Failure of the Problem-Oriented Medical Paradigm and a Person-Centered Alternative

James W. Mold, MD, MPH

George Lynn Cross Emeritus Professor, Department of Family and Preventive Medicine, University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma

ABSTRACT

Our problem-oriented approach to health care, though historically reasonable and undeniably impactful, is no longer well matched to the needs of an increasing number of patients and clinicians. This situation is due, in equal parts, to advances in medical science and technologies, the evolution of the health care system, and the changing health challenges faced by individuals and societies. The signs and symptoms of the failure of problem-oriented care include clinician demoralization and burnout; patient dissatisfaction and nonadherence; overdiagnosis and labeling; polypharmacy and iatrogenesis; unnecessary and unwanted end-of-life interventions; immoral and intolerable disparities in both health and health care; and inexorably rising health care costs. A new paradigm is needed, one that humanizes care while guiding the application of medical science to meet the unique needs and challenges of individual people. Shifting the focus of care from clinician-identified abnormalities to person-relevant goals would elevate the role of patients; individualize care planning; encourage prioritization, prevention, and end-of-life planning; and facilitate teamwork. Paradigm shifts are difficult, but the time has come for a reconceptualization of health and health care that can guide an overdue transformation of the health care system.

Ann Fam Med 2022;20:145-148. https://doi.org/10.1370/afm.2782

A RIGHTEOUS QUEST

Last year at my 45th medical school class reunion, my former classmates and I recounted medical school experiences. As I rose to speak, my thoughts were mixed. I recalled learning a new language and increasing my knowledge of human biology and the differential diagnosis and the treatment of diseases. I remember the diseases, but I have only vague recollections of the people who had them except for those I saw during 2 rural preceptorships.

Our curriculum made it possible for me, after core clinical rotations, to arrange 3-month experiences with small-town general practitioners in Idaho and Wyoming. Both saw patients of all ages in all settings. Many of these patients were their friends, former teachers, and classmates. The care the practitioners provided was tailored to each person's unique circumstances. I remember many of those patients vividly.

Later, when I told the chairman of Medicine that I wanted to be a family physician, he tried to dissuade me—too easy, a waste of your intelligence—and when that failed—too hard, no one can do it well—which strengthened my resolve. The specialty of family medicine had been established 5 years earlier in an effort to merge medical science and person-centered care. My residency colleagues and I were revolutionaries. It was the 1970s, and we were full of optimism. But we had no appreciation for the force of the wind against which we were running or its source. Over the course of my career, which included 6 years in a small rural practice and 31 years as an academician, I watched the science of medicine displace the art and science of caring for people.

In 2000, my 80-year-old father was hospitalized 3 times during a 3-month period in the hospital where I had been a student. His clinical teams seemed to approach each hospitalization as an isolated event. I saw no evidence that they ever determined the likely sequence of events leading up to each admission—esophageal reflux with sphincter spasm causing chest pain, fear of a fatal heart attack, and autonomic hyperactivity causing coronary vasoconstriction, angina, and atrial fibrillation, which ultimately exacerbated heart failure. The focus was on identifying current cardiac abnormalities and adjusting his medications. There was never

Conflicts of interest: Dr Mold has published 2 books on goal-oriented care from which he receives personal income.

CORRESPONDING AUTHOR

James W. Mold
1001 Blackwood Mountain Rd
Chapel Hill, NC 27516
jameswmold@att.net

any discussion of what to do if it happened again or how to diminish his fear of dying. I blamed it on poor doctoring.

Fifteen years later, my 89-year-old mother fell while hiking in the woods, breaking her T12 vertebra into several misaligned pieces. She crawled out of the woods, drove herself home, and eventually made it to her primary care physician's office. A month later, she was hospitalized because of inadequate pain control and the adverse effects of prescription narcotics.

Many things had changed since my father's hospitalizations. Electronic records had been implemented. Patient care tasks had been divided among narrowly focused staff who spent more time at the computer than interacting with Mom. The process resembled a factory assembly line. A neurosurgical consultant advised against surgery based on her computed tomography scan. At discharge, she was denied inpatient rehabilitation because she didn't have an approved rehabilitation diagnosis. I blamed the situation on the corporatization of health care.

Health care is complex. The logical response has been reductionism and subspecialization. Even 50 years ago, my basic science classes were taught by faculty with narrow fields of expertise. There are now orthopedists who only perform knee surgery and ophthalmologists who only remove cataracts. Generalists can now acquire certificates of added qualifications in addiction medicine, adolescent medicine, brain injury medicine, clinical informatics, emergency medical services, geriatric medicine, hospice and palliative care, hospital medicine, pain medicine, sleep medicine, and sports medicine, as well as subspecialty certification in maternal and fetal medicine.

