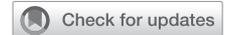


Leading Integrated Kidney Care Entities of the Future



Douglas S. Johnson and Klemens B. Meyer

The leaders of 20th century kidney failure treatment took chances; 21st century leaders of integrated kidney care must do the same. Some risks are clinical, some are organizational, and some are financial. Decent and constructive leadership entails humility. A working practitioner is a better leader. Effective leaders empower their employees and collaborators to lead and encourage them to work together. Integrated kidney care leadership supports exchange of ideas within and among organizations, uninhibited by competitive considerations. ESRD Seamless Care Organizations lead us toward the kidney care of the future; they will be strengthened by expansion to include patients who have advanced kidney disease not yet requiring renal replacement therapy and patients treated by transplant. Adjustment of reimbursement policy to realign incentives will be essential to the long-term success of care coordination. Population health management, with downside risk for participating organizations, is the future of integrated kidney care. Critical goals for integrated kidney care are to delay or avoid dialysis; increase use of home dialysis, transplantation, nondialytic care, and hospice; and to improve end of life care. It's about the patients, stupid.

© 2018 by the National Kidney Foundation, Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Key Words: Nonprofit, Chronic kidney disease, Kidney transplant, Home dialysis, End of life

My father, Keith Johnson, established Dialysis Clinic, Inc (DCI) 47 years ago.* The Seattle group, which established Northwest Kidney Centers, had shown that dialysis for chronic kidney failure was feasible, but few insurers covered the treatment; Medicare reimbursement followed only 2 years later. Until the first DCI facility opened, Middle Tennessee kidney failure patients died. My father wanted to keep them alive to receive kidney transplants. Before the first treatment on May 21, 1971, his biggest challenge was convincing the nurses that it would be safe to dialyze patients outside the hospital. Forty-seven years later, more than 500,000 people receive dialysis care. What was once revolutionary has become routine.

Willem Kolff had dialyzed 16 patients before the 17th survived.¹ In the Korean War, Paul Teschan and his colleagues saved soldiers' lives by dialyzing them against slightly treated rice paddy water; fortunately, sausage casing turned out to be a very tight membrane.² In the 1960s, washing machines were briefly used as dialysis tanks.³ As testimony to make the case for what became the ESRD program, Shep Glazer had himself dialyzed before the House Ways and Means Committee.¹

These early dialysis patients and physicians were leaders because they took chances, as did the Herrick twins and Joseph Murray's group performing the first kidney transplant in 1954. The United States Congress exercised leadership when it took a chance by extending Medicare entitlement to chronic kidney failure in 1972. Keith Johnson took a chance in founding a nonprofit organization devoted to caring for patients with kidney disease and to improving that care through research (Box 1). The Center for Medicare and Medicaid Innovation (CMMI) took a chance in establishing the ESRD Seamless Care Organization (ESCO) program, and the physicians and organizations who have agreed to participate in the ESCO

program are taking chances. The willingness to take chances is a key attribute of leadership and will be integral to the success of our quest to improve outcomes for patients with kidney disease through integrated care.

LEADERSHIP AND HUMILITY

I strongly believe that humility is the most important aspect of an effective leader. In my opinion, a leader is more effective if she or he listens to others around her or him with an open mind and is prepared to change the organization's course in response to their ideas. Recognizing that no one has a monopoly on knowledge, expertise, or creativity, it is critical for an effective leader to treat others as equal partners and be willing to learn from her or his partners. As a person who strives to be humble, I struggle with writing an article about leadership, particularly because I see my role as a leader not as an exercise of authority based on position or status but rather as an effort to inspire a pursuit of excellence through collaboration, communication, and interaction.

From the Dialysis Clinic, Inc, Nashville, TN; and Division of Nephrology, Tufts Medical Center, Boston, MA.

Disclosure: The statements contained in this document are solely those of the authors and do not necessarily reflect the views or policies of the Centers for Medicare & Medicaid Services (CMS). The authors assume responsibility for the accuracy and completeness of the information contained in this document.

