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10 Years of DOPPS

This year, as the DOPPS celebrates its landmark 10th anniversary, we look back at a decade of research that has helped transform dialysis patient care and lower mortality and morbidity. A study that started on a relatively small scale in one country has grown to include 12 countries and to provide a range of information to a worldwide constituency.

The DOPPS started in 1996 as a study of hemodialysis patients and practices in the United States, funded by Amgen's Longevity Initiative. After only two years of data collection on a nationally representative sample of dialysis facilities, the study expanded to France, Germany, Italy, Spain, and the United Kingdom. In 1999, Japan was added with funding from Amgen-Kirin and, later, solely from Kirin Brewery Ltd.

During project planning for each country, eight to ten leaders in nephrology provided valuable advice to assure that data collection was uniform across all countries within the context of local circumstances. With the continued help from country investigators to recruit dialysis facilities and review all questionnaires, the DOPPS developed into a major study with the primary goal of improving facility practices for greater longevity of patients requiring chronic hemodialysis therapy.

Building on its success, the DOPPS expanded in 2002 in both focus and geographical range. The study, DOPPS II, concentrated on patients new to dialysis to include information about their care before they reached dialysis. In addition,

Australia, Belgium, Canada, New Zealand, and Sweden were included.

When DOPPS III started in 2005, the focus was expanded again in these 12 countries to include assessment of dietary intake and processes of care that lead to better intermediate outcomes, such as compliance with guideline parameters. At the same time, the primary data collection was maintained to allow observation of trends over time.

The cause for all this growth is evident in the list of accomplishments during the first decade of the DOPPS.

In more than 60 peer-reviewed publications, the DOPPS has described numerous factors associated with outcomes of longevity, hospitalization, vascular access survival, and quality of life. The practice patterns varied markedly within and between countries, which allowed the study of correlations with various outcomes. The original observation by Held et al. [1] of higher mortality in the United States than in Europe and Japan was confirmed in the DOPPS and can now be attributed in part to differences in vascular access use (see "Vascular Access Practices and Catheter Use" on page 5). The strength of the DOPPS is that each study and publication has clinical relevance to practicing nephrologists and dialysis teams (examples appear in summaries of other articles in this issue).

Presentations at various national and international congresses and meetings are too numerous to count and include special DOPPS symposia at the meeting of the International Society of Nephrology and

A decade of research aimed at improving patient lives

For more information on these and other published papers, please visit the DOPPS web site at www.dopps.org. Also available on the web site are links to PubMed and PowerPoint slide presentations of published DOPPS research.

Longer Treatment Time and Slower Ultrafiltration in Hemodialysis: Associations with Reduced Mortality in the DOPPS

Longer dialysis sessions and slower ultrafiltration rates (UFR) have generally been considered advantageous for patients who receive dialysis three times per week. However, longer treatment time requires increased staffing, which is known to be costly. In this study, which combined DOPPS data from three regions (Japan, the United States, and Europe) with more than 22,000 patients, longer treatment time (TT) and slower UFR were significantly associated with improved patient outcomes even after accounting for the dialysis dose the patient received.

Logistic regression was used to study predictors of TT > 240 minutes and UFR > 10 ml/hour/kg body weight, and Cox regression was used to assess relative risk (RR) of mortality. All statistical models included adjustments for patient demographics, comorbidities, dose of dialysis (Kt/V), and body size.

In DOPPS I, average TT was significantly ($P < 0.0001$) longer in Japan (244 minutes) and Europe (232 minutes) than in the United States (211 minutes), with a similar pattern seen in DOPPS II of longer TT in Japan (240 minutes) and Europe (235 minutes) than in the United States (221 minutes). Higher-delivered Kt/V was found to be strongly related to longer TT in all three regions, with the strongest association observed in Japan.

TT > 240 minutes was independently associated with a significantly lower risk of mortality (RR = 0.81, $P = 0.0005$) versus TT < 240 minutes after accounting for the Kt/V received by the patient. On average, each 30-minute increase on hemodialysis (HD) was associated with a 7% lower RR of mortality (RR = 0.93, $P < 0.0001$) (Figure 1). This lower mortality risk with longer TT was greatest in Japan. We saw a positive interaction between Kt/V and TT ($P = 0.007$) toward mortality reduction, with the relationship between TT and mortality being greater at higher-delivered doses than at lower-delivered doses (Figure 2).

UFR > 10 ml/hour/kg were associated with higher odds of intradialytic hypotension (OR = 1.30, $P = 0.045$) and a higher risk of mortality (RR = 1.09, $P = 0.02$).

Longer TT and higher Kt/V were independently predictive of lower mortality, with additional evidence of a synergistic interaction between these two treatment factors. Rapid UFR during HD were also independently associated with higher mortality risk.

