate Director

those patient assessment instruments must be used by the PAC providers in each setting. Although the functional assessment items are similar across the instruments, the rating scales and specific item definitions vary across the instruments, rendering it extremely difficult to compare results of one with another, explained Dr. Trudy Mallinson, a clinical research scientist at

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Kendall Stagg: Research Coordinator Develops Interest In Health Policy

According to Kendall Stagg, his position at the Center for Rehabilitation Outcomes Research (CROR) at the Rehabilitation Institute of Chicago (RIC) has allowed him to foster his interest in health services research while cementing his commitment to health policy and issues related to disability. However, coming full circle in his professional and academic career didn't happen overnight, Stagg said.

Stagg grew up in small towns scattered across rural Utah and Nevada. At the age of 17, he relocated to the University of Nevada – Reno (UNR), where he earned a degree in business administration. “I was very young at the time and had absolutely no idea what I wanted to do with my life,” Stagg said, laughing. “I was somewhat interested in studying public policy, but without having any clear sense of direction, I enrolled in a business administration program instead.”

During his first semester of

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The Center for Rehabilitation Outcomes Research (CROR) conducts studies measuring how medical rehabilitation and health policies impact people with disabilities. The Center also examines methods to increase effectiveness and efficiency of the rehabilitation process. CROR is a part of the Rehabilitation Institute of Chicago – ranked #1 Rehabilitation Hospital for 17 Consecutive years by U.S. News & World Report.



Rehabilitation Institute of Chicago

#1 Rehabilitation Hospital in America

Health Disparities Could Affect Outcomes

Despite efforts to reduce health disparities – or differences in health care delivered based on race, ethnicity, gender, disability or socioeconomic status – inequality in care continues and in some cases, is worsening, according to the Kaiser Family Foundation. While some factors such as predispositions to stroke vary across ethnic and racial groups, the term “health disparities” refers instead to issues such as inequality in healthcare access and treatment.

Racial and ethnic minorities are more likely to have poor health status, decreased access to medical care, and lower quality of care. In addition, African-Americans and Hispanics are more likely to be of a lower socioeconomic status – a factor strongly associated with poor health status.

Administration Office of Minority Health. However, most research has examined issues related to acute care, leaving potential gaps in post-acute care unaddressed.

“Basically, there are now a lot of studies looking at health disparities and the effect on outcomes,” said Dr. Kenneth Ottenbacher, director of the division of rehabilitation science and associate director of the Sealy Center on Aging at the University of Texas Medical Branch, Galveston, Texas. “Most of the work, though, is related to screening diagnostic tests and acute care procedures. There is very little information available about rehabilitation.”

That is a significant problem, Ottenbacher, said, because health disparities are not limited to acute care and the lack of substantive data on the extent of the problem makes it difficult to address.

Researchers used patient information from the Uniform Data System for Medical Rehabilitation, and analyzed functional outcomes.

“We wanted to determine if functional gains were similar across racial and ethnic groups, and we were also interested in where patients were discharged after treatment,” Ottenbacher said.

The results of the study supported the existence of health differences including “statistically significant differences in the functional independence of Blacks and Hispanics when compared to non-Hispanic Whites.” Researchers also found that age was a determining factor in the extent of the differences because racial differences in function, measured by the FIM™ instrument, were much greater as the age of patients increased.

“Age was an important

A study recently accepted for publication in the journal, *Stroke*, found “statistically significant differences in the functional independence of Blacks and Hispanics when compared to non-Hispanic Whites... The differences increased significantly as the patients became older with the largest differences approaching 8 FIM points between non-Hispanic White and Hispanic patients... Not only did non-Hispanic White patients enter medical rehabilitation facilities with higher FIM™ instrument ratings, but they also made larger gains after adjusting for covariates.”

