Humanism in the Time of Metrics

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You are my creator, but I am your master. Mary Shelly, "Frankenstein"

Abstract:

With the advent of Pay-for-Performance, Meaningful Use, and Patient Centered Medical Home demonstration projects, family doctors are now in the business of data reporting. We are, in other words, paid by insurers for reporting "quality measures" and meeting their targets. These, we have come to accept, are the new standards in quality care.

The most common quality measures are biomarkers: blood pressure, BMI, A1C, LDL-C. Their proximity to the target range is a surrogate measure of our patients' health– and the doctor's attention to it. The advantage of biomarkers is that they are easy to read, obtain, and manipulate with pharmaceutical drugs. They can also lead to an over-simplified, reductionist, and myopic view of our role as doctors.

This essay explores the unintended consequences of shifting our gaze from patients and their needs, to their physiology and chemistry, to our performance in managing it. Measurement, even the measurement of biomarkers, can serve a wider good, but only when it is generated and interpreted in the context of caring for people in their communities. Can we design research that tests the quality of relationships, the strength of communities, the depth of our human understanding, and the integrity of our commitment to service? Can we embed and bury that research, and the clinical tools that draw from it, in the heart of the electronics we now depend upon? If not, we are in danger of becoming mastered by our own creation.

It is famously reported that physicians spend, on average, 11 minutes with their patients[1] and listen to their chief complaint for only 22 seconds before taking control of the interview.[2] During these brief encounters, to what or to whom do doctors attend? A checklist of overdue prevention

[1] Rhoades, DR, McFarland KF, Finch WH, Johnson AO. Speaking and Interruptions During Primary Care Office Visits. Family Medicine. July-August 2001.

[2] Langewitz W, Denz M, Keller A, Kiss A, Rüttimann S, Wössmer B. Spontaneous talking time at start of consultation in outpatient clinic: cohort study. British Medical Journal. 28 September 2002.

measures? A flowsheet of chronic disease parameters? Updates to the patient's history? Doctors have risen to their rank through a fierce competitiveness; we are experts at knowing what to know for the purposes of the test. And increasingly, doctors are being graded by Meaningful Use criteria, pay-for-performance guidelines, patient-centered medical home reports, and consumer watchdog websites. It is possible, even likely, that such observations will change our approach to patient care. They are already and inexorably shaping to what and to whom we listen– who, that is, we make into our master.

True confession: I was an early adapter of the EHR. When our practice purchased v1.0 in 2000, I was dazzled by how simple, legible, organized, encyclopedic, and *beautiful* it was. I wasn't alone. Despite a hefty price tag, increasing numbers jumped on the EHR bandwagon, from small office managers to hospital CEOs to bureaucrats in the Veterans Administration. Then came President Obama's economic stimulus package. The HI-TECH ACT of 2009 offered financial incentives for the purchase and "meaningful use" of EHR technology, and ear-marked $3.6 billion for the decade-long life of the program. The Annals recently reported that 68 percent of family physicians are now using an EHR, and 80 percent will be onboard by the end of the year– a doubling from just 6 years ago.[3]

The widespread implementation of the EHR was intended to reduce the duplication of services, avoid prescribing errors, and increase physicians' adherence to evidence-based guidelines. But the EHR also made it easier to "upcode" encounters with the click of a box. Physicians were often tempted, sometimes encouraged, to check elements that were previously or never performed. These failings are obvious when we read our colleagues' office notes, and– aided by the on-line portal– patients are equally aware. The government and other insurers are literally paying the price.

Added expense and privacy concerns may be the least of our worries. Computers are peerless at storing, sorting, and reporting data, the kind we gather from laboratory studies and vital signs and checklists. With it, CMS and the insurance industry rewards– and thereby directs– health care according to what can be measured most easily.
Even Luddites and sentimentalists[4] must acknowledge that medicine cannot, should not, go back. Measurement is a good and necessary thing when it fosters socially responsible research, and provides a reality check for human intuition, assumption, and self-delusion. But it is never a neutral thing. What we measure unmistakably matters more than what we don't. And in the age of pay-for-performance, it speaks to us in the form of incentives that are not easily ignored by our bosses. Those who frame their work by the doctor-patient relationship *should take notice.*