These findings have implications for possible future clinical trials and practice modification suggesting that TT should be prolonged whenever possible. ■

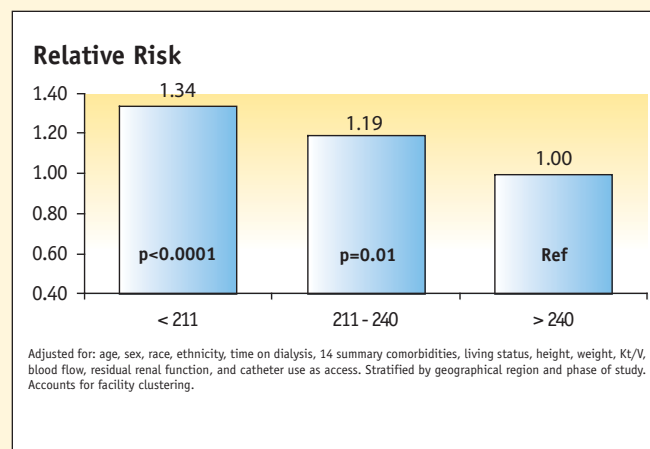


Figure 1. Risk of all-cause mortality by TT category

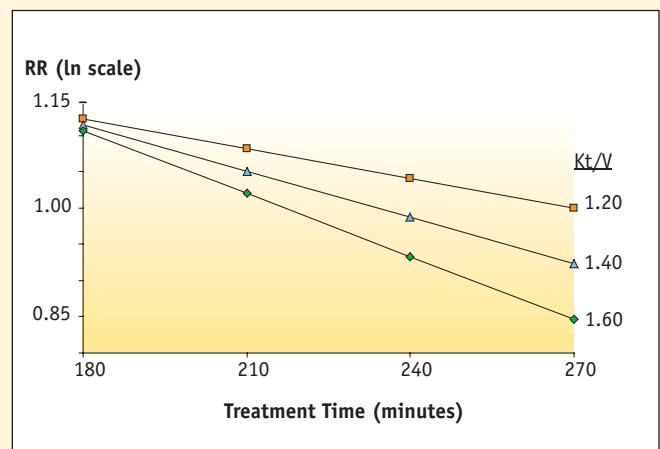


Figure 2. Incremental RR of mortality (on ln scale) by TT in Kt/V categories

Development of a Practice-related Risk Score (PRS) Based on Achieving KDOQI Targets:

Utility in Assessing Practice-related Mortality Risk at the Facility Level

Dialysis facilities often look for ways to assess the overall quality of care that they deliver in their units. In this abstract, Mendelssohn et al. have used DOPPS data to develop a practice-related risk score (PRS) based upon several hemodialysis (HD) facility practices for which the National Kidney Foundation's Kidney Disease Outcomes Quality Initiative (KDOQI) guidelines currently exist.

The concept for the PRS was to test whether a dialysis facility with a low percentage of patients outside the guidelines has a lower mortality risk compared with a facility with a high percentage of patients outside the guidelines, after adjustment for differences in patient case mix. Thus, the PRS is based on the percentage of facility patients outside a particular guideline target in four different practice areas and the mortality risk for having a certain percentage of patients outside these guideline targets. The PRS for all the DOPPS dialysis facilities ranged from a low value of 1.0 to a high value of 2.1. The value of the PRS can be easily related to excess mortality risk; for example, a facility with a PRS of 1.55 has a 55% higher mortality risk for these four facility practices compared with a facility with a PRS of 1.0.

We used the relative risk (RR) from a multivariable Cox mortality model using DOPPS I data (1996-2001, seven countries) to construct the PRS, empirically weighting the RR of mortality associated with different levels of four facility practices, each of which was significantly related to mortality when included together in the Cox model. The four practices were the facility-based percentage of patients with a dialysis dose (Kt/V) >1.2, hemoglobin >11 g/dl, albumin >4.0 g/dl, and catheter use. DOPPS II data (2002-2004, 12 countries) were used to evaluate the relationship between the PRS and mortality RR using Cox regression. All models were adjusted for patient demographics, comorbidities, unit type, and region.

Overall, the adjusted RR of death on average for patients within a dialysis unit was significantly greater if the facility had a higher PRS (RR=1.06 or 6% higher mortality risk per 0.1

points higher PRS). When analyzed by region, the association was found to be slightly stronger in North America, slightly weaker in Europe, but flat in Japan. These results indicate that, at least in the non-Japanese regions of the DOPPS, patients have a lower mortality risk if dialyzing in a facility that is more successful in maintaining patients within KDOQI target levels for the four facility practices.

Another aspect of this study was to determine how changes in the fraction of facility patients attaining the four targets over time from DOPPS I to II correlated with changes in facility mortality rates over this same time period. For those facilities participating in both DOPPS I and II, a standardized mortality ratio (SMR) adjusted for the above factors was used to correlate the change in SMR from DOPPS I to II with the corresponding change in PRS. For facilities participating in both DOPPS I and II, a decrease in the PRS between DOPPS I and II was significantly associated (P<0.05) with a decrease in the SMR over this time period. An interpretation of this

finding is that facilities that had improved their percentage of patients achieving one or more of the four practices to reduce their PRS exhibited on average a lower mortality rate compared with facilities that did not improve their PRS. A sensitivity analysis excluding facilities with very low mortality (DOPPS I mortality rate <8%) indicated that this correlation of changes in practice with changes in outcomes was even stronger.

The correlation of PRS with facility-level mortality supports the guidelines. The observation of changes over time in practice and mortality is an important advance because it more strongly suggests a causal relationship than correlations based on baseline information with subsequent outcomes. Further refinements are ongoing to address regional variations in the PRS-mortality relationship. Additional information regarding this work can be seen at the American Society of Nephrology's Renal Week 2006, where this work will be presented. ■

The correlation of PRS with facility-level mortality supports the guidelines.