But, as Barbara Starfield and colleagues[1] showed convincingly, subspecialist-heavy health care systems provide suboptimal care. The most effective, efficient, and equitable systems are built on a foundation of primary care, "the provision of integrated, accessible health care services by clinicians that are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing within the context of family and community."[2] But that kind of primary care is getting harder to find. Many primary care physicians have stopped taking care of patients in hospitals and nursing homes. Few deliver babies. It is now common practice to refer patients with chronic pain to pain specialists and dying patients to palliative care teams.

Health care is not just complex, it is highly personal. The clinician-patient relationship is one of the few settings in which people can talk about painful, frightening, and embarrassing issues with someone other than a friend or family member. Those interactions are often therapeutic beyond the specific medical management issues discussed. Each person has unique vulnerabilities, resources, circumstances and experiences, values, and priorities, making both fragmentation and excessive standardization detrimental. The generalist physicians I shadowed during those summer preceptorships understood that, and even at that early stage of my training, I could see the difference it made.

Ten years beyond residency I could see that our revolution had lost momentum. The emerging field of geriatrics was promoting the functional needs of patients and teamwork. I decided that learning to care for complex older patients might be the best way to understand how to provide care to all patients, so I became a geriatrician. Before long, I was giving lectures to physician groups on "normal aging changes." At the time, I wondered why that topic seemed so important. The answer turned out to be a major piece of the puzzle I was trying to solve.

When colleagues and I established a geriatric fellowship, it surprised me that so few residents applied. They said that old people had too many problems, which required too much time, and they were nonlucrative, even depressing. It finally dawned on me that physicians were interested in normal aging because our medical approach involves identifying and correcting abnormalities. It is essential to draw a clear line between normal and abnormal. In order to apply that approach to aging and other continuous measures like blood pressure, glucose level, and mood, we dichotomize them—hypertensive vs normotensive, diabetic vs nondiabetic, depressed vs nondepressed, normal vs abnormal aging. It was around that time that I began to ask medical students, "How is being a doctor different from being an auto mechanic?"

OUR FAILING PARADIGM

Problem solving has been an effective strategy for centuries. It has worked particularly well for correctable problems such as infections and injuries. Problem solving is compatible with a mechanical model like the one used to repair automobiles. It offers certain advantages to physicians, the experts when it comes to identifying, naming, and recommending treatment for medical conditions. With expertise comes power, control, and safety. Objectifying the task allows us to distance ourselves from the personal and emotional aspects of care. The result is great disease management but poor doctoring. For administrators, it has encouraged the application of manufacturing principles to improve quality and reduce cost.

A growing number of signs and symptoms, however, suggests that the problem-oriented paradigm is failing. Clinicians are demoralized. Rates of stress, depression, and burnout are high.[3] Despite ongoing quality improvement efforts, clinicians follow clinical guidelines only about 50% of the time,[4] a phenomenon referred to as clinical inertia.[5] An increasing number of publications decry "cookbook medicine" and the "corporatization" of health care.[6,7]

Patients aren't particularly happy either and are demanding greater input through patient advisory boards, patient advocacy groups, and engagement in research. On average, only about 60% adhere to physicians' advice.[8] Many seek help from a growing number of practitioners using complementary and alternative approaches. Health and health care

disparities persist despite efforts to reduce them.[9] Advance directives are rarely discussed before terminal illness despite the availability of sufficient reimbursement.[10] Meanwhile, the cost of care continues to rise faster than the cost of living as a result of an ever-expanding clinical armamentarium and rising patient expectations.[11] More and more money is spent for less and less benefit.[12,13]

But, as Thomas Kuhn[14] pointed out, paradigms are resilient. Long-held beliefs and well-established processes must be reconsidered. Careers, incomes, prestige, and loci of power and control are jeopardized when a paradigm is abandoned in favor of a new one. Curricula must be rewritten, and research questions and methods reimagined. For those reasons, when a paradigm begins to fail, valiant attempts are made to shore it up. In this case, those efforts have included the creation of family medicine, the development and adoption of the biopsychosocial model, and the creation of birthing centers, palliative care, shared decision making, patient-centered medical homes, care coordination, patient navigators, the Patient-Centered Outcomes Research Institute, patient-reported outcome measures, and value-based reimbursement schemes, among others.

A WAY FORWARD

Geriatric rehabilitation exposed me to a new way of thinking about health and health care, one focused on goals instead of problems. It led me to wonder whether such a shift in focus might offer a way forward. What if we viewed health not as the absence of health problems, but as the ability to derive as much enjoyment, satisfaction, enrichment, meaning, and fulfillment as possible from life's journey? What if instead of asking, "What's the matter with you?" we first ask, "What matters to you?"