“Research has long documented the impact of race and ethnicity on health care and health disparities, and still disparities persist today,” explained Cara James, a senior policy analyst at Kaiser. “Although great strides have been made in improving access to quality health services, it is important to examine health care experiences of different populations as national statistics mask disparities experienced by people who are racial and ethnic minorities, especially those who are poor.”

Much attention has been focused on the issue of health disparities recently, including governmental efforts spearheaded by the National Center on Minority Health and Health Disparities, and The Health Resources and Services

Health disparities and stroke

Although African-Americans and Hispanic Americans have higher incidences of stroke than whites, there is very little data about whether racial disparities extend to health outcomes for stroke patients, explained Ottenbacher. In a recent study entitled, “Racial and Ethnic Differences in Post-acute Rehabilitation Outcomes Following Stroke in the U.S.,” Ottenbacher and several other researchers, including Dr. Anne Deutsch, Clinical Research Scientist at the Center for Rehabilitation Outcomes Research at RIC, examined patient data to determine the extent of health differences for stroke patients in inpatient rehabilitation facilities.

mediating variable in the relationship between FIM discharge rating and racial/ethnic group,” the study reported. “The differences increased significantly as the patients became older with the largest differences approaching 8 FIM points between non-Hispanic White and Hispanic patients in the oldest quartile... Not only did non-Hispanic White patients enter medical rehabilitation facilities with higher FIM™ instrument ratings, but they also made larger gains after adjusting for covariates.”

The paper, which was recently accepted for publication in the journal, *Stroke*, supported some important hypotheses about racial

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Health Disparities

(Continued From Page Two)

and ethnic gaps in stroke care, Ottenbacher said, but researchers need to learn more before the issue can be effectively addressed.

“This was just a first step, and we really need more research,” Ottenbacher said.

Spinal cord injury

Post-acute care for patients with a spinal cord injury (SCI) is another area that can be substantially impacted by health disparities, and needs to be examined, explained Dr. Anne Deutsch. RIC is leading a project that will examine differences in access to and outcomes of rehabilitation care among individuals with a new SCI who receive health insurance under the Medicare and Medicaid programs. Within the five-year grant, which began in November 2006, Deutsch and Dr. Allen Heinemann, director of the Center for Rehabilitation Outcome Research at RIC, are co-principal investigators.

The study is funded through a SCI Model Systems Grant from the National Institute on Disability and Rehabilitation Research (NIDRR). According to Deutsch, the objectives are to 1) examine variations in potential and realized access to high-quality rehabilitation care for Medicare and Medicaid beneficiaries with a new SCI by gender, race/ethnicity and age; 2) examine variations in rehabilitation outcomes for Medicare beneficiaries with a new SCI by gender and race/ethnicity; and 3) examine variations in rehospitalization and mortality among Medicare and Medicaid beneficiaries with a new SCI by gender and race/ethnicity. “Right now we’re analyzing Medicare data and looking for differences among racial and ethnic groups, as well as disparities across age groups,” Deutsch said. “We’re also examining gender to see if men and women with spinal cord injuries have different functional outcomes.”

Health disparities are not limited to acute care. However, a lack of substantive data makes the problem difficult to address in rehabilitation settings.

Critical need for more post-acute care data

Although most of the available information on health disparities is specific to acute care, that is beginning to change, said Ottenbacher. There are funding opportunities currently offered by the government, and interest in issues related to patient access is growing, he said.

“In general, if people don’t have access to care and don’t receive quality care, their health status will decrease,” he explained. “But in post-acute care, it’s more serious because people already have disabilities and without treatment, they can develop secondary complications. It’s just an issue of equality.”

According to the Kaiser Family Foundation, expanding the knowledge base with aggressive data collection and research will shed more light on the problem, and will increase awareness of the problem in both the public and private sectors.

“Recognition of the presence of health care disparities is a necessary first step in reducing them,” James said. “Until there is greater awareness of health care disparities, it will be difficult to motivate providers, policymakers, or the health care system to seek out solutions to eliminate them.”