Pruritus in Hemodialysis Patients: Associations with Quality of Life, Sleep Quality, and Mortality

A large number of patients receiving chronic hemodialysis (HD) therapy for end-stage renal disease (ESRD) suffer from pruritus, an intrusive and distressing condition of itchy skin that negatively affects quality of life in uremic patients. In this DOPPS study, Pisoni et al. analyzed pruritus and its relationship to morbidity, mortality, quality of life, sleep quality, and patient laboratory measures. Self-reported pruritus data were collected from 18,801 HD patients participating in either DOPPS I (1996-2001) or II (2002-2004).

Forty-two percent of prevalent HD patients in DOPPS during 2002-2003 experienced moderate to extreme pruritus. Many patient characteristics were significantly associated with pruritus, but accounting for these factors did not explain the large differences in pruritus across countries (ranging from an average of 36% in France to 50% in the United Kingdom) and across facilities (5%-75% of patients). Some of the factors strongly associated with moderate to extreme pruritus

were higher serum calcium or serum phosphorus levels, lower serum albumin concentrations, male gender, lung disease, congestive heart failure, current cigarette smoker, hepatitis C, ascites, and high white blood cell count. In addition, the prevalence of pruritus was slightly lower for new ESRD patients first starting HD. However, even though the frequency of pruritus was lower in new ESRD patients, the substantial occurrence of pruritus in these patients suggests that pruritus likely results from uremia or preexisting conditions, not from HD per se. Furthermore, patients on dialysis for more than 10 years reported a lower likelihood of moderate to extreme pruritus.

Patients with moderate to extreme pruritus were more likely to feel drained (AOR=2.3-5.2, $P<0.0001$) and to have poor sleep quality (AOR=1.4-4.0, $P<0.0002$) (Figure 3), to have physician-diagnosed depression (AOR=1.3-1.7, $P<0.004$), and to have quality of life mental and physical composite

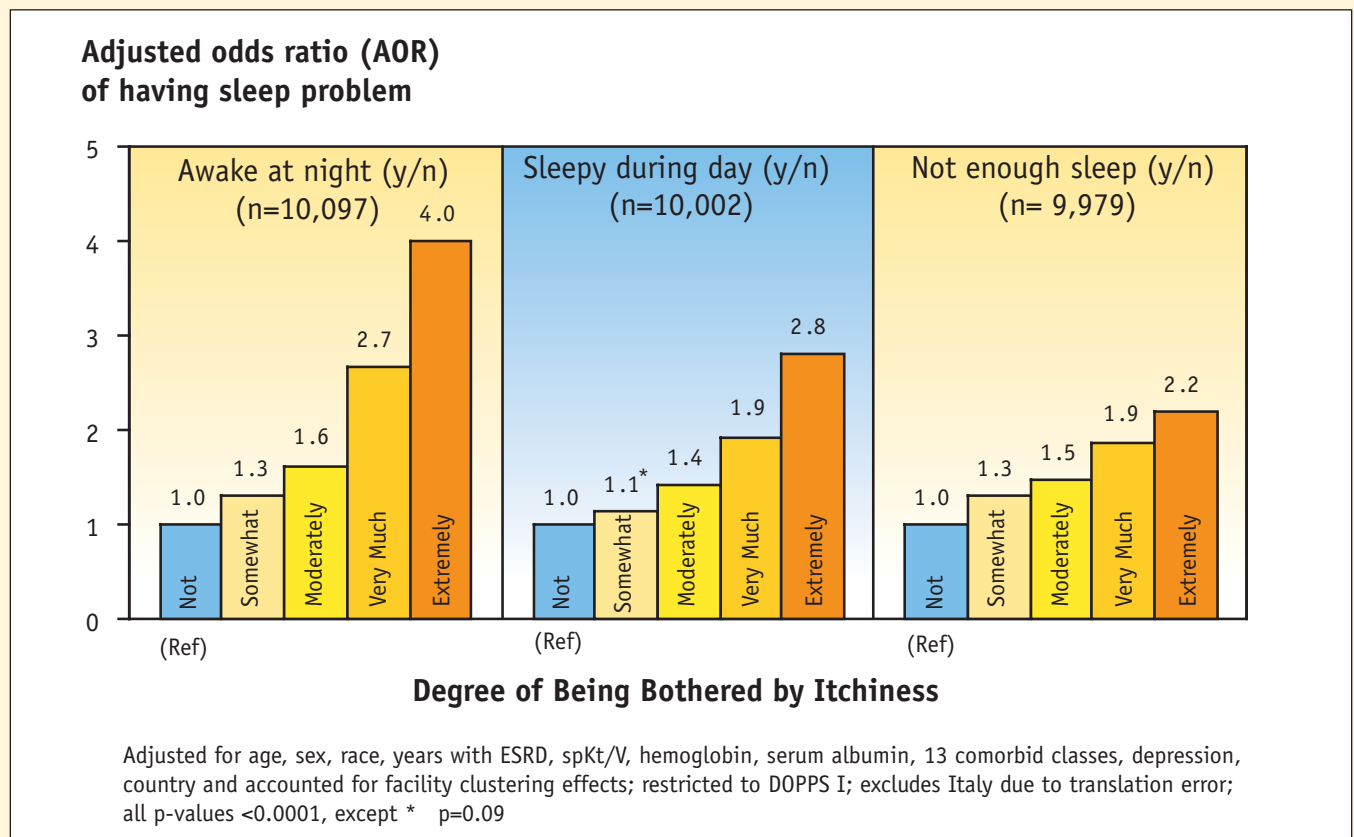


Figure 3. Degree of pruritus and odds of having a sleep problem

scores 3.1-8.6 points lower ($P<0.0001$) than patients with no pruritus or mild pruritus. In DOPPS I, pruritus in HD patients was associated with a 13% higher mortality risk ($RR=1.13$, $P<0.0001$). This strong relationship was greatly diminished and no longer significant after adjusting for a patient's sleep quality (Figure 4). A similar association between pruritus and elevated mortality risk ($RR=1.21$, $P=0.0003$) was seen in DOPPS II patients.

