Nondialytic therapy (NDT)—also called conservative kidney management—is a growing modality of treatment for select chronic kidney disease and end-stage renal disease (ESRD) patients globally. Nevertheless, NDT is rarely practiced in the United States. We set out to investigate NDT activity before initiation of renal replacement therapy in a Northwestern Wisconsin Mayo Clinic ESRD population.

Records of all prevalent ESRD patients on chronic hemodialysis in our practice were retrospectively reviewed in May 2012. Dialysis nurses and social workers were informally interviewed to augment the review process.

Of the 166 ESRD patients reviewed, 82 (49%) were 70 years of age or older, 46 (28%) were 70–79 years, and 36 (22%) were 80–89 years. Most of these older patients had multiple significant comorbidities (“multimorbidity”). Evidence for NDT activity before initiation of renal replacement therapy was virtually nonexistent. The older ESRD patients with multimorbidity experienced frequent hospitalizations. Our preliminary review suggests that their quality of life may have been better with NDT.

Almost one half of our ESRD population was made up of people more than 70 years of age, most with multimorbidity. In our practice, NDT is a neglected paradigm, as it is in most U.S. nephrology practices. The place of NDT, actively provided by a specialized multidisciplinary team, for U.S. ESRD patients demands urgent attention and robust reappraisal by U.S. nephrologists.

Key words
Nondialytic therapy, end-stage renal disease, renal replacement therapy, end-of-life health care decisions, multimorbidity

Background
Nondialytic therapy (NDT)—also called conservative kidney management—is a growing modality of treatment for advanced renal failure, including end-stage renal disease (ESRD). It is known to be applicable to a certain group of chronic kidney disease (CKD) and ESRD patients in the United Kingdom and Europe (1–6). In a 2013 large U.K. cohort analysis, Chandna et al. (2) demonstrated that, in patients more than 75 years of age with high extrarenal comorbidity, the survival advantage conferred by renal replacement therapy (RRT) over conservative management is likely to be small. Although the reasons for the findings remain unknown, age greater than 75 years and female sex predicted better survival in patients treated conservatively without dialysis (2). In 2001, another U.K. study of dialysis patients 75 years of age and older reported a 1-year mortality of 46.5%, with patients spending an average of 20% of their days in the hospital (7). In an earlier U.K. study, comorbid conditions also increased mortality independent of age (8).

Despite the foregoing findings, NDT appears to be a neglected care paradigm in many U.S. nephrology and dialysis practices. Indeed, no U.S. outcomes data...
are available for maximal nondialytic conservative management, and the NDT option is not commonly discussed before initiation of RRT in the United States (9).

More than 500,000 U.S. ESRD patients are on RRT. Between 1988 and 2000, the rate of U.S. ESRD patients more than 75 years of age starting dialysis had more than tripled, to about 1500 from about 500 per million population (10). Furthermore, since 2000, the adjusted incidence rate of ESRD has grown 12% for patients 75 years of age and older, to 1762 per million population in 2009 (11). Conversely, adjusted ESRD incidence rates for patients 0 – 19 and 20 – 44 years of age have increased 9.6% and 9.8% respectively, to 15.5 and 131 per million population (11). In contrast, rates for patients 45 – 64 and 65 – 74 years of age, although having risen slightly during the decade, are now the same as they were in 2000, at 610 and 1407 per million population (11).

Our center therefore sought to determine the level of NDT activity that might have occurred before initiation of RRT in a prevalent Northwestern Wisconsin Mayo Clinic ESRD population.

Methods
In May 2012, the records of all prevalent ESRD patients on chronic maintenance hemodialysis were retrospectively analyzed for any evidence of NDT option or activity before initiation of RRT. Dialysis nurses and social workers were informally interviewed to augment the review process.

Results
Of 166 ESRD patients using outpatient in-center chronic maintenance hemodialysis in May 2012, 82 (49%) were 70 years of age and older, 46 (28%) were 70 – 79 years of age, and 36 (22%) were 80 – 89 years of age (Figure 1). Most of these elderly patients had extensive and significant multiple comorbidities (“multimorbidity”). Evidence for NDT activity before RRT initiation was virtually nonexistent. The older ESRD patients with multimorbidity experienced frequent hospitalizations. Preliminary review suggests that their quality of life may have been better with NDT.

Discussion and conclusions
In a U.S. practice, NDT was uncommon for older patients (>70 years of age) with late CKD or ESRD and multimorbidity. The reasons for this deficit are beyond the scope of the present report and demand further investigation (12).

Like Chandna et al., who demonstrated that the survival advantage conferred by RRT compared with conservative management in patients more than 75 years of age with high extrarenal comorbidity is likely to be small, Seow et al., writing in 2013 from Singapore, concluded that RRT does not improve health-related quality of life for ESRD patients who are elderly or have a high burden of comorbidity (2,13). In a 2007 U.K. report (14), elderly CKD patients (more than 70 years of age) with multimorbidity who slowly progress to ESRD showed a median overall survival (life expectancy) of 1.95 years and a 65% 1-year survival when actively managed by multidisciplinary teams. Comparable patient outcomes were reported with dialysis. Also in that study, 43 patients (60%) had no hospital admissions at all. Of the 58 admissions experienced by 30 patients, 31 (53%) were for a nonrenal cause (14). Furthermore, for patients more than 75 years of age, the survival advantage from RRT was approximately 4 months, which was not statistically significant after correction for age, high comorbidity, and diabetes (2). Indeed, NDT possibly led to a better quality of life—and especially to less hospitalization.

Given the foregoing data, the paramount need for better advanced care planning in elderly CKD and ESRD patients is evident. The need for improved, early, and repeated patient and family education and for efforts to gain an understanding of the patient’s wishes for RRT far ahead of RRT initiation cannot be overemphasized (12,15). The place of the NDT modality of care, provided by a specialized multidisciplinary team to U.S. ESRD patients, demands urgent attention.

Figure 1
Age distribution of 166 prevalent end-stage renal disease patients on chronic maintenance hemodialysis in a Northwestern Mayo Clinic dialysis practice in May 2012.
from, and robust reappraisal, by U.S. nephrologists (9,12). Nondiagnostic therapy should be seen for what it is: an alternative active management paradigm for a selected group of older, later-stage CKD and ESRD patients (1–6,12). Furthermore, and most importantly, NDT is not tantamount to, and should not be equated with or considered to be, rationing (12,16–18).

Finally, my colleagues and I submit that nephrology fellowship curricula have yet to rigorously address this important issue. As a result, most nephrologists—and most other physician groups—in the United States have struggled with end-of-life health care decisions. As a consequence, physician counseling of patients and families on medical decision-making often leaves a lot to be desired (12). In general, those struggles might explain why, in the United States, among the 1.8 million elderly U.S. Medicare fee-for-service beneficiaries who died in 2008, 31.9%, 18.3%, and 8%, respectively, underwent an inpatient surgical procedure in the last year, the last month, and the last week before death (19).

Truthfully, “parsimonious medicine” is not rationing: it means delivering appropriate health care that fits the needs and circumstances of patients and that actively avoids wasteful care—that is, care that does not benefit patients (20).

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Disclosures
The author has no financial conflicts of interest to declare.

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