Shifting the Focus

[3] Xierali IM, Hsiao C-J, Puffer JC, Green LA, Rinaldo JCB, Bazemore AW, Burke MT, Phillips RL. The Rise of Electronic Health Record Adoption Among Family Physicians. Ann Fam Med January/February 2013 11:14-19;
[4] Frey, J. At a Loss for Words. A Piece of My Mind. JAMA. 2007; 297 (16): 1751-52. April 25, 2007

A patient recently slumped into my office clutching a paper from his employer. On it were empty boxes for me to complete: blood pressure, weight, waistline circumference, cholesterol, and fasting blood sugar. His glucose was slightly elevated, and we spent the majority of our twenty minutes talking about diet, exercise, and targets for weight loss. None of this concerned him, he revealed on his way out the door, as much as the tension in his marriage and the difficulties they were having with their autistic son.

I had seen the employer's form many times before as part of various wellness programs. But never knew what inspired it until I read a New Yorker essay about Dr. Oz.[5] His "Fifteen Minute Physical" identified what doctors, patients, and now employers seem to regard are the key markers of health. They were now the central focus of most insurance-covered annual exams. Never mind that these exams do not reduce morbidity or mortality, neither overall nor for cardiovascular or cancer causes.[6] Never mind that the individual components, taken out of context, tell us little about the future health of the insured.

Take weight. According to a recent meta-analysis, being overweight or having low-level obesity carries a lower risk of death than having "normal" weight. Only with higher degrees of obesity does the risk of death rise.[7] And this kind of news is no exception. Large longitudinal studies have reversed our recommendations on the routine use of estrogen and progesterone, calcium and vitamin D,[8] stents and coronary artery bypass,[9] aspirin, niacin,[10] and fenofibrates[11]. Our efforts at intensive control of blood pressure and blood sugar in Type 2 diabetics can backfire, resulting in worse health outcomes.[12][13] Careful, comparative studies show us that generic medications can outperform their newer, proprietary counterparts.[14]

How, in the age of metrics, can clinicians be so misguided? The answer lies, in part, with who funds our studies and which ones get published. Because unfavorable studies are less likely to be published than favorable ones, Congress passed the FDA Amendments Act of 2007, which requires that clinical trials conducted in the United States post summaries on a government

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[5] Michael Spector. The Operator. The New Yorker. 4 February 2013
[6] Krogsboll LT, Jorgensen KJ, Larsen CG, Gotzsche PC. General health checks in adults for reducing morbidity and mortality from disease: Cochrane systematic review and meta-analysis. British Medical Journal 2012;345:e7191
[7] Flegal KM, Heymsfield SB. Higher Levels of Obesity Associated with Increased Risk of Death; Being Overweight Associated with Lower Risk of Death. JAMA 2 January 2013
[8] Tara Parker-Pope.The Women's Health Initiative and the Body Politic April 9, 2011 The New York TImes
[9] Stergiopoulos K, Brown DL. Initial Coronary Stent Implantation With Medical Therapy vs Medical Therapy Alone for Stable Coronary Artery DiseaseMeta-analysis of Randomized Controlled Trials. Arch Intern Med. 2012;172(4):312-319.
[10] Gardiner Harris. Study Questions Treatment Used in Heart Disease. 26 May 2011 The New York Times
[11] Goldfine AB, Kaul S, Hiatt WR. Fibrates in the Treatment of Dyslipidemias —Time for a Reassessment. N Engl J Med 365;6 August 11, 2011
[12] The Accord Study Group. Long-Term Effects of Intensive Glucose Lowering on Cardiovascular Outcomes. N Engl J Med 364;9 March 3, 2011
[13] The Accord Study Group. Effects of Intensive Blood-Pressure Control in Type 2 Diabetes Mellitus. N Engl J Med March 14, 2010
[14] The ALLHAT Collaborative Research Group. Major Outcomes in High-Risk Hypertensive Patients Randomized to Angiotensin-Converting Enzyme Inhibitor or Calcium Channel Blocker vs DiureticThe Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT). *JAMA.* 2002;288(23):2981-2997.