These results suggest that the higher mortality risk seen in patients with pruritus may be substantially attributed to the poor sleep quality associated with pruritus. These findings provide additional insights into factors contributing to pruritus in HD patients. It is hoped that this work will help encourage further development of broadly available therapeutic remedies to help dialysis patients manage uremic pruritus and associated sleep disturbance more effectively, and lead to improvements in survival and quality of life outcomes. ■

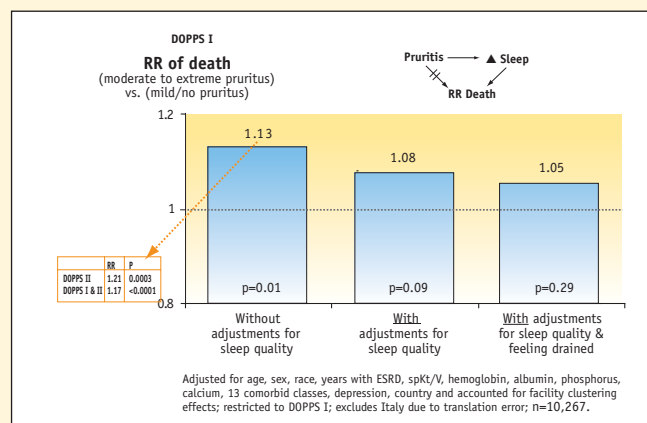


Figure 4. Pruritus and higher mortality risk partially explained by poor sleep quality

Vascular Access Practices and Catheter Use

The DOPPS has shown that dialysis facilities with higher catheter use display substantially higher risks of mortality, all-cause hospitalization, and infection-related hospitalization, even after adjusting for facility case mix differences [1]. Furthermore, in estimating potential life years that could be gained by improvements in six hemodialysis (HD) practices, DOPPS analyses suggest that reducing catheter use could provide one of the largest possible gains in patient longevity in many of the participating countries [2]. In addition, the DOPPS has shown that prior use of a catheter is strongly associated with greater failure rates for a subsequently used native arteriovenous fistula (AVF) [3].

Unfortunately, despite the numerous detrimental consequences associated with the use of catheters in HD patients, a trend toward greater catheter use appears in many of the countries participating in the DOPPS. In analyzing data across >300 facilities participating in the DOPPS, we have seen that some facilities have low catheter use (<5-10% of patients using a catheter), whereas other facilities have high levels of catheter use (>40-50% of patients using a catheter). One important focus of the DOPPS is to learn the processes that some facilities have developed to allow them to use cath-

eters sparingly. A recent paper by Mendelssohn et al. based on DOPPS II data examined several aspects of vascular access practice related to catheter use within dialysis units in Canada ($n=20$ units), Europe ($n=132$ units), and the United States ($n=64$ units) [4].

Despite the fact that 85% of Canadian HD patients had seen a nephrologist for more than one month before starting dialysis, central venous catheter use in Canada (70% in incident patients, 33% in prevalent patients) was much higher than in Europe (46% in incident patients, 18% in prevalent patients) and slightly higher than in the United States (66% in incident patients, 25% in prevalent patients). The high rate of catheter use in incident patients was seen in Canada and the United States despite >94% of vascular access surgeons indicating that an AVF was the preferred access for patients who had been seen at least two months before the start of end-stage renal disease (ESRD).

One possible reason for the higher catheter use in incident patients in Canada is that the typical time from referral until permanent vascular access creation was substantially longer in Canada (61.7 days) than in Europe (29.4 days) or the United States (16 days) (Figure 5). Furthermore, the typical

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time between creation of an AVF and its first cannulation was much longer in the United States and Canada compared with Europe (Figure 6). Other DOPPS analyses showed this practice to be strongly related to use of catheters within facilities [5].

This study went on to show that the longer delay time and higher catheter use in Canada may be a consequence of the significantly lower number of access surgeons per 100 HD patients in Canada (2.9) compared with the United States (8.1) and Europe (4.6). Furthermore, the median hours per week devoted to vascular access-related surgery per 100 patients was substantially lower in Canada (0.027 hours) compared with the United States (0.082 hours) and Europe (0.059 hours).