Financial Disclosure: Dr Johnson is a full-time employee and Vice Chair of the Board of DCI. Dr Klemens Meyer's employer, the Tufts Medical Center Physician Organization, receives payments from DCI for his services as a facility medical director and as Medical Director for Information Technology.

Address correspondence to Klemens B. Meyer, MD, Tufts Medical Center Box, 391 800 Washington St, Boston, MA 02111. E-mail: kneyer@tuftsmedicalcenter.org

© 2018 by the National Kidney Foundation, Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1548-5595/\$36.00

<https://doi.org/10.1053/j.ackd.2018.09.001>

*The first person voice of this piece is Doug Johnson's; Klemens Meyer contributed substantially to its composition.

LEADERSHIP REQUIRES INVOLVEMENT

An effective health care leader treats patients. My father just turned 81. He still chairs DCI's Board and is still actively involved in our clinical and business decisions. He is still a working doctor, evaluating transplant candidates, taking care of transplant recipients, and driving to rural dialysis facilities to see individual patients. His involvement in the everyday details of patient care keeps us all honest and grounded. I maintain a small primary care internal medicine practice both because I love patient care, and because I believe that it is essential that anyone who presumes to lead in health care understand it viscerally, as a current participant. This, too, should be a principle for integrated care leadership.

An effective leader seeks to understand the experience of care from the patient's perspective—as Bill Peckham puts it, “from the sharp end of the needle.”⁴ After learning from patients with kidney disease, it is critical that a leader be willing to make changes and be willing to set a new course of care, based on what is best for patients with kidney disease and not wait until a viable financial model arrives. Such a leader sees patients as people.

LEADERSHIP IS A MINDSET, NOT A POSITION

Many people see either my father or me as the leader of DCI. They are wrong. DCI is most effective when all our employees recognize that they are leaders, with the ability to positively impact the lives of our patients. As part of the leadership team of DCI, it is critical that I grant our employees the autonomy to work to improve care for our patients.

Lisa Nuckolls, one of our leaders as a Dialysis Care Coordination Program Manager, recently shared the comments of Phyllis Wiggins, one of our care coordinators in Dothan, AL:

“I don't care if I have to call Washington DC, that man will not leave the hospital without a glucometer and strips! And don't you know it, that man left the hospital with a glucometer and strips!”

Clearly Phyllis is a DCI leader. We hear similar stories every week. In each instance, someone in a DCI clinic was a leader and made changes to improve the life of one of our patients.

TEAMWORK IS THE KEY TO SUCCESS

Working as a team, driven, talented, and dedicated individuals have moved DCI's vision forward. Our success is a result of this teamwork and of the willingness of all our leaders to take risks in their quest to improve care for people with kidney disease. At our best, we are all working as leaders. Also the most important thing that I can do as part of the leadership team is listen to the team, listen to our patients, and support the

team as we move to change care for people with kidney disease, work that continues to inspire and excite us for its potential to better the lives of our patients.

COMMUNICATION AND LEADERSHIP

Communication fosters collaboration among leaders striving to improve care. Seven years ago, we met for 2 days with 4 other nonprofit providers of kidney care and asked ourselves a simple question: if we could change care for people with kidney disease, what would this care look like? This meeting started a journey that continues through ongoing dialogue with our partners, Northwest Kidney Centers, Centers for Dialysis Care, Independent Dialysis Foundation, the Rogosin Institute, and Atlantic Dialysis. We also work with our partner nephrologists, surgeons, palliative care providers, hospice providers, home health providers, and internal medicine physicians to find ways to improve care for our patients. As a participant in the ESCO program, we also routinely speak with the CMMI Comprehensive End Stage Renal Disease Care team and learn from them how we can better care for our patients.

An open exchange of ideas in which patient care and the public health take precedence over proprietary worries is integral to integrated care leadership. Describing the early days of dialysis, Dr John Sadler once said, “It was a very small community back then. We'd call each other up and say, “You'll never guess what I did this morning; don't try it.” That is how we need to be able to talk to each other.