website within a year of completion. Failure to do so could result in fines of $10,000 per day. A recent audit found that only five eligible trials had complied, and no fines were levied. An estimated *half* of the clinical trials involving all the currently recommended treatments were ever published in an academic journal. And trials with positive or flattering results remain twice as likely to be published as those with negative ones.[15]

Where can doctors turn for reliable data? The U.S. Preventive Services Task Force, a 16-member volunteer assembly of national experts/practitioners in primary care and public health, is one trusted source. Because it is independent, it often makes controversial yet thoroughly researched recommendations: don't screen for prostate cancer with PSAs or breast cancer with annual mammograms. Don't teach or encourage self-breast examination. Don't preferentially choose colonoscopies over stool cards for colon cancer screening, or order LDL-C when screening for dyslipidemia (choose total and HDL cholesterol instead, as did the Framingham researchers).[16]

Most of what really works in medicine is understandable, even to our patients. Nothing is more productive than helping smokers quit; it easily adds ten years to a young person's life.[17] Keep childhood immunizations current. Recommend aspirin for the secondary prevention of heart disease. Ask about alcohol misuse.[18] Doctors know too well that not every disease can be prevented, nor discovered early enough to be cured. But allowing the public to believe otherwise fills our waiting rooms and draws us into ordering unnecessary exams, tests, and treatments. We order them to buy time, save face, avoid litigation. Our orders contribute to the gross national product. They let us to do *something,* which is often worse than doing nothing for the well-being of those who entrust us with their care.

What is health? Is that even a fair question to ask experts on disease? Wendall Berry suggests that "health is membership."[19] Health is belonging to a connected community. And when disease disrupts the bonds of those connections, or requires that they be broken, the doctor's job is to ease and facilitate the patient's transition. We are agents of change, from disease to health, from brokenness to a more connected, responsive, and responsible whole. Imagine for a moment that we could redesign our job and the data set we utilize. What would it look like if there were no bean counters? Would we re-imagine our work as embedded in the communities where we live, as custodians of damaged personal histories, as chemists in the complex and interlocking world of relationships?

The Placebo Response

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[15] Ben Goldacre. Health Care's Trick Coin February 1, 2013 The New York Times
[16] All of their recommendations can be found at http://www.uspreventiveservicestaskforce.org/
[17] Schroeder SA. New Evidence That Cigarette Smoking Remains the Most Important Health Hazard. N Engl J Med 368:4 January 24, 2013
[18] Solberg LI, Maciosek MV, Edwards NM, Khanchandani HS. Priorities Among Effective Clinical Preventive Services: Result of a Systematic Review and Analysis. American Journal of Preventive Medicine. Vol 31 No 1 July 2006 52-61.
[19] Berry W. Health is Membership. Delivered as a speech at a conference, "Spirituality and Healing", at Louisville, Kentucky, on October 17, 1994

The word “placebo” often conjures up images of sugar pills or sham procedures given to research subjects who are a little too naive, histrionic, or gullible for their own good. But the translation from the Latin, “I will please,” provides a more accurate description. It speaks to the collusion between patient and doctor that favors recovery.

Turner[20] and Brody[21] have shown that placebos consistently deliver “good” or “excellent” results in 64-75% of recipients, especially where subjectivity is involved (e.g. with pain or depression). They have the same time-effect curves and peak, cumulative, and carry-over effects after treatment as active medications. And their beneficial effect is mediated by the same endogenous chemicals that we normally associate with the healing process: cortisol, endorphins, and catecholamines.[22] Its effects are magnified by the doctor who actively listens, shows empathy and concern, provides satisfactory explanations, and creates a treatment plan with the patient at the controls. Thus, the placebo response can be understood as an epiphenomenon of the therapeutic relationship.