The DOPPS findings from Mendelssohn et al. suggest that the greater catheter use in Canada is in part due to the more limited availability of vascular access surgery resources and the typical long waiting times until first AVF cannulation

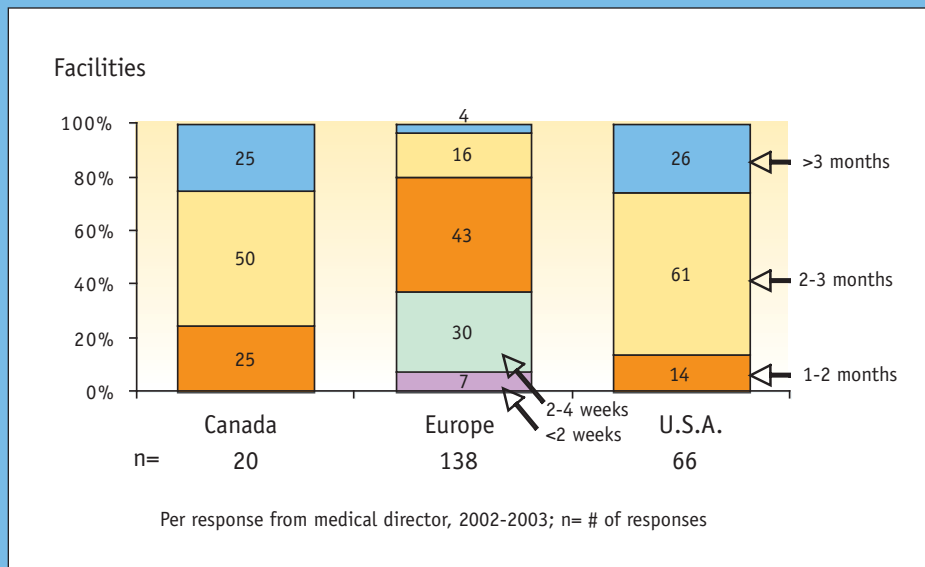


Figure 6. Typical timing of first AVF cannulation

compared with facilities in Europe [4, 6]. This study suggests the need to more broadly educate nephrologists, vascular access surgeons, radiologists, other physicians, and health care funding bodies about the priority of AVF creation as the preferred vascular access for chronic HD patients. ■

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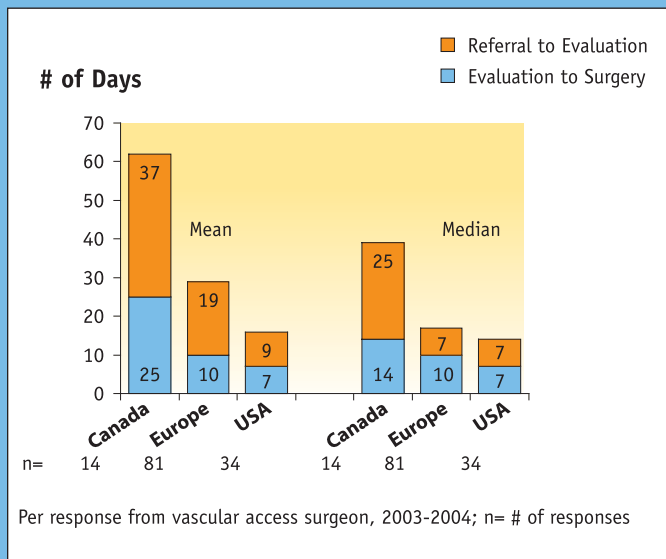


Figure 5. Mean and median time from referral to initial evaluation and initial evaluation to permanent vascular access creation

Medications Associated with Risk of Fractures among HD Patients in the DOPPS

The available data on bone fractures in hemodialysis (HD) patients are limited. This study explored and described classes of prescribed medications as risk factors associated with hip and other fractures in representative groups of HD facilities (n=320) and patients (n=12,782) from the 12 countries participating in DOPPS II (2002-2004).

Throughout follow-up in all 12 countries, there were 174 new hip fracture events and 489 reported fractures of any type. Eleven percent of new hip fracture events occurred among patients with a reported hip fracture before enrollment. The overall incidence of new hip fractures was 8.9 per 1,000 patient years at risk, while the incidence of new fractures of any type was 25.6 per 1,000 patient years.

In our evaluation of associations between fractures and various classes of medications, we observed elevated relative risks (RRs) of new hip fractures for patients prescribed selective serotonin reuptake inhibitor (SSRI) antidepressant (AD) medications and combination narcotic medications (RR=1.63 and RR=1.74, respectively; both P<0.05). Moreover, the following classes of medications were significantly associated with a higher risk of any type of fracture: adrenal corticosteroids (RR=1.40, P<0.05), benzodiazepines (RR=1.31, P=0.03), multivitamins (RR=1.22, P=0.02), combination narcotic medications (RR=1.72, P=0.001), and narcotic pain medi-

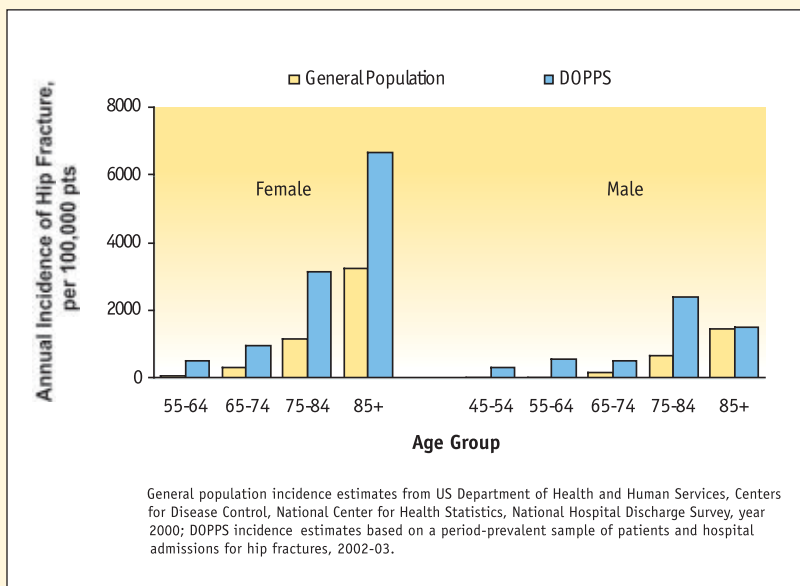


Figure 8. Annual incidence of hip fracture, by age and sex

cations (RR=1.67, P=0.02) (Figure 7). The higher fracture risk associated with multivitamins is likely an artifact of confounding by indication.