LEADERSHIP IN ACTION: THE ESCO PROGRAM

The ESCO program created by the Centers for Medicare and Medicaid Services (CMS) represents the most important advancement in the treatment of advanced

kidney disease in many years. We believe that it is the public interest to concentrate resources on expanding and deepening this patient-centered program. However, ESRD integrated care is not enough. Patients with CKD Stage 4 and 5 are clinically complex, their care costs Medicare nearly thrice what the average patient costs, and the current standard of care is neither integrated nor systematic. Hardly half of people with CKD Stage 4 even know that they have kidney disease.⁵

In our REACH CKD care coordination program, we currently care for more than 4000 CKD patients not treated by dialysis at 19 locations in 14 states.⁶ Our goal is to care for these patients as people with CKD instead of as people who may need to receive renal replacement therapy (RRT). We help patients become more engaged in the care of their other medical problems. We believe that these patients receive better care and that the cost of their care has decreased. However, because the ESCO program does not include patients with CKD Stage 4 and 5, we do not have the ability to review claims data for these

CLINICAL SUMMARY

- Current clinical practice helps a leader to understand both the patient's experience of care and the system of care.
- We should recognize patient advocates as our leaders, regardless of their nominal position in organizational hierarchy.
- The best leaders are humble, willing to take risks, focus on long-term rather than short-term results, and are devoted to the public health rather than to proprietary interests.

Box 1: The Care of the Patient: Our Reason for Existence

DCI was founded on and continues to operate based on my father's vision and goals, namely, that "We are a nonprofit service organization. The care of the patient is our reason for existence." We know that transplantation is the best treatment for kidney failure, and for many years, DCI has operated not only dialysis facilities but also organ procurement organizations and a tissue bank. In the mid-1970s, DCI hired its first transplant coordinator. In 1976 alone, more than 40 years ago, DCI in partnership with Vanderbilt University and other transplant programs, arranged kidney transplants from 92 donors. By the time that the United Network of Organ Sharing (UNOS) was founded in 1984, DCI had already helped to coordinate kidney transplants from a total of more than 600 donors. We always test our business decisions against the question what is best for patients, and in discussing our program of CKD care coordination, I have routinely said that I want to put Dialysis Clinic, Inc, out of the dialysis business, 1 patient at a time. Although that is hyperbole, our decisions must center around the patient as this will be essential to the best integrated care, as it has been essential to the best legacy kidney disease care.

patients: not only is care not integrated, but also we are unable to get an overall picture of the economics of care. We hope that we will have an opportunity to participate in a shared savings model for patients with CKD Stage 4 and 5 in the near future. On the basis of our ESCO experience, we hope to be able to accept downside risk in the model and participate in a similar model for patients with late stage CKD.

COORDINATING CARE TO AVOID OR DELAY RENAL REPLACEMENT THERAPY

The United States Renal Data System reports that in 2015, 11.7% of patients starting dialysis had a glomerular filtration rate (GFR) ≥ 15 and only 46.9% of patients had a GFR of 5 to 10 at the start of dialysis.⁵ Without a systematic approach to care for patients with CKD, the transition to RRT is one of default rather than design. As we have implemented CKD programs across the country, we have learned about the challenges facing nephrologists in the management of patients with CKD. By partnering with nephrologists in our CKD program, we provide a safety net by seeing patients as frequently as patients see their nephrologist, with the net effect that the patient is seen twice as frequently. After each visit, we send the nephrologist a progress note updating the nephrologist on the status of the patient.