It would follow that health care should be designed to help each person attain 4 goals: (1) to live as long as possible up to the point when life becomes intolerable; (2) to be able to participate in activities and relationships that provide meaning and pleasure; (3) to make the most of opportunities to develop fully as a unique human being; and (4) in the end, to experience a good death.[15,16]

If clinicians and patients viewed prevention of premature death as a major goal rather than a box-checking process, they would be encouraged to prioritize preventive strategies. Given the nature and severity of my father's heart disease, his physician might have offered him an implantable defibrillator or my mother a portable defribillator and CPR training. We would probably more consistently educate those vulnerable to pneumonia to avoid infectious contacts, wash their hands often, and practice good oral hygiene. Focusing on survival would likely speed the development of predictive models, requiring better information on causes of death and disability—more virtual autopsies, clinical reviews, and clinical-pathological conferences. Preventive service registries and comprehensive risk appraisal tools would replace single-disease registries, providing patients with better estimates of the benefits of available preventive strategies.[17,18]

To help individuals achieve their quality-of-life goals, clinicians would need to know a great deal about their essential and desired activities, key relationships, values, and priorities. My mother's neurosurgeon, for example, would have wanted to know how important certain activities were to her and what risks she was willing to take to regain her ability to participate in them. Helping patients clarify their quality of life goals would require adoption and adaptation of techniques and tools used by goal-oriented professionals within and outside of health care. It might even be helpful to include rehabilitation therapists and mental health professionals on primary care teams for help with plan development and therapeutics.

Involvement of mental health professionals would be critical for helping patients achieve their growth and development goals as well. Focusing on psychological development through and beyond childhood could elevate the importance of resilience, adaptability, relationship building, and strategies for dealing with loss. Emphasis on resilience might help patients decide to increase physical activity, improve their eating and sleep habits, get suggested immunizations, and avoid unnecessary antibiotics.

Through a goal-oriented lens, death would be viewed as part of life's journey, not as an enemy to be defeated. Reframing death in that way would encourage all adults to document advance directives and to discuss their values and preferences with those who might be involved in decision making on their behalf. Palliative care specialists would focus on teaching primary care clinicians to care for people nearing the end of life.

Unlike problems, which can be viewed apart from context, goals and priorities are inseparable from their owners. Patients possess vital information and opinions, which would help to equalize power within patient-clinician relationships. The critical nature of goal clarification would also help to equalize status and power between primary care clinicians and referral specialists. Focusing on goals could improve teamwork and coordination within health systems.[19] And although problem solving can only erase deficits, goal achievement optimizes potential. The referent is oneself. Normality is largely irrelevant.

Although goal-oriented care might appear to be most applicable to older patients with multiple health concerns, it is, in fact, applicable across the life cycle, to all genders and all social and cultural ecologies. The goals for a young man finding meaning in a gang, and the goals of immigrants fleeing violence, and the goals of parents struggling with troubled children, and the goals of a single mother with a newborn, and the goals of a grandparent caring for their grandchild as the child's mother struggles with addiction powerfully impact health care decisions and are examples of the many ways the 4 goals previously described become understood at different times in one's life and in different circumstances.

Despite the potential advantages of goal-oriented care, there will be major implementation challenges beginning with the words we use. For example, problems would be reframed as risk factors, obstacles, challenges, and opportunities, and what we now call goals (eg, systolic blood pressures of less than 140 mm Hg and hemoglobin A_{1c} levels of less than 7%) would be considered strategies. Record systems would have to be reorganized around the 4 major goals, research methods expanded to account for individualization, clinical practice guidelines reconfigured to reflect the impact of interventions on meaningful outcomes, and quality standards reimagined. Payment methods would need to reward processes of care and cognitive services beyond diagnosis and treatment, the appropriate duration of encounters determined by the participants, not payors or administrators.

REQUIEMS

Although the failure of the problem-oriented paradigm was a consequence of advances in medical science, the evolution of the health care system, and the changing nature of societal health challenges, it has always had a fatal flaw. If we were ever able to prevent or eliminate all abnormalities, the resulting loss of diversity would be disastrous. Advances in genetic engineering are already forcing us to consider how to address the complex mixtures of strengths and vulnerabilities revealed in our genes.

Dad lived 2 more years with no substantial decline in function, dying in his sleep at the age of 82. Despite 2 weeks in a skilled nursing facility, then outpatient physical therapy, my mother never regained sufficient strength, balance, or pain relief to tend to her outdoor plants. She was, however, able to remain in her home with our help. She died at the age of 91 of aspiration pneumonia, for which she refused hospital treatment.

I am lucky to have a primary care physician who knows and respects my views on health and health care, and I know how the system works. If my wife or I need to be hospitalized, however, it will probably be at the medical center where I was a student. This article could be my final quixotic attempt to make the care we receive there more personal and humane than that received by my parents.