Economist From Northwestern Invaluable Part of CROR Team

For Dr. Larry Manheim, it was a chance placement into the Commissioned Corps of the U.S. Public Health Service that sparked his interest and successful career in health services research. Manheim, who is a research professor at the Institute for Healthcare Studies at Northwestern University’s Feinberg School of Medicine, grew up in Long Island, New York and attended Harper College, SUNY at Binghamton.



After earning a bachelor’s degree in economics, Manheim moved across the country to California to attend graduate school at The University of California at Berkeley. He completed a master’s degree in statistics and was headlong into a Ph.D in economics when, in the early 1970s, he chose to perform his two years of uniformed service in the Public Health Service Commissioned Corps. Manheim moved to Washington, D.C., where he worked on health services research grants.

“That’s really where I began learning about health services,” Manheim said. “Before I took that position, I didn’t know anything about health economics and it wasn’t really a field of study at Berkeley at that time.”

He returned to Berkeley and after finding faculty members to support him in his new area of study, he received grant funding to study health services further. Manheim finished his doctorate in economics in 1975, and after holding several administrative positions in Washington D.C., including chief policy analyst for the civil aeronautics board, he began working at Northwestern’s Institute for Health Care Studies in 1980.

Twenty-seven years later, Manheim remains at the Institute, focusing his energy on relating hospital competitive and regulatory environments to hospital performance, as well as understanding aging and other factors that contribute to disability and the need for long term care.

Manheim’s experience and expertise has made him a valuable collaborator on several projects at the Center for Rehabilitation Outcomes Research (CROR) at the Rehabilitation Institute of Chicago (RIC). One of those projects is the Disability and Rehabilitation Research Project (DRRP), in which Manheim collaborates with Dr. Trudy Mallinson, a clinical research scientist at RIC, to examine changes in inpatient rehabilitation facilities (IRF) that occurred as a result of legislative changes such as the IRF-prospective payment system and the 75 percent rule.

In addition, Manheim works with Dr. Anne Deutsch, also a clinical research scientist at RIC, on the Midwest Regional Spinal Cord Injury (SCI) Care System grant.

“We are interested in understanding how care differs based on gender and ethnicity, and we’re using Medicare data to do it,” Manheim said. “We understand health disparities are a problem in terms of acute care procedures, and the question is, ‘Does that extend to rehabilitation care?’”

Dr. Manheim also collaborates on a primary research component of CROR’s Rehabilitation Research and Training Center. The purpose of the project is to equate the outcome measures from different rehabilitation settings to facilitate conclusions about cost effectiveness and outcomes. Manheim’s role, he explained, is examining Medicare claims data and cost reports, and using that data to compare medical care costs and outcomes across rehabilitation settings.

Finally, Manheim is collaborating with Drs. Dorothy Dunlop, an Associate Professor at the Feinberg School of Medicine, and Rowland Chang, director of RIC’s Arthritis Center, to assess the cost effectiveness of Chang’s arthritis and physical activity project. “The focus of much of my work is related to hospital competition, reimbursement and performance, and how those are affected by organizational changes,” Manheim said.

Kendall Stagg (Continued From Page One)



college, Stagg took a job as a research assistant at the Senator Alan Bible Center for Applied Research, an institute located at UNR that specialized in health and policy studies. “I stumbled into research while trying to find a way to pay for tuition,” Stagg said. “Lucky for me, the research we conducted had a significant impact on people’s lives and it was easy for me to feel passionate about my work.”

His passion showed and Stagg was quickly promoted to a supervisor’s position. About one

American Civil Liberties Union (ACLU) of Nevada – a career decision that seemed like a radical departure to many, he said.

“A lot of people wondered how I could make the quantum leap from health and policy research to political work, but I didn’t think it was such a huge leap,” Stagg said. “When doing advocacy work, I frequently used academic research to lobby in favor of rational and evidence-based approaches to drafting public policy. Although my job title had changed, I was still interpreting and explaining data.”