When a patient's kidney disease progresses toward the need for RRT, we follow the patient more frequently and

Box 2: Face-to-Face with the Possibility of Imminent Uremia

In our program we see the patient as frequently as the patient sees a nephrologist, with the net effect that the patient is seen twice as frequently. After each visit, we send the nephrologist a progress note updating her or him on the status of the patient. If a patient gets closer to needing to start renal replacement therapy, we follow the patient more frequently. In some instances we could see a patient weekly. In that visit our nurse evaluates the patient and works with the nephrologist to treat symptoms if symptoms of kidney disease arise. At the point that the nephrologist recommends starting dialysis, we reach out to the clinic and work to have a smooth transition to the outpatient clinic, avoiding the first hospitalization before dialysis.

work with the nephrologist to anticipate and treat symptoms of kidney disease (Box 2). When the nephrologist recommends starting dialysis, we work to ensure a smooth transition to outpatient treatment, avoiding hospitalization. Nationwide, two-thirds of patients receive their first dialysis treatment in the hospital.⁷ In our Spartanburg CKD program, only one-third of patients starting dialysis receive their first treatment in the hospital.

We have taken the chance to implement our CKD programs because we think that it is the right thing to do, because these programs improve care for patients with CKD, and without expectation that these initial programs will be economically self-sustaining. In this regard, our efforts are reminiscent of the early days of outpatient dialysis. However, we also believe that our interventions would be sustainable if we were to receive a portion of the health care savings resulting from them. We estimate that the cost for the first hospitalization for a patient on dialysis, including additional follow-up care for that hospitalization, is \$25,000.⁸ In addition, we estimate that Medicare would save more than \$4500 for each month's delay in dialysis initiation.^{5,9} The vast majority of patients start RRT with dialysis rather than transplantation, and most start with in-center dialysis. Many patients still start dialysis abruptly, without antecedent preventive or progressive CKD care. Starting in-center dialysis is life-altering for patients and their families on multiple levels. Our team approach to coordinating care for people with CKD provides the groundwork for a future in which a smooth transition throughout the continuum of CKD is universal and the norm.

OPTIMIZING THE CHANCE THAT PATIENTS RECEIVE KIDNEY TRANSPLANTS

Currently, only 2.6% of patients transitioning to RRT receive a kidney transplant. In 2015, 123,832 patients started RRT. Of these patients, only 3142 received a transplant and avoided dialysis. For those patients on dialysis,

only 3.17% receive a kidney transplant each year. Of the total of 493,542 patients on dialysis in 2015, only 15,663 received a transplant.⁵

A patient with a transplant has a better experience of care, is more likely to work, and is more likely to have the life she or he would have had but for poorly functioning kidneys. Patients who receive deceased donor transplants experience mortality rates 48% to 82% lower than those who remain on the waiting list.⁹ The benefits of living donor transplantation are even greater. The cost of care for a patient with a transplant is substantially lower than the cost of care for a patient on dialysis. On average, the annual cost of care is more than \$54,000 lower than the cost of care for a patient on dialysis. For each extra month that a patient has a kidney transplant, Medicare would save more than \$4500 compared with having the patient on dialysis. Unfortunately, transplant care is fragmented. Transplant centers, organ procurement organizations, nephrologists, and dialysis clinics all work separately to address transplantation, but there is not a systematic approach to care to encourage transplantation, an outcome of default rather than design.

Efforts to increase access to transplantation have improved our pre-emptive transplant rate to 13.6% in our REACH CKD program in Middle Tennessee, 5-fold the national average (Box 3). Other dialysis providers have been effective at increasing transplantation rates as well and in particular, in increasing pre-emptive transplant rates. The Rogosin Institute CKD program has a pre-emptive transplant rate exceeding 14%. The Northwell Health CKD Care Facilitation Program, led by Dr Steve Fishbane, has a pre-emptive transplant rate exceeding 11.2%.¹⁰ Our Western Pennsylvania CKD program in partnership with the University of Pittsburgh Medical Center (UPMC) Health Plan has a 10% pre-emptive transplant rate.

A kidney transplant is transformative. I ask to see my patients in clinic after they receive a transplant so that I can be reminded why we need to push so hard to increase transplantation. One of my patients looked wide-eyed at me and said — “Doc, everything has changed. Things smell

different, food tastes better...” The smile on his face told me all I needed to know.

