Commentary: A different model of care

The case for proactive chronic disease management

The US healthcare system, and others across the developed world, share a fundamental design flaw: they have been built to respond to illness, not prevent it. For the 130 million people in the US living with at least one chronic disease, this reactive model delivers predictable and largely avoidable failure.

Patients receive care when symptoms become intolerable – by which point significant physiological deterioration has already occurred. The consequences are staggering: chronic diseases in the US consume 90% of national healthcare expenditures, and total healthcare spending has reached 18% of GDP with no credible path to reduction under the status quo.

Congestive heart failure (CHF) is the clearest case study. According to a June 2025 study in the *Journal of the American Heart Association*, heart failure has now surpassed myocardial infarction as the leading cause of cardiovascular death. Approximately 6.2 million US adults live with CHF, yet the standard of care follows a disheartening pattern: diagnosis during acute decompensation, discharge with minimal surveillance, undetected fluid accumulation, and inevitable rehospitalisation. Thirty-day readmission rates of 20-25%, per-admission costs of $10,000-$20,000, and a 50% five-year mortality rate are the measurable outcomes. Many of these hospitalisations are preventable – directly attributable to fluid overload and medication non-adherence that continuous monitoring could detect days before clinical crisis.

The technological foundation for a fundamentally different model of care is not on the horizon – it exists today. Modern wearable devices achieve 91-100% sensitivity and specificity for atrial fibrillation detection compared to a standard electrocardiogram (ECG). Beyond cardiac rhythm, contemporary multi-sensor wearables simultaneously and continuously measure ECG, heart rate variability, thoracic impedance, respiratory rate, activity, and sleep architecture – providing a comprehensive physiological profile from a single non-invasive patch worn at home. The most advanced platforms execute machine learning algorithms directly on the patient-worn device, enabling real-time deterioration prediction at performance levels previously achievable only in clinical settings.

The economic contrast with older implantable approaches is substantial. CardioMEMS, a pulmonary artery sensor implantation, carries a procedural cost of $20,000-$30,000 per patient, requires surgery, and monitors a single physiological parameter. Advanced wearable patches cost hundreds of dollars, can be deployed immediately to any patient regardless of surgical candidacy, and provide multi-parameter continuous monitoring. This is not an incremental improvement – it is a structural shift in who can access proactive care.

The clinical evidence base for proactive monitoring is substantial and maturing. Programmes utilising advanced non-invasive wearables consistently show hospital readmission rate reductions of 30-50% compared with standard care, with high-performing cohorts achieving reductions exceeding 65%. Clinicians can intervene an average of three to seven days earlier than symptom-driven detection allows. Patient acceptance rates exceed 85%. Per-patient annual cost reductions of $2,000-$8,000 are documented – with every dollar invested in proactive CHF management generating an estimated $2-$4 in savings. One large integrated health system reduced 30-day readmissions from 24% to 12% while cutting per-patient costs by $3,200 annually.

These principles extend well beyond heart failure. Continuous glucose monitoring in diabetes, remote monitoring in chronic obstructive pulmonary disease (COPD), biomarker tracking in kidney disease – in each condition, the same pattern holds: continuous monitoring enables earlier detection; earlier detection enables simpler intervention; simpler intervention prevents costly complications. This reflects a structural property of chronic disease biology that consistently favours early over late action.

The workforce crisis compounding today's pressures makes the case for proactive care even more urgent. AI-driven continuous monitoring offers a powerful remedy: by surfacing only the most timely and actionable alerts – filtered from streams of physiologic data no human team could manually track – these systems function as a force multiplier for the clinicians who remain. A cardiologist empowered by intelligent, prioritised alerts can effectively oversee a far larger and higher-acuity patient population without a proportional increase in staff.

Implementation barriers are real but surmountable. Reimbursement structures built around procedures rather than outcomes provide no incentive for the hospitalisations that proactive programmes prevent. Transition to value-based payment models is the most critical policy lever for accelerating adoption. Workflow integration requires investment in care coordination infrastructure and electronic health record connectivity – costs consistently recovered through reduced hospitalisation. And the equity dimension cannot be overlooked: for rural CHF patients, where the nearest specialist may be hours away, wearable-based proactive monitoring is not an incremental improvement – it is a structural correction to one of the most persistent failures of US healthcare.

The reactive model is not merely suboptimal – it is structurally unsustainable under the demographic pressures now building. The tools required for transformation are available today. The question is how quickly the field can make it happen. The answer carries profound consequences.

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