Childhood Trauma

Vincent Felitti first encountered the association between adverse childhood experiences (ACE) and their impact on adult health outcomes in the mid-1980s, when he directed a weight loss program for Kaiser Permanente. Though the majority of participants lost weight, the drop-out rate was unacceptably high. Follow-up interviews revealed that many of the patients had been sexually abused as children. Patients connected the two events- their sexual abuse and subsequent weight gain. As Felitti remembers, “the counterintuitive aspect was that, for many people, obesity was not their problem; it was their protective solution to problems that previously had never been discussed with anyone.”[23]

Along with Robert Anda of the CDC, Felitti later screened for childhood trauma among Health Plan members, correlating ACE scores with emotional health, physical health, and rates of mortality in adults. More than half had experienced one or more categories of childhood trauma. One in four had experienced two categories of childhood adversity; one in 16 had encountered four categories. A troubling 22 percent of Health Plan members had been sexually abused as a child, following the national trend. Each additional childhood trauma reported by an adult respondent resulted in an exponential rise in the risk of adverse health consequences in adulthood. Because the experience of childhood trauma was positively correlated with rates of cigarette and alcohol abuse, drug addiction, sexual promiscuity, depression, and attempted suicide, it was also correlated with high rates of morbid obesity, emphysema, diabetes, and heart

[20] Turner JA, Deyo RA, Loeser JD, Von Korff M, Fordyce WE. The Importance of Placebo Effects in Pain Treatment and Research. Journal of the American Medical Association. 271 (1994): 1609-13
[21] Brody H. The Placebo Response: Recent Research and Implications for Family Medicine. Journal of Family Practice 49 (2000): 649-55
[22] i.b.i.d.
[23] Felitti VJ. The relationship Between Adverse Childhood Experiences and Adult Health: Turning Gold into Lead. Permanente Journal. 6;1 (2002): 44-47

disease. An adult with an ACE score of four was 3.9 times more likely to have COPD than someone with an ACE score 0. Depression was 4.6 times more likely; attempted suicide, twelve times more likely. Felitti and Anda calculated that adverse childhood events were responsible for two-thirds of suicide attempts among Health Plan members. In ongoing data analysis, people with an ACE score over five (out of ten categories) were found on average to die nearly 20 years earlier than those with ACE scores of zero.[24]

Connectedness

In 2007, Nicholas Christakis and James Fowler published a landmark study that mapped the spread of obesity through close social contacts.[25] Their data came from the Framingham Heart Study, which was the first to establish a link between high cholesterol and heart disease. The authors tracked the social connections of more than 12,000 residents of Framingham, MA over three generations. They found that the risk of becoming obese increased by 45 percent if a friend became obese; risk increased by 20 percent if the friend had a friend who became obese, and by ten percent if a friend of that friend's friend gained weight. At more distant associations, the impact became negligible, thus establishing the rule of "three degrees of influence." They also found that friends of the same gender had a larger influence on each other than opposite-gender friends or spouses. The stronger the affinity or affection for another person, the greater the influence on weight– what the authors called "directionality." They concluded that obesity should be considered both an individual diagnosis and a public health concern.

Christakis and Fowler have published similar findings on smoking cessation[26] and the spread of happiness.[27] Both followed the "three degree" rule. Surprisingly, happiness was found to be as much a function of frequent face-to-face interactions as on deep personal connections. It depended on the happiness of close friends and how well-connected people were in a network of friends. In powerful ways, we mimic the behaviors and absorb the values of others, especially those we like. And this has an enormous impact on the health of a community– beyond smoking and obesity to alcohol consumption, drug use, exercise habits, depression, and suicide.

Facilitating Change

Over the last two decades, William Miller and Stephen Rollnick have revolutionized the way in which health care workers perceive their role in behavioral change. They call their approach "motivational interviewing" (MI), and see it as a directive, client-centered counseling style that encourages patients to change their behavior by exploring and resolving ambivalence.

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[24] Brown DW, Anda RF, Tiemeier H, Feliii V, Edwards VJ, Croft JB, Giles WH. Adverse Childhood Experiences and the Risk of Premature Mortality. American Journal of Preventive Medicine. 37 (2009:389-96

[25] Chistrakis NA, Fowler JH. The Spread of Obesity in a Large Social Network over 32 Years. N Engl J Med 2007;357:370-9.

[26] Christakis NA, Fowler JH. The Collective Dynamics of Smoking in a Large Social Network. N Engl J Med 2008; 358:2249-2258 May 22, 2008

[27] Fowler JH, Christakis NA. Dynamic spread of happiness in a large social network: longitudinal analysis over 20 years in the Framingham Heart Stud. BMJ 2008;337;a2338.