After leaving his position at the ACLU in 2002, Stagg was offered a job as the policy director at the Southwest Division of the American Cancer Society. During his time as director, he spearheaded a large coalition of health organizations dedicated to tobacco control and he authored the Nevada Clean Indoor Air Act – a state-wide smoking ban that voters approved in November 2007.

Stagg cites his research

at RIC, Stagg flew to Chicago, braved a horrible snowstorm and met with Dr. Allen Heinemann, CROR’s director.

“An offer of employment was made and a few days later I was driving across the country with everything I could possibly squeeze into my MINI Cooper,” Stagg said.

Accepting the position at RIC has proven to be a watershed moment for his career, Stagg explained. In addition to working in health and policy research again, he is able to work with people with disabilities, a population he aligned closely with during his time at the ACLU. “I love working for RIC. What we do here is so meaningful to me and I feel my job makes great use of the different skills I’ve obtained throughout my professional and academic career.”

Stagg has completed all of the coursework necessary for a master’s degree in Public Policy and Administration, with an emphasis in health services policy, at Northwestern University and his capstone paper is near completion.

When I first started my education, I had no idea what I really wanted to do... Now I have no doubt about my career and RIC has clearly been a big part of that.

Kendall Stagg, Clinical Research Coordinator

year later, he was managing a large survey lab with a telephone bank of more than 50 field interviewers and graduate students – something he says allowed him to use many of the skills he was learning about in business school.

Stagg continued to work in research after completing his undergraduate degree and just seven years after he started working as an entry-level research assistant, Stagg was offered an administrative faculty position. Feeling the need for a change, Stagg turned down the upgrade to administrative faculty at UNR and took a job as a program manager and lobbyist with the

background as being a critical factor that contributed to a large number of policy victories. “The amount of research that went into our initiatives was incredible,” he explained. “Literature reviews, legal research, polling, focus groups, statistical analysis – we really did our homework. Once the Nevada Clean Indoor Air Act qualified for the ballot, I knew my work was done and I was ready to start looking at graduate school.”

There is only one university system in Nevada and Stagg decided he should attend graduate school in a new environment. After seeing an Internet advertisement for a position

Now, he is looking forward to starting law school in August 2008.

Leaving his friends and colleagues at RIC in order to attend law school will be difficult, Stagg says. But, he is excited about the opportunity to study public interest and disability law.

“It may seem to some people that I’ve jumped around a lot in my career, but I don’t think that’s the case,” Stagg said. “When I first started my education, I had no idea what I really wanted to do for a living. Now I have no doubt about my career and RIC has clearly been a big part of that.”

Equating Outcomes Across PAC Rehabilitation Settings (Continued From Page One)

the Rehabilitation Institute of Chicago (RIC).

“Functional assessment items on the three instruments are similar conceptually, because they are all based on measuring ‘need for assistance,’ but you still can’t compare them directly,” Mallinson said. “From a care delivery perspective, that means we aren’t able to determine if there are real differences in functional status and outcomes among settings.”

Mallinson is the principal investigator of a study called “Recovery of Function Across Rehabilitation Settings: An Equating and Effectiveness Study.” The project, which is one of four components of the Center for Rehabilitation Outcomes Research (CROR) Rehabilitation Research and Training Center, addresses the problem of comparison across PAC settings by equating those three measures to evaluate the relative effectiveness of care.

Creating a Crosswalk

The five-year study, which is funded by the National Institute on Disability and Rehabilitation Research (NIDRR), differs from those attempted in the past, said Mallinson, because CROR is using sophisticated measurement software that will place the disparate measurement items on one frame of reference.

“We can think of each of these instruments as a ruler,” Mallinson explained, “It’s just that one is measuring in inches and another one is measuring in centimeters. Some items are easier to perform for patients, like showering, and some items are more difficult for patients, like walking. If we put all of these items on one ruler from difficult to easy, then we can create a common unit of measurement. That’s essentially what we’re doing; arranging the items of each instrument so they’re on the same measurement scale.”

