

Managed Care 3.0: Rise of the Robots

By Jeff Goldsmith

Healthcare payment in the US has evolved in decades-long sweeps over the past fifty years, as both public programs and employers attempted to contain the relentless rise in health costs. Managed care in the United States has gone through three distinct phases in that time- from physician- and hospital-led delegated risk to “shadow” capitation via virtual networks like ACOs to machine-governed payment systems, where intelligent agents (AI) using machine learning are managing the flow of dollars. Increasingly, care is being managed not by physicians or health systems but by computerized documentation and payment systems governed by artificial intelligence (AI).

Phase I- Health Maintenance Organizations and Delegated Risk

After a lengthy stretch of double-digit health cost inflation following the passage of Medicare in 1965, the Nixon administration launched a bold initiative- the HMO Act of 1973- to attempt to tame health costs. The goal of the HMO Act was to power up prepaid health plans modeled on the Pacific Coast-based Kaiser Foundation Health plans nationwide. The Act provided federal start-up funds and subsidies for HMOs. It also compelled employers to offer HMOs as an alternative to Blue Cross and indemnity insurance. These plans were intended to save money by managing a fixed annual budget for care (the number of subscribers multiplied by an annual premium) vs. the legacy, open-ended fee-for-service system.

While a few HMOs either employed physicians directly on salary (staff models like the Group Health Co-Operatives), or contracted on an exclusive basis with an affiliated physician group (like Kaiser’s Permanente Medical Groups), many more delegated capitated risk to special purpose physician networks- Independent Practice Associations (IPAs)- whose physicians continued in private medical practice. Capitation created a compelling incentive for physicians to economize in care provision.

By 1996, according to the Kaiser/HRET employee benefits survey, HMOs covered 31% of the employer market (roughly 160 million employees and dependents). The impact of HMO growth on overall US health spending remains uncertain, because health spending continued growing aggressively during the next fifteen years, only abating during the mid-1990’s around the Clinton Health Reform debate.

Two things brought the HMO movement to a crashing halt in the late 1990’s. One was a political backlash from workers and their families who were simply assigned to HMOs by their employers, rather than choosing them themselves. This unilateral assignment violated a fundamental principle of HMO advocates like Paul Ellwood, who championed consumer choice. Employees and their families so assigned found their access to care narrowed by the mechanical application of medical necessity criteria to their care. Women, who are the pivotal actors in managing their families’ health and were growing increasingly confident of their political influence, went ballistic.

The other political force that helped quash the HMO movement was angry pushback from physician communities, particularly specialists, who bitterly resented the invasion of their professional freedom by prior authorization and medical necessity reviews. Physicians also resisted pressure to discount their rates to the HMOs, which reduced their incomes. A major concurrent financial blow to HMOs was a sharp downward adjustment in Medicare payment rate for health plans in the Balanced Budget Act of 1998.

In the aftermath of this reaction, closed panel, delegated-risk capitation gave way to open panel “preferred provider organization” (PPO) models which paid physicians and hospitals a discounted fee-for-service. PPOs were basically an industrialized version of traditional Blue Cross, but with allegedly narrower provider networks. PPOs offered patients broad access to physician and hospital networks and somewhat less interference in physician decision making.

As PPOs rolled out, the threat of being excluded from PPO networks led to a lengthy and damaging provider pricing panic. As PPOs spread, their networks broadened to be virtually indistinguishable from Blue Cross networks in many communities. Providers who discounted their rates in the panic to avoid being excluded discovered to their horror that their pricing concessions yielded no growth in volume or market share, just reduced revenues.

By 2014, HMO’s share of the total commercial market had shrunk to only 13%, well less than half of its peak. Where HMOs grew, it was through Medicare Advantage and managed Medicaid. There was an important exception to this trend. While the HMO industry shrank nationally, Kaiser saw its enrollment grow to more than 12 million, dominant on the Pacific Coast but a negligible presence nationally. Strong regional HMOs sponsored by health systems and physician organizations competed with Kaiser in the West.
<https://www.healthaffairs.org/doi/10.1377/hblog20160929.056856/full/>).

HMOs are not “over”, however. From 2016 to 2019, HMO penetration in the commercial market quietly grew to 19% mainly at the expense of PPO coverage, according to the very same Kaiser/HRET survey (<http://files.kff.org/attachment/Report-Employer-Health-Benefits-Annual-Survey-2019>). And in 2018, about two thirds of the 22 million Medicare Advantage subscribers are in HMOs. While HMOs by no means disappeared, the “movement” fell short of national reach. HMOs remain a negligible presence in the most rapidly growing parts of the US- the Southwest, South and Mid-Atlantic regions.

Phase II- Managed Care Lite plus Rising Patient Cost Sharing

After the 2008 recession, employers and their health plans shifted strategy from putting physicians and hospitals at risk to putting patients at risk. In the wake of the recession, the number of patients with high deductible health plans nearly sextupled- to over sixty million lives (see earlier cited Kaiser/HRET survey). By 2019, 30% of the “lives” in employer-based plans were in high deductible plans regardless of patient economic circumstances.

At the same time, Medicare moved aggressively to get providers into a new, less politically inflammatory version of managed care for large regular Medicare market (e.g. the non-Medicare Advantage portion). The 2010 Affordable Care Act catalyzed the formation of new, virtual, special-purpose managed care enterprises called Accountable Care Organizations. Two key changes in approach vs HMOs were conditioned by the managed care backlash: Medicare patients were not forced into managed care plans (or even told they were in them), and providers would be insulated from downside financial risk for a lengthy period.

Unlike with HMOs, patients would not be asked to choose an alternative “value -based” care system, nor would they receive any of the savings generated by the presumably better care management. Under ACOs, patients would be statistically assigned retrospectively to ACO panels based on whether their primary care physician was participating. ACO membership was a statistical construct, not a consensual patient panel.

Secondly, Medicare retained the risk, paying for care in the first instance based of the Medicare fee schedule, then retrospectively calculating whether ACOs achieved savings relative to local spending benchmarks. The vast majority of ACOs bore no downside risk, meaning that if they overspent their spending targets, Medicare absorbed the losses. ACOs would earn bonuses, however, based on beating statistically determined savings targets. And as part of the bargain, ACOs had to submit voluminous “quality” information and meet predetermined quality metrics.

Large commercial health plans serving employers shadowed the Medicare program, taking advantage of yet another hospital pricing panic to create new virtual ACO networks based on deeply discounted rates. Most of the plans offered under ObamaCare’s insurance exchanges were of this type. While it was assumed by providers that commercial ACOs would move rapidly toward true delegation of risk, a decade on, the risk mysteriously has not passed over to providers, who have spent at least \$10 billion preparing for ACOs. Moody’s Investor Service found that the median US hospital received only 1.8% of their revenues from capitation, and another 1.9% from “two-sided” ACO style risk in 2018, proportions that barely rose in five years from 2014 to 2018. The much hyped movement “from volume to value” has been largely illusory.