Ambivalence is the experience of being stuck in a habit that is both harmful and rewarding– if not pleasurable, at least a less painful distraction. Miller and Rollnick suggest four helpful behaviors to help patients move beyond ambivalence toward lasting change: expressing empathy; revealing discrepancies between patients' problem behavior sand their stated goals; rolling with resistance to change; and supporting self-efficacy, which is when patients believe that change is both necessary and possible. Research shows that self-efficacy is the best predictor of positive change.

The doctor's day is largely spent managing the markers of disease: adjusting medications to lower the blood pressure, body mass index, cholesterol level, or hemoglobin A1C. Too often, we find ourselves "tinkering at the edges." Once we find ourselves powerlessness to "fix" the underlying problem, our role can shift to preparing patients for lasting change.

Designing Our Future

The placebo response, the long-term effects of childhood trauma, the power of social connectedness, and the nuances of behavioral change are all fertile ground for primary care research. But deciding what to study is only the first step; where and how are just as important. Shouldn't research agendas be hard-wired into our electronic health record? Then the cycle would be complete: research guiding practice redesign; practices suggesting the most relevant research hypotheses.

By the time patients *really* need a family doctor, we are just another stop on the merry-go-round of office appointments. What patients need is reassurance, commonsensical advice, coordination of community resources, and knowledge of family values. This was once our vital function, but no longer. We are on a merry-go-round, too, and now see a greater value in access and efficiency than continuity of care.

It is clear that mental and physical health are inextricable, that the glass through which we see the world– half-full or half-empty, rose-colored or darkly tinted– is the major determinant of our sense of well-being. Would it make a difference if we asked patients, before they met the doctor, a few simple questions about the buoyancy of their mood, their grip on anxiety, their quality of sleep, and the status of their closest relationships? And make therapists available for immediate counseling if the scorecard shows a dramatic change or downward trend– therapy on demand, at the prescient moment.

Patients are not (only) data fields for the doctor to harvest, objects to be imaged, problems to be solved. They are also our neighbors asking for help, using posture, gait, gesture, and facial expression to indicate where and how to proceed. Let's first acknowledge *them* beneath their symptom complex, and accept the story of their illness in their own words. This takes time– face time, time looking into their faces instead of a clock or computer or a hundred other distractions that crowd our exam rooms.

When we propose a treatment plan, let it be based on the best instrumentation. For this, infrequently used concepts must be dusted off: knowledge of natural history, access to evidence-based guidelines, expected outcome in terms of numbers needed to treat (NNT), transparent costs to the patients, knowledge of the referring specialist's communication and procedural skills, and confidence in our ability to work with their recommendations.

Lastly, let's ask our patients if their concerns have been heard, our findings explained, their needs addressed. Immediate post-visit surveys might answer these questions, and thereby teach us how to better communicate with our patients and expedite our duties.[28]

It is not too late to retool the primary care workshop, to redesign the "product" that patients are clamoring for. Some experimentation has begun: L. Gordon Moore with Ideal Micro Practices, Eric Topol with "The Creative Destructive of Medicine," and Dennis McCullough with "slow medicine." No doubt, biomarkers will remain a central focus of the clinical gaze, but human faces are emerging on the periphery, and the voice of "America's Doctor" rings with an new air of credibility:

"I would take us all back a thousand years," Dr. Oz mused in a recent interview, "when our ancestors lived in small villages and there was always a healer in that village— and his job wasn't to give you heart surgery or medication but to help find a safe place for conversation."[29]

In all fairness, Dr. Oz may not be acquainted with primary care or its village healers. If he was, he might find a safe place for conversation and discover what we are learning about connection, childhood trauma, doctor patient relationships, and the facilitation of change. Learn what we are learning– and will one day measure– about continuity, face time, patient surveys, decision augmentation, and behavioral health. If we are to remain the masters of our own creation– the EHR and its data trove– doctors must submerge it from the plain of our awareness, hard-wire it into our daily operations, and fence it from the sacred space we reserve for our patients. Only then can we do what we do best: sit presently with our patients and care for them. And allow them to learn, invest, and lead in their own recovery, and in the renewable health resource that is community.

[28] Manary MP, Boulding W, Staelin R, Glickman SW. The Patient Experience and Health Outcomes. N Engl J Med 368;3 January 17, 2013

[29] Michael Spector. The Operator. The New Yorker. 4 February 2013