At DCI, we have decided to work toward a goal of a 20% transplant rate within the first year on dialysis by 2025. Once we meet this goal, we expect to set a higher goal. We expect that we will see that in some areas we will not be able to reach this goal. If we are not, we will work to offset this limitation by further growing home dialysis. We understand that many of the patients who are transplanted before they begin dialysis, or within the first year of treatment, will be the very beneficiaries on whose private insurance payments the current paradigm of dialysis reimbursement rests, and we hope that CMS, and Congress if need be, will work with us to realign incentives to achieve the best achievable patient care and population health. It will take leadership.

As a leader of DCI, I see broadening the opportunity for patients to receive transplants as one of our highest priorities. In care coordination, we work to repair the fragmentation that blocks our patients’ path to transplant. Currently, the ESCO only includes patients on dialysis. The organ shortage notwithstanding, we strongly believe that access to transplantation and care for people who have received a transplant will be transformed when and if post-transplant patients are allowed to stay in the ESCOs. Once this change is made, we will add representatives from a transplant program and an organ procurement organization to each ESCO board. Partnering together, we expect that transplant centers, organ procurement organizations, dialysis providers, and nephrologists will find new ways to improve access to transplantation. Finally, with downside risk, we will be much more engaged in our work.

As a leader of DCI, I see broadening the opportunity for patients to receive a transplant as a priority. By reducing the fragmentation that impairs a patient’s chance for transplant, we lay the groundwork for a future in which more CKD patients can reap the benefits of transplantation.

IDENTIFYING PATIENTS FOR WHOM DIALYSIS MAY NOT EXTEND SURVIVAL

For elderly patients, those with multiple medical problems, and those with terminal illness, dialysis may prolong survival little if at all. However, it clearly does disrupt patients’ lives. Many patients treated by in-center hemodialysis report that after treatment they are exhausted for the rest of the day. Many of our elderly patients tell us that after a treatment they go home, must rest, and cannot do anything until the next day. If a person needs to go to a clinic 3 times a week, for 4 hours per treatment, this treatment takes away from other things that the patient can be doing. In effect, a day of dialysis is a lost day that is “invested” to be able to live the next day. Many days may be spent in the hospital. A United Kingdom series compared conservative care to dialysis treatment for patients aged 70 years and older and found that most of the additional days of survival experienced by the dialysis patients were either dialysis days or hospital days.¹¹ The United States Renal Data System reports that in 2015, 28,644 people aged 75 years and older started dialysis. We fully support a patient choosing

Box 3: Investing in People Can Accelerate Transplantation

In our CKD program in Middle Tennessee, we have hired a care coordinator who is only focused on increasing access to transplantation. Because of her or his efforts, and our partnership with transplant centers and nephrologists, 11 of the 81 patients (13.6%) who transitioned to renal replacement therapy in the last year (July 2017–June 2018) received a pre-emptive transplant and avoided dialysis. In our home program in Nashville, TN, 17 of our patients have received a kidney transplant since January 1, 2017. During this time our home program shrunk from 63 to 58 patients. We see these “losses” as an incredible success.

to start dialysis, even a trial of dialysis, but all must be provided with the opportunity to discuss their life goals and be fully informed about the risks, benefits, burdens, and potential complications of choosing dialysis. A discussion of life goals with the patient and family and the designation of a health care agent are vital components of care for our patients and should be conducted during one of the first 2 visits with the CKD Care Coordinator. In addition, the patient's status, goals, and wishes for future care should be periodically reviewed.

As a participant in the ESCO program, we have the opportunity to interact with CMMI and thus take a lead role in defining metrics that can serve as guides for improved care, such as participation in advance care planning and selection of a health care agent. These steps are essential in ensuring that the treatment we provide for our patients is consistent with their goals. In addition, we ask CMMI to evaluate the proportion of patients dying with hospice care, for people with CKD, on dialysis, and with a transplant. We are setting an internal goal of 50%, based on the recommendations of experts who have spoken with us.

