

## Editorial

# An Integrated Approach to Comprehensive Heart Failure Care

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**Received:** September 20, 2014; **Accepted:** September 22, 2014; **Published:** September 24, 2014

## Editorial

The treatment of heart failure has become a top priority for health care organizations and clinicians, allied staff, and administrators alike. It is an enormous economic burden, and there is much promise that coordinated efforts to provide care across the continuum can reduce the total cost of care and improve outcomes, not only by reducing mortality but also by improving quality of life. The current model of care for patients with heart failure is uneven in quality and unsustainable in that it currently uncouples quality and cost. For a health system to undertake the huge challenge of improving outcomes, it will require integrating care across platforms (i.e., inpatient and outpatient), reengineering care delivery processes, redefining the current workforce and realigning incentives.

Our main strategy to treat heart failure within the Geisinger health System involves a three-pronged strategy. The first is to become able to electronically identify heart failure patients with a specific etiology and stratify by severity of symptoms. Second, we want to ensure that optimal care is delivered, based on a patient's etiology and severity of heart failure, through the use of health information technology to help administer "ProvenCare®Acute" – evidence based care for hospitalized patients, and "ProvenCare®Chronic" for ambulatory, to proactively provide care and systematically eliminate care gaps where they exist. Our strategy is extend this team-based, individualized, care plan taking in to account interdisciplinary input with access to prior information about the clinical condition. This road map avoids duplicative testing and provides a care view that health care teams and patients alike can follow. Third, we are working to develop an effective work force that can assure urgent, unscheduled patient access through various means including community Para-medicine, primary care connectivity, drop-in specialty clinics, observation units, for example to prevent more expensive downstream care.

## Identifying Disease and Severity

The focus of this portion of the effort is to update and maintain the accuracy of patients' diagnoses in their electronic health record. At Geisinger, this process began with physicians reviewing the charts of patients in whom heart failure was identified in the problem list to confirm its presence, to specify the type of heart failure, and

its determine the severity. For example, if patients have "Heart Failure, Unspecified" in the problem list, it precludes our ability to treat specific targets beneficial in systolic heart failure or ischemic etiology. Specifying the NYHA class, however, while valuable, does not differentiate between acute and persistent symptoms; therefore, we intend to further classify patients by including their "subclass" – whether they are subclass (acute) which inherently assumes the opportunity for improvement, or subclass b (persistent), which can be attributed to NYHA classes III and IV. By parsing the population in to separate groups of patients according to severity, this allows resources to be more appropriately applied to patients with the greatest clinical need and likelihood to benefit.

## Chronic Disease Care Plan

For the last decade, Geisinger has been systematically working to eliminate unjustified variation in the delivery of care in the acute care setting and the ambulatory setting. The health system has leveraged compensation to focus physicians on the delivery of all of the critical elements of care to every patient. Geisinger evaluates the performance of its providers by considering whether all of the elements of the bundle have been administered to a patient, for which the provider is acknowledged as having achieved the goal, or whether one or more elements were not delivered, for which the provider is considered not to have delivered the care indicated for that patient (and all-or-none assessment). Information technology is critical in facilitating the delivery of each element of the bundle, and can also be used after the fact (remote from the point of care) to help identify patients for whom an element of care was missed – patients for whom a care gap exists. Thus, Geisinger is not only using information technology for acute care and for chronic care, but also palliative care and end of life care, if needed, and thus for all the care that heart failure patients need to receive longitudinally after receiving a diagnosis of heart failure. We plan to create an integrated care plan from the time of diagnosis. This is still under development but what is being planned is a four-step approach. First, a multidisciplinary care team enters or confirms accurate data about the patient's diagnosis. Team members may include primary care physicians, specialty care physicians (e.g., cardiologists, palliative care physicians,) physical therapists and nutritionists and case-managers, all of whom document near-term and long-term goals. Second, an integrated care plan is generated viewable to all providers of all types who touch the patient in any setting. The third step involves sharing the care plan with patients and their caregivers through various means, including an electronic patient portal called the roadmap. The final step is to create an individualized education booklet that is tailored to the care of each patient. For example, if the etiology of the patient's heart failure is an ischemic cardio myopathy and entered into the worksheet, the appropriate treatment for coronary disease is outlined in the care plan and available for review to the care team and also to the patient

and caregiver through the patient portal of the electronic health record. Finally, the education booklet generated for this patient will include a more in-depth education module on coronary artery disease management.

## Redesigning Work Force

The third component of our strategy for redesigning the care that heart failure patients receive challenges the traditional model for delivery of care for chronic conditions. Previously acute care was delivered by doctors and nurses during an inpatient stay, and care was handed back to outpatient providers at the time of discharge. For some time at Geisinger, we have tried to avoid the well known risks associated with such transitions of care using nurse case managers, who have served as liaisons between inpatient and outpatient physicians as well as patients. While this has been partially effective in coordinating the complex medical care requiring of heart failure patients, we now incorporate other team members around such transitions of care as well. For serious illnesses like heart failure, we deploy a Medical Therapy Management (MTM) pharmacist whose role includes performing a detailed medication reconciliation, recognizing offending medications that affect fluid retention and renal function, up titrating evidenced-based medications such as heart failure effective beta blockers to optimally tolerated doses, and monitoring the results of blood tests and adjusting dosages for medications that have narrow therapeutic ranges or that may create life-threatening electrolyte abnormalities. Additionally, patients can see these providers without an appointment through our open-access clinic in which heart failure patients are encouraged to visit at the earliest signs of hypervolemia (or hypovolemia); intravenous

loop diuretics are often used in this setting. A heart failure nurse, in conjunction with an advanced practitioner specially trained in heart failure; determine if a stay in a heart failure observation unit might be beneficial. After discharge from the clinic or observation unit, these providers monitor patients in conjunction with case managers to ensure that patients receive adequate support during transition back to their home or other outpatient setting. We are also increasing early involvement of the palliative care team in the treatment of heart failure patients to help with end-of-life care plans even before advanced stages of heart failure are reached.

## Summary

Heart failure patients can no longer be treated effectively by individual providers. Attempts at doing so have contributed to a “revolving door” of hospital admissions and frequent readmissions, and great expense. Accurately identifying the etiology of heart failure and disease severity is the first step towards being able to reliably deploy and monitor evidence-based care, individualize therapies, and provide education to both patients and their caregivers, with the aid of an integrated heart failure team that includes all of the providers mentioned above. We recognize that individual practitioners or members of small physician groups will be challenged to provide the comprehensive care described above, which we consider to be ideal. And although information technology and an electronic health record is necessary and in fact, essential to be able to accomplish these efforts, it is not sufficient. A multipronged approach like the one described above seems essential to reduce the high mortality associated with heart failure, to improve the quality of care, and to manage the extraordinary expense of caring for such patients.