Among our additional results, we identified elevated parathyroid (>900 versus 150-300 pg/mL) as an independent risk factor for fractures of any type and confirmed several risk factors already identified both in the general population and in the few prior studies on fractures in HD patients: low body mass index, female sex, older age, non-black versus black race, a history of transplantation, years with end-stage renal disease (ESRD), and a history of previous hip fracture. Importantly, our findings suggest that control of excessive hyperparathyroidism may contribute to reducing the incidence of bone fractures in HD patients.

Of particular note, this study identified several new and potentially modifiable risk factors for hip and other bone fractures in HD patients, especially the detection of an independent role of drugs in the occurrence of fractures. Our findings underscore that drug treatment of depression should always carefully integrate the potential benefits and risks of such treatment. These data suggest that other drugs, such as benzodiazepines, narcotics, and adrenal cortical steroids, should be prescribed for HD patients only after fully considering the potential risks and benefits associated with their intake. ■

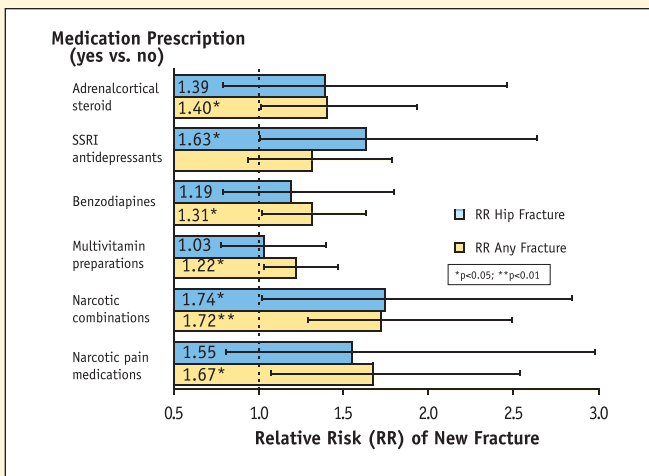


Figure 7. Relative risk (RR) of new fracture events, by patient baseline medication prescription. DOPPS II (2002-2004) data, among all patients (n=12,872); models adjust for demographic and comorbid factors, lab values, and country; shown only are significant (P<0.05) results. *0.01<P < 0.05; **P < 0.01.



Country Reports Help Prioritize Guideline Achievement

Over the past 10 years, dialysis has led to the development of several sets of clinical practice guidelines, such as those from the National Kidney Foundation's Kidney Disease Outcomes Quality Initiative (KDOQI), to help practitioners provide the best possible care. Ideally, the medical community would be able to meet these targets for all patients. But in reality, resource constraints, the complexity of managing a broad range of patient comorbid conditions, and other nutritional and social needs of dialysis patients make attaining recommended guideline levels for all patients challenging. Thus, almost all facilities have some patients for whom some target levels are not met.

Although all guidelines are useful, we tried to determine the targets that are most beneficial for patients to attain. To provide information at the individual country level regarding the attainment of guidelines and their potential impact on outcomes, the DOPPS has developed individual DOPPS II country reports, titled "The Potential Life Years Attributable to Modifiable Practice Patterns."

Using each country's clinical targets for six modifiable risk factors (dialysis dose, hemoglobin, phosphorus, calcium, albumin, and catheter use), the mortality risks associated with being outside the clinical targets, and the current death rate for all hemodialysis (HD) patients within the country, these reports estimate how many life years potentially could be

gained in the next five years if all patients currently outside the guidelines were brought within the target ranges. This calculation was done for each risk factor independently and then for all six risk factors combined.

In most countries, the two practices that potentially could result in the greatest number of life years saved are (1) decreasing the frequency of catheter use to less than 10% of patients within each facility and (2) increasing patient albumin to at least 4.0 g/dL. If all patients were to come within all six target ranges for the next five years, the number of patient life years gained could increase by an average of 14% (range across countries: 5.1% to 22.5%). This estimate assumes a 100% causal relationship between the achievement of targets and patient survival. If we were to assume only 50% causality or, alternatively, 100% causality but only 50% of the patients achieving the targets, the total number of life years in each country could still increase substantially, by an average 7.4% (range: 2.8% to 11.8%).

Though based on an optimistic goal, these country reports suggest the practices that appear to have the greatest impact upon patient longevity and forecast how guideline achievement could possibly improve HD patient longevity in each DOPPS country. These reports will be published in each DOPPS country's national language so that the reports are accessible to all members of dialysis unit staff. ■


Study Leads to Revision of DOPPS III Facility Practice Surveys

DOPPS research has shown that the achievement of certain clinical goals, like the National Kidney Foundation's Kidney Disease Outcomes Quality Initiative (KDOQI) guidelines, is associated with benefits for patients. However, it is not yet clear how some facilities reach these goals or if some methods of attainment are more successful than others.