In our Spartanburg CKD program, we have cared for 243 patients with a GFR <25 since January 1, 2016 (Box 4). Fifty of these patients, more than 20%, have decided that dialysis is not the right choice for them. Many will die of comorbid disease before they experience uremic signs or symptoms that might be treated by dialysis. However, even if they do not reach this point, they may well reach a point at which the benefit even of active nondialytic treatment no longer outweighs its burdens. Advance care planning to prepare for these difficult decisions can empower both patients and family members, and enhance the likelihood that patients receive the care they want at the end of life. In our experience, so far, only 6% of patients who had chosen nondialytic treatment have changed their minds and started dialysis.

Throughout the process of care for our patients with CKD, we make it very clear that we will walk at their side through their health care journey and will not abandon them. We can be aggressive with treatment of symptoms of their kidney disease, or not aggressive, depending on the patient's wishes. We want the patient and her or his family to be empowered to choose the care that is best for her or him, and each patient knows that she or he can change her or his mind about that treatment at any time.

Box 4: Coordinated Care Allows Later Dialysis Initiation

In our CKD program in Spartanburg, SC, we have started 171 patients on dialysis since January 1, 2014, only 3% of these patients had a glomerular filtration rate >15. In the last year, 71% of the patients starting dialysis in this program had a glomerular filtration rate of 5-10, clear evidence that many patients can start dialysis later in the progression of their kidney disease if their care is better coordinated.

IMPROVING THE TRANSITION TO END OF LIFE FOR PATIENTS ON DIALYSIS

The ESRD mortality rate is higher than that associated with many malignancies. However, an evaluation of Veterans' Administration patient deaths found that 32.3% of patients with ESRD die in the intensive care unit. In comparison, 13.4% of patients with cancer and 8.9% of patients with dementia die in the intensive care unit.¹² We need to do a better job of helping our patients die with dignity, die with their family at their side, and be able to die at home if that is their wish. We can easily identify our sickest patients. They most likely are in our in-center clinics where we see them 3 times a week. The most important step is taking the time to learn the life goals of our patients and help them choose a health care agent to make decisions for them when they are unable to make these decisions. Ideally, this discussion should first happen when the patient has CKD, before she or he is on dialysis or has a transplant.

If we have not had the opportunity to care for a patient before she or he starts dialysis, we prefer to have these discussions early on after dialysis initiation. However, the timing of this discussion may vary from patient to patient and requires clinical judgment as well as sensitivity to the patient's overall clinical, social, and emotional status. Advance directives take in-depth discussion and ongoing dialogue, the content of which may change as the patient's clinical context changes. When we see that a patient is struggling with the care received, we should talk with patient and family about previously stated life goals, ask if these goals have changed, and, if appropriate, offer palliative care or hospice care.

Currently, patients with ESRD wishing to engage hospice and continue to receive dialysis under their Medicare ESRD benefit can receive hospice for a terminal diagnosis other than ESRD. A barrier to engaging hospice for ESRD patients without a non-ESRD terminal diagnosis is the requirement to discontinue dialysis. Our pilot program in Western PA in which a patient can choose hospice and continue to receive dialysis has had good initial results. We ask that in the ESCO a waiver be added that would allow dialysis facilities to continue to provide dialysis, and bill for dialysis, while a patient receives hospice care. With this change, we anticipate that more patients will choose hospice care, and that those patients who choose hospice care will be more likely to choose less intensive therapy going forward.

ASSURING THE OPPORTUNITY FOR PATIENTS TO DIALYZE AT HOME

If I had kidney failure, I would want to get a transplant. While waiting for a transplant, I would dialyze at home. At DCI, only 12.4% of our patients receive dialysis at home. Of these patients, 1706 receive peritoneal dialysis (PD) and 203 receive home hemodialysis (Ladik V, personal communication, Dialysis Clinic Inc, Chicago, IL). As a leader of DCI, I am embarrassed that within DCI 87.6% of our patients are receiving in-center hemodialysis, a treatment that I would not choose for myself.