The problem-oriented medical paradigm has had a long and productive life. It now deserves a good death.

Read or post commentaries in response to this article.

Key words: person-centered care; goal-oriented care; primary care; problem-oriented care; paradigm shift; health care reform; organizational change; professional practice

Submitted February 17, 2021; submitted, revised, July 20, 2021; accepted August 17, 2021.

Acknowledgments: The following physicians have provided valuable input during the creation of this article: Larry Green, MD (professor of Family Medicine, University of Colorado), Darren Dewalt, MD, MPH (professor and chief, Division of Internal Medicine, University of North Carolina School of Medicine), and F. Daniel Duffy, MD (professor emeritus, University of Oklahoma School of Community Medicine, Tulsa, OK).

References

1. Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. *Milbank Q*. 2005;83(3):457-502. 10.1111/j.1468-0009.2005.00409.x
2. Institute of Medicine, Committee on the Future of Primary Care, Donaldson MS, et al. *Primary Care: America's Health in a New Era.* National Academy Press; 1996.
3. Agency for Healthcare Research and Quality. Physician burnout. Published July 2017. Accessed Jan 26, 2022. https://www.ahrq.gov/prevention/clinician/ahrq-works/burnout/index.html
4. McKinlay JB, Link CL, Freund KM, Marceau LD, O'Donnell AB, Lutfey KL. Sources of variation in physician adherence with clinical guidelines: results from a factorial experiment. *J Gen Intern Med*. 2007;22(3):289-296. 10.1007/s11606-006-0075-2
5. Reach G. Simplistic and complex thought in medicine: the rationale for a person-centered care model as a medical revolution. *Patient Prefer Adherence.* 2016;10:449-457. 10.2147/PPA.S103007
6. Doroshow J. Cookbook medicine is a recipe for disaster. *Huffington Post* blog. March 4, 2013. Accessed Jan 26, 2022. https://www.huffpost.com/entry/cookbook-medicine_b_2792900
7. Feinglass J, Salmon JW. Corporatization of medicine: the use of medical management information systems to increase the clinical productivity of physicians. *Int J Health Serv*. 1990;20(2):233-252. 10.2190/5N2R-MWAN-FWY2-JVHQ
8. Martin LR, Williams SL, Haskard KB, Dimatteo MR. The challenge of patient adherence. *Ther Clin Risk Manag*. 2005;1(3):189-199.
9. Healthy People 2020. Disparities. Accessed Jan 26, 2022. https://www.healthypeople.gov/2020/about/foundation-health-measures/Disparities
10. Yadav KN, Gabler NB, Cooney E, et al. Approximately one in three US adults completes any type of advance directive for end-of-life care. *Health Aff (Millwood)*. 2017;36(7):1244-1251. 10.1377/hlthaff.2017.0175
11. Martin AB, Hartman M, Lassman D, Catlin A; National Health Expenditure Accounts Team. National health care spending in 2019: steady growth for the fourth consecutive year. *Health Aff (Millwood)*. 2021;40(1):14-24. 10.1377/hlthaff.2020.02022
12. Johnson HA. Diminishing returns on the road to diagnostic certainty. *JAMA*. 1991;265(17):2229-2231.
13. Mold JW, Hamm RM, McCarthy LH. The law of diminishing returns in clinical medicine: how much risk reduction is enough? *J Am Board Fam Med*. 2010;23(3):371-375. 10.3122/jabfm.2010.03.090178
14. Kuhn TS. *The Structure of Scientific Revolutions*. 4th ed. University of Chicago Press; 2012.
15. Mold JW. Goal-directed health care: redefining health and health care in the era of value-based care. *Cureus*. 2017;9(2):e1043. 10.7759/cureus.1043
16. Mold JW. *Goal-Oriented Medical Care: Helping Patients Achieve Their Personal Health Goals*. Full Court Press; 2020.
17. Nagykaldi ZJ, Voncken-Brewster V, Aspy CB, Mold JW. Novel computerized health risk appraisal may improve longitudinal health and wellness in primary care: a pilot study. *Appl Clin Inform*. 2013;4(1):75-87. 10.4338/ACI-2012-10-RA-0048
18. Applegate M, Scott E, Taksler GB, et al. Project ACTIVE: a randomized controlled trial of personalized and patient-centered preventive care in an urban safety-net setting. *J Gen Intern Med*. 2021;36(3):606-613. 10.1007/s11606-020-06359-z
19. Steele Gray C, Grudniewicz A, Armas A, Mold J, Im J, Boeckxstaens P. Goal-oriented care: a catalyst for person-centred system integration. *Int J Integr Care*. 2020;20(4):8. 10.5334/ijic.5520