The Processes of Care Study, a substudy of DOPPS III, was designed to better understand the process of achieving guideline-recommended clinical targets at the facility level. The first step of this project was to determine the processes that staff members at dialysis units consider the most important in achieving practice guidelines. The study conducted interviews with staff from a sample of U.S. dialysis facilities and solicited suggestions from a large number of dialysis experts familiar with the DOPPS. The second step was to add questions regarding these processes to the DOPPS Medical Director Survey (MDS) and Unit Practices Survey (UPS) so the DOPPS can evaluate the strength of the relationship between different processes of care and the attainment of practice guidelines within the DOPPS study population. We hope that the data collected from the revised DOPPS MDS and UPS will shed light on potentially important practices in the management and treatment of end-stage renal disease (ESRD).

Between June and September 2005, qualitative, semistructured interviews were conducted with physicians, nurses, dietitians, and social workers at 17 U.S. facilities. From these interviews, we identified processes of interest and drafted preliminary questions. In conjunction with this effort, researchers from the DOPPS study in Japan interviewed medical directors and staff members at several different types of dialysis treatment centers in Japan to gain additional perspectives about processes of care and issues related to health care structure. These suggestions were incorporated into the

DOPPS questionnaires as well. Then, more than 50 experts in dialysis care from the 12 DOPPS countries were engaged to further refine questions pertinent to different domains of hemodialysis (HD) practice. Each expert was matched to a dialysis practice section of the UPS or MDS and was sent both the current DOPPS survey and any new questions developed from the interviews. After reviewing these materials, the experts edited new questions, suggested which old questions might be removed from the surveys, and proposed additional questions to address facility-level processes of care.



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The next step was choosing which of the hundreds of proposed new questions to include in the second round of the DOPPS III MDS and UPS. Selection of new questions was based on (1) the level at which they addressed facility-level processes, (2) their relevance to all DOPPS countries, (3) the ability to achieve sufficient variation among respondents for statistical evaluation, and (4) the novelty of the topic. Questions were removed from the surveys if (1) they had already been answered in the first round of DOPPS III surveys and responses were not expected to change frequently or (2) prior analyses had not proved informative.

The results of this study are two substantially revised UPS and MDS facility-level questionnaires. While adding more than 120 new questions to each survey, the DOPPS team managed to shorten the UPS by 35% and the MDS by 8%. Both the UPS and MDS now include a section on diabetes management and an expanded anemia management segment. In the UPS, we have increased the focus on social work, nutrition, and quality assurance practices. New to the MDS is a unit on cardiovascular disease. We are thankful to all the facilities and colleagues who helped us make these revisions and we eagerly anticipate analyzing the data. Look for the new additions in our 2007 UPS and MDS. ■

For more information on these and other published papers, please visit the DOPPS web site at www.dopps.org. Also available on the web site are links to PubMed and PowerPoint slide presentations of published DOPPS research.

The ISHCOF Characterizes the Role of Economics in Dialysis Care

The prevalence of end-stage renal disease (ESRD), which requires resource-intensive treatments, is increasing in all DOPPS countries. With rising rates of kidney failure and the increasing demands subsequently placed on financial and human resources, health systems need creative mechanisms to continue improving outcomes and providing high quality care.

The International Study of Health Care Organization and Financing (ISHCOF) is a comparative review of the various health care models, incentive structures, and policies for ESRD treatment in the 12 DOPPS countries. In 2004 and 2005, a series of surveys addressing various aspects of ESRD health care financing was administered to investigators in each country. These investigators then used multiple sources of available data to write manuscripts describing ESRD-related health economics in their country.

The ISHCOF demonstrates a remarkable degree of similarity in the organization of ESRD programs among countries, with a mix of private and public providers, social insurance, and low copayments for patients. In all countries, government is the ultimate payer (including the United States, under Medicare), and in several countries ESRD is administered separately from the rest of the health care system. However, there are significant variations in the way payments



to providers are determined, ranging from fee for service at government-set prices to negotiated prices under global budgets to full capitation. Significant variations exist in the cost and total payment of hemodialysis care and in physician incomes, particularly for nephrologists (ESRD specialists), even within the European zone.

This 12-country comparison of ESRD organization and financing represents a much larger set of comparators than any other international study of ESRD and encompasses a much larger set of measures of quality, outcomes, and costs. While cross-country data are never entirely comparable, this study is the first to provide reasonable measures of costs as well as outcomes and to adjust those comparisons for cross-country differences in patient comorbidity and input prices.

One conclusion of the ISHCOF is that there is a paucity of economic data on ESRD in DOPPS countries, which suggests that great opportunities might exist for improved resource allocation and that further research is greatly needed in this area. Preliminary results for the ISHCOF were presented at the European Conference on Health Economics in Budapest in July 2006, with the expectation to publish the 12 country manuscripts, including a summary paper, as a supplemental journal issue in 2007. ■

(10 YEARS OF DOPPS, Continued from page 1)

the annual meetings of the American Society of Nephrology (ASN) and the European Renal Association-European Dialysis and Transplant Association. Three of the DOPPS lead investigators (who designed this study)—Philip J. Held, Robert A. Wolfe, and I—received the prestigious Belding H. Scribner Award of the ASN. DOPPS is renowned worldwide, and some now refer to it as the “international Framingham Study of dialysis.”