We have not substantially increased home dialysis in DCI since July 2014. We have not substantially increased home dialysis in our ESCOs. Within DCI, we have been most effective by focusing on the start of dialysis and the first 120 days. In 2017, 11.8% of patients within DCI started on home dialysis (11.5% PD and 0.26% home hemodialysis) and 16.8% of patients within DCI received dialysis at home within 120 days of starting dialysis. In 2010, 6.9% of patients started dialysis at home, and 11.7% received dialysis at home at 120 days. However, in 2014, 12.3% started dialysis at home and 16.8% received dialysis at home at 120 days (Ladik V, personal communication, Dialysis Clinic Inc, Chicago, IL). We are committed to doing a better job of expanding home dialysis for our patients as part of our stretch goal of 50% of patients receiving a kidney transplant or dialyzing at home in the first year of RRT. For patients in the ESCO, there already is an adequate financial incentive to increase access to home dialysis. On the basis of our internal review of claims data from the ESCOs, the cost of care for a patient on PD is \$9000 less per year than a patient with a fistula and \$54,000 less than a patient with a catheter in a DCI ESCO clinic (Ladik V, personal communication, Dialysis Clinic Inc, Chicago, IL).

IMPROVING CARE REQUIRES A COMMITMENT TO TRANSFORMATION

We currently care for more than 3000 patients in our ESCOs. We know that care is improved and believe that we can cover the cost of our extra interventions with health care savings. Each week we hear stories about how a patient received better care because we spent extra time with the patient. We are finally slowly moving away from efficient, factory-like care and are beginning to focus more on our patients.

Last year we made the decision that all employees of DCI connected to DCI ESCOs need to work together to improve the overall care for our patients. Previously nephrologists, care coordinators, and the REACH team primarily led efforts to improve care in the ESCOs. Now everyone is working together to change care. From the Senior Operations Directors, to Corporate Nurses, to Area Operations Directors, to Nurse Managers, to staff in the clinic, including Nurses, Patient Care Technicians, Social Workers, and Dietitians, we are all working to improve care. Instead of only focusing on what happens to the patient during a 4-hour treatment, we are instead looking at how to improve the patient's quality of life outside the clinic.

This change may sound obvious, but it has been transformative. Each week the leadership team spends an hour covering the care in an ESCO. We still have a long way to go, but this new collaboration is incredible, and it is exciting to see a new level of innovation in our clinics. Population health has become the most important focus for DCI. When we look at a change in care, we look at whether it will truly benefit the patient and whether the cost justifies this care. Our response to the requirement that dialysis facilities provide calcimimetics this year is instructive (Box 5). Last year we were informed that in 2017 the cost of calcimimetics for DCI patients was

Box 5: Stewardship of Public Resources for Expensive Medications with Uncertain Benefit

DCI provides oral cinacalcet 3 times a week in the clinic for many patients and estimates that we have decreased our use of cinacalcet substantially. We only provide etelcalcetide if all other options have not been successful. We have 10,000 patients with Medicare coverage; only 29 patients are currently receiving etelcalcetide. We are paid separately for calcimimetics and currently our decision to systematically approach the use of this therapy has had a substantial negative impact on our financials. But if we consider the treatment not worth the cost, we think that we have no choice but to be good financial stewards and look at ways to only use it when the cost is justified by its benefit.

approximately \$32 million. Although we appreciate the importance of calcimimetics, this cost seemed excessive. We think that our patients would benefit more if we instead used much of this money for care coordination. We therefore started working on innovative ways to care for our patients at a lower cost.

LESSONS LEARNED

The most important thing that I have learned from the ESCO is that if CMS really wants us to engage in improving care, CMS needs to give us the opportunity to participate in a population health model with downside risk. The first 6 months of our ESCOs were terrifying. The best comparison to how I felt in the first months of the ESCO is the feeling that I had when I was about to bungee jump, standing on Kawarau Bridge in New Zealand, looking down at the gorge. The view was beautiful, but did I really have the guts to take the leap? We have likened our experience in the ESCO to "innovation on steroids." We never would have made the changes that have occurred in the last few years if we were not in this model, and we did not have the risk of writing a check to CMS. We were fortunate to have good financial results for the first year of the ESCO and mixed results for second year (Box 6). We look forward to talking more about what we are seeing from second year of our ESCOs once CMMI