The crucial element of an equated scale, Mallinson explained, is a “zero,” or starting point for the crosswalk that will equate the three measures. In order to locate the “zero” point on each of the instruments, researchers will recruit 600 patients – 200 joint replacement patients, 200 stroke patients, and 200 hip fracture patients – who will be administered specific cognitive and physical function items from the three assessment instruments. “The data from these patients will help us figure out how to line up each of the rulers, to figure out where the “0” of each ruler really is,” said Mallinson.

“So far, we have identified and recruited inpatient rehabilitation facilities, skilled nursing facilities and home health agencies across the country to participate. We conducted an initial training session in Chicago followed by additional training programs at the various provider sites, and we have recruited more than half the patients needed for the eventual goal of 600,” said Dr. Allen Heinemann, CROR’s director.

Data from the 600 patients will be analyzed using Rasch analysis, a statistical method of analyzing data that converts raw scores from different assessment instruments into equal-interval measures. “This procedure will put the items from each of the functional status instruments onto a single ruler so that they are all measuring patient ability in the same unit of measurement. We can then tease apart the individual instruments and ascertain, for example, that a particular OASIS score translates to a certain MDS score, because now items from each of the instruments, MDS, OASIS, and IRF-PAI are in the same metric,” Mallinson explained.

Dr. Larry Manheim of the Institute for Healthcare Studies at Northwestern University will then use the newly created crosswalk tool to analyze Medicare data and compare functional outcomes and cost effectiveness across PAC settings.

“It might be the case, for instance, that the relative cost of rehabilitation for stroke patients in inpatient hospital settings is high, but if we see that they achieve higher functional status and go home earlier, it might be worth it,” explained Heinemann. “Conversely, if we found that hip replacement patients did just as well in a skilled nursing facility as in a rehabilitation hospital, we

might question the merit of a higher cost facility.”

Intensive training

Currently, 13 PAC facilities have enlisted in the study (4 IRFs, 4 SNFs, and 5 HHAs). Between one to three nurses at each of the participating sites has been trained to be a part of the initial, 600-patient phase of the study. “Administering all of the items from the three patient assessment instruments can present a daunting task,” said Jillian Bateman, the study’s project manager. This is especially true of the IRF-PAI, which is the most in-depth and complex of the three instruments. Unless nurses have had prior experience in an IRF setting, Bateman said, they might not be as familiar with the items and therefore, require more training and assistance.

In addition, the study requires nurses to collect data within 48 hours of admission and 48 hours before discharge. “Depending on which setting they currently work in, the nurses may not be used to collecting data within these time frames which can make it difficult,” Bateman explained. “We also have nurses who might not know exactly when a patient will be discharged, for example, if the nurse does not regularly work with the patient or if the nurse works part-time.”

To manage these obstacles, Bateman works very closely with all site coordinators and nurses to provide support and address concerns throughout the data collection process. “The sites participating in the study are very progressive facilities that are often involved in many other projects and endeavors so it is my job to make their involvement in the study as easy as possible in order to make their experience a positive one.” In addition to an initial training session that was conducted in Chicago, Bateman has also traveled to newly-recruited home health agencies and skilled nursing facilities to lead three-day training programs. These training programs consist of a combination of videotaped lectures from the original training session and other training exercises. Nurses are usually ready to start collecting data right after she leaves, assuming all contractual and institutional review board approvals are in place, said Bateman.

“It’s been a great project to be part of, as I have been able to develop real relationships with these nurses,” Bateman said. “I talk to them every few weeks and it has hopefully helped them stay motivated and committed to the project.”

Up and coming

At this point in the study, data collection for joint replacement patients is complete and researchers are moving along with stroke data, but hip fracture data collection has proven problematic, said Mallinson. That’s because hip fracture patients almost never go directly to a home health setting and instead, almost always go to an IRF or SNF first. Still, at this point in the study, researchers have nearly enough data to begin the Rasch equating procedure and eventually develop the new, overall unit of measurement.