As the DOPPS team at Arbor Research celebrates its 10-year anniversary during Renal Week 2006, we do so with great gratitude and appreciation to all advisors and co-investigators from the 12 countries, to the data collectors in more than 300 dialysis facilities, and to the sponsors, who allow us inde-

pendence in publications. We also look forward to the next decade and beyond and all the promise it holds.

Friedrich K. Port
President, Arbor Research Collaborative for Health

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DOPPS Sessions Highlight Madrid Conference

More than 2,200 renal nurses from around the globe convened in Madrid, Spain, in September to share the latest information about the prevention, care, and management of renal disease at the European Dialysis & Transplant Nurses Association/European Renal Care Association (EDTNA/ERCA). Among the highlights of the annual conference was a 90-minute DOPPS symposium titled “DOPPS: Evidence-based practices and haemodialysis patient outcomes.” The main topics of this session were mineral metabolism, vascular access, and depression.

“The DOPPS session was one of the best attended sessions of the whole conference, demonstrating the recognition of the importance of DOPPS for practicing health professionals,” said Dr. Cordelia Ashwanden, chair of the EDTNA/ERCA Scientific Programme and editor of the 2006 Journal of Renal Care.

Dr. Michel Jadoul, DOPPS country investigator for Belgium, discussed the importance of mineral metabolism beyond skeletal and muscular problems to mortality and morbidity, in addition to risk factors for fractures in hemodialysis patients. DOPPS results show that only 25% of patients were within the guidelines for all parameters. Risks of all-cause and cardiovascular mortality can be directly associated with failing to achieve the guidelines, and adherence to guidelines would result in better treatment outcomes.

Dr. Donna Mapes, DOPPS co-investigator from the

United States, discussed the impact of depression on patients with end-stage renal disease. DOPPS researchers investigated whether the risks of mortality and rate of hospitalization can be predicted using physician- or self-diagnosed reports. Results from the study show that a single assessment will identify those at risk who can then be treated, thereby mitigating the risk of hospitalization or early death.

Using vascular access data from the DOPPS results, Dr. Marcia Keen, DOPPS co-investigator from the United States, demonstrated that there are still great differences across countries. DOPPS data indicated many detrimental outcomes from using catheters rather than arteriovenous (AV) fistulas. The differences in the mortality rates between Europe and the United States may be accounted for through the increased use of AV fistulas in Europe compared with the United States. Nephrologists are recognizing the value of early formation of AV fistulas, which help to reduce infections, hospitalization, and premature deaths.

This is the second year that DOPPS has had a presence at the EDTNA/ERCA conference, but the first year that a DOPPS symposium has appeared on the official conference program. In continuing the collaboration between the DOPPS and the members of the EDTNA, future conference programs plan to include a symposium and various workshops to inform the European renal nurse community how DOPPS can impact their practice. ■

URREA Changes Name to Arbor Research

On July 5, 2006, the University Renal Research and Education Association (URREA) changed its name to the Arbor Research Collaborative for Health. The name change reflects the organization’s expanding presence in the field of evidence-based medical research.

Arbor Research remains a not-for-profit research organization based in Ann Arbor, Michigan, where it works to improve patient care and inform public policy. Founded as URREA in 1996, Arbor Research conducts studies in epidemiology and public health, which are based on its collection and management of large datasets from the United States and abroad.

The group’s initial research focused on outcomes for hemodialysis patients but has since grown in scope to include end-stage organ failure and chronic disease. Arbor Research’s

current contracts include the international Dialysis Outcomes and Practice Patterns Study (DOPPS), the U.S. Scientific Registry of Transplant Recipients (SRTR), and numerous studies for the Centers for Medicare & Medicaid Services. Areas of expertise include biostatistical analysis, clinical practice, management and integration of large datasets, economics, and public policy.

Since 1996, Arbor Research investigators have published over 100 articles in peer-reviewed medical journals, addressing key matters of health care policy and clinical practice. Arbor Research analysts and collaborators have contributed to the development of informed public policy by providing detailed research to federal agencies, medical societies, and clinicians around the world. ■

Publications

The DOPPS has maintained support from the renal community worldwide with the continuation of the study, DOPPS III (2005-2008). To date, results from the DOPPS have been published in 75 renal publications, with many articles in press, submitted for acceptance, or in draft circulation. The continued support from the DOPPS country investigators has increased awareness of this study through international published results. The following table of citations lists articles published in 2006. These publications, as well as their PowerPoint presentations, can be found on the DOPPS web site, www.dopps.org.

DOPPS manuscripts published in 2006; * indicates papers summarized in this DOPPS Report.

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DOPPS Coordinating Centers

The project team members of the DOPPS Coordinating Center manage the daily operations of the DOPPS. Overseeing the data collection worldwide, project team members recruit new facilities and work to ensure successful data collection at participating facilities. The DOPPS CC team members also develop the study protocol, questionnaires, and instruments. Research requests and general study inquiries can be directed to the Arbor Research DOPPS CC at dopps@arborresearch.org. Any data collection questions or requests can be submitted by e-mail to the DOPPS staff at the following locations:

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