Box 6: ESCOs Save Money

The cost of care decreased by \$6,839,000 in our 3 ESRD Seamless Care Organizations (ESCOs). In Palmetto Kidney Care Alliance, we were able to decrease the cost of care by 11.24%, or \$9022 per patient per year. For the first year of the ESCO, our shared savings from our 3 ESCOs exceeded our direct costs for these ESCOs.

has published the financial results. On the basis of the clinical changes we are seeing for patients in the ESCO, and the potential for us to be able to cover our extra costs with shared savings, we hope that we will have the opportunity for the vast majority of our dialysis patients to participate in this model in the near future.

But my main lesson learned from the ESCO is that in the current model we are only working around the edges of opportunities to improve care for people with kidney disease. If we really want to improve care, we need to include patients with CKD Stage 4 and 5 and patients with a transplant in a population health model with downside risk. It is my hope that in 2025, DCI will only have 25% of our patients receiving in-center hemodialysis and that only 25% of my time will be spent addressing improvements in care for patients receiving in-center dialysis. The opportunity to create a completely different model of care for all people with kidney disease is both inspiring and exciting. Its significance is surpassed only by our leadership responsibilities as public stewards, family members, physicians, and human beings to do so.

REFERENCES

1. Rettig R. Origins of the Medicare kidney disease entitlement: the Social Security Amendments of 1972. In: Hanna KE, ed. *Biomedical Politics*. Washington, DC: National Academy Press; 1991 <https://doi.org/10.17226/1793>.
2. Teschan P. *Nephrology Oral History Project*. Available at: <http://www.voiceexpeditions.com/index.php?id=85>. Accessed August 27, 2018.
3. Kuruvila KC, Magnusson MO, Popowniak KL, Nakamoto S. Comparative clinical study of the washing machine, Twin-Coil, and Kiil dialyzers for home dialysis. *Trans Am Soc Artif Intern Organs*. 1969;15(1):70-73.
4. Peckham B. Sharp end of the needle. Available at: http://www.billpeckham.com/from_the_sharp_end_of_the/. Accessed August 27, 2018.
5. United States Renal Data System. *2017 USRDS Annual Data Report: Epidemiology of Kidney Disease in the United States*. Vol 2, Figure 1.2; Figure 2.18; Figure 6.5. Bethesda, MD: National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases; 2017. Available at: <https://www.usrds.org/adr.aspx>. Accessed August 27, 2018.
6. Johnson DS, Meyer KB. Delaying and averting dialysis treatment: patient protection or moral hazard? *Am J Kidney Dis*. 2018;72(2):251-254.
7. Wong SPY, Kreuter W, O'Hare AM. Healthcare intensity at initiation of chronic dialysis among older adults. *J Am Soc Nephrol*. 2014;25(1):143-149.
8. Gorman Health Group. *CMS 2012 5% Sample of Medicare Claims: Evaluation for Dialysis Clinic, Inc*. Fort Lauderdale, FL: Gorman Health Group; 2015.
9. Wolfe RA, Ashby VB, Milford EL, et al. Comparison of mortality in all patients on dialysis, patients on dialysis awaiting transplantation, and recipients of a first cadaveric transplant. *N Engl J Med*. 1999;341(23):1725-1730.
10. Halinski C, Agoritsas S, Hazzan A, Sakhiya V, Fishbane S. Improving outcomes in late-stage kidney disease: the healthy transitions program. *Nephrol News Issues*. 2014;28(10):18-20. 22-25.
11. Carson RC, Juszczak M, Davenport A, Burns A. Is maximum conservative management an equivalent treatment option to dialysis for elderly patients with significant comorbid disease? *Clin J Am Soc Nephrol*. 2009;4(10):1611-1619.
12. Wachterman MW, Pilver C, Smith D, Ersek M, Lipsitz SR, Keating NL. Quality of end-of-life care provided to patients with different serious illnesses. *JAMA Intern Med*. 2016;176(8):1095-1102.