At the same time, CMS, in response to a congressional mandate, has begun developing a new uniform patient assessment instrument for all post acute care settings. Called the Continuity Assessment Record and Evaluation (CARE) Instrument, the tool will include a core set of items and supplemental items, explained Mallinson.

“The CARE instrument will be used as part of a demonstration during the next few years,” Mallinson said. “We still have a lot of questions that need answering now. That’s why the study is so important. Also, there is interest in comparing data from the current instruments with data from the CARE instrument, so our work on equating will be useful to inform that work.”



Archived Seminar: CROR Offers Online CEUs

One of the goals of the Rehabilitation Research and Training Center (RRTC) on Measuring Rehabilitation Outcomes and Effectiveness is to provide hands-on and in-service training to rehabilitation professionals to enable them to engage more effectively in rehabilitation research and provide rehabilitation care.

An archive of a CROR seminar on “Planning, Conducting, and Funding Rehabilitation Research” is now available online. The seminar consists of five presentations: (1) Research Utilizing Single Subject Designs: Evidence-Based Decisions for Evidence Based Practice; (2) Budget Development: Planning for Staffing, Equipment, Supplies and Indirect Costs; (3) Patients as Subjects: Ethical Issues in Informed Consent; (4) Funding Sources and Application Requirements; and (5) Developing Researchable Questions. The cost for this particular seminar is only \$10.

To register, visit <http://www.ricacademy.com/Catalog/display.resource.aspx?mode=CUSTOMER&resourceid=94485>.

Several other conferences, seminars, workshops that seek to inform stakeholders of advances in rehabilitation measurement and outcomes research will be held in 2008.

Acknowledgements

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Letter to the Editor

Thank you very much for putting me on your mailing list. You have done an excellent job putting together an informative newsletter that is directed to the reader! I am impressed.

Rebecca L Craik, PT, PhD, FAPTA
Professor & Chair
Department of Physical Therapy
Arcadia University

Editor's Response

To be added to our mailing list, or to discontinue your subscription to this newsletter, please email kstagg@ric.org with your request.

You may also email us with suggestions or comments to share with our readers. We reserve the right to edit letters to the editor for brevity.

Thank you for taking the time to read the 1st Anniversary edition of *CROR Outcomes!*

RRTC On Measuring Outcomes Offers Technical Assistance

The Rehabilitation Research and Training Center (RRTC) on Measuring Rehabilitation Outcomes and Effectiveness regularly provides technical assistance regarding rehabilitation research and outcomes measurement. Our consultation services and on-line materials are provided to help consumers, providers, and payers access the scientific information generated by CROR researchers, as well as other rehabilitation researchers worldwide.

We make our services available to a wide variety of rehabilitation stakeholders (e.g., researchers, clinicians, graduate students, and people with disabilities) all of whom have different needs and backgrounds, for example:

- Professional organizations with questions about outcome measurement and program evaluation,
- Individual researchers who are seeking information about measurement, instrumentation, and evaluation resources,
- Consumer organizations that seek to inform their constituents about post-acute care services, or
- Other rehabilitation stakeholders who need assistance to more effectively evaluate and use the information derived from rehabilitation research.

For more information contact us (312.238.2802) for a free consultation. Consultation services are accessible by TTD/Voice or email upon request.

Update: State-of-the-Science Symposium

Background: State-of-the-science symposium on postacute rehabilitation

The Rehabilitation Research and Training Center on Measuring Rehabilitation Outcomes and Effectiveness along with academic, professional, provider, accreditor and other organizations, sponsored a state-of-the-science symposium on February 12 -13, 2007. The aim of this symposium was to serve as a catalyst for expanded research on postacute care (PAC) rehabilitation so that health policy is founded on a solid evidence base. The goals were to: (1) describe the state of our knowledge regarding utilization, organization and outcomes of postacute rehabilitation settings, (2) identify methodologic and measurement challenges to conducting research, (3) foster the exchange of ideas among researchers, policymakers, industry representatives, funding agency staff, consumers and advocacy groups, and (4) identify critical questions related to setting, delivery, payment and effectiveness of rehabilitation services. Plenary presentation and state-of-the-science summaries were organized around four themes: (1) the need for improved measurement of key rehabilitation variables and methods to collect and analyze this information, (2) factors that influence access to postacute rehabilitation care, (3) similarities and differences in quality and quantity of services across PAC settings, and (4) effectiveness of postacute rehabilitation services.

Symposium articles published in Archives of PM&R

Ten symposium articles, including recommendations for future research, were published in a special section of the November 2007 *Archives of Physical Medicine and Rehabilitation*. Symposium citations are listed below.

Reprints available free of charge

Complimentary reprints with the full set of symposium articles have been sent via U.S. Mail to our readers. If you did not receive a copy, or if you would like additional reprints, please email <kstagg@ric.org>.

Presentations, video highlights, and press conference footage are available online:

Symposium Program - <http://www.foundationforpmr.org/programs/postacuterehab.html>

Presentations - http://www.foundationforpmr.org/submit/index_to_slides.html

Video highlights - <http://www.amrpa.org/2007symposiumhighlights.asp>

Press conference - <http://www.amrpa.org/2007symposiumpressconference.asp>

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Publications from State-of-the-Science Symposium

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2. Duncan PW, Vellozo CA. State-of-the-science on postacute rehabilitation: measurement and methodologies for assessing quality and establishing policy for postacute care. *Arch Phys Med Rehab.* 2007 Nov; 88(11):1482-7.
3. Kaplan SJ. Growth and payment adequacy of medicare postacute care rehabilitation. *Arch Phys Med Rehab.* 2007 Nov; 88(11):1494-9.
4. Johnston MV, Graves D, Greene M. The uniform postacute assessment tool: systematically evaluating the quality of measurement evidence. *Arch Phys Med Rehab.* 2007 Nov; 88(11):1505-12.
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6. Chan L. The state-of-the-science: challenges in designing postacute care payment policy. *Arch Phys Med Rehab.* 2007 Nov; 88(11):1522-5.
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8. Kane RL. Assessing the effectiveness of postacute care rehabilitation. *Arch Phys Med Rehab.* 2007 Nov; 88(11):1500-4.
9. Prvu Bettger JA, Stineman MG. Effectiveness of multidisciplinary rehabilitation services in postacute care: state-of-the-science. A review. *Arch Phys Med Rehab.* 2007 Nov; 88(11):1526-34.
10. Clohan DB, Durkin EM, Hammel J, Murray P, Whyte J, Dijkers M, Gans BM, Graves DE, Heinemann AW, Worsowicz G. Postacute rehabilitation research and policy recommendations. *Arch Phys Med Rehab.* 2007 Nov; 88(11):1535-41.



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Autumn 2007 Issue...

This is the 1st Anniversary edition of CROOR Outcomes, the quarterly newsletter of the Center for Rehabilitation Outcomes Research (CROOR) at the Rehabilitation Institute of Chicago (RIC). Each quarter, we share updates on exciting new projects and highlight unique contributions made by faculty and staff members, as well as collaborating researchers. Look inside for more information.

Examining Health Disparities...

A new study documents differences in postacute care and rehabilitation outcomes based upon race and ethnicity. Additional research is key to seeking a solution and eliminating such health disparities.

More on *Page 2.*

Equating Outcomes Across PAC Settings...

Skilled nursing facilities, inpatient rehabilitation facilities, and home health agencies use different instruments to assess functional status, which makes it difficult to compare outcomes across different types of postacute rehabilitation settings. Researchers at CROOR are creating a tool that will allow comparisons of outcomes and cost effectiveness.

More on *Inside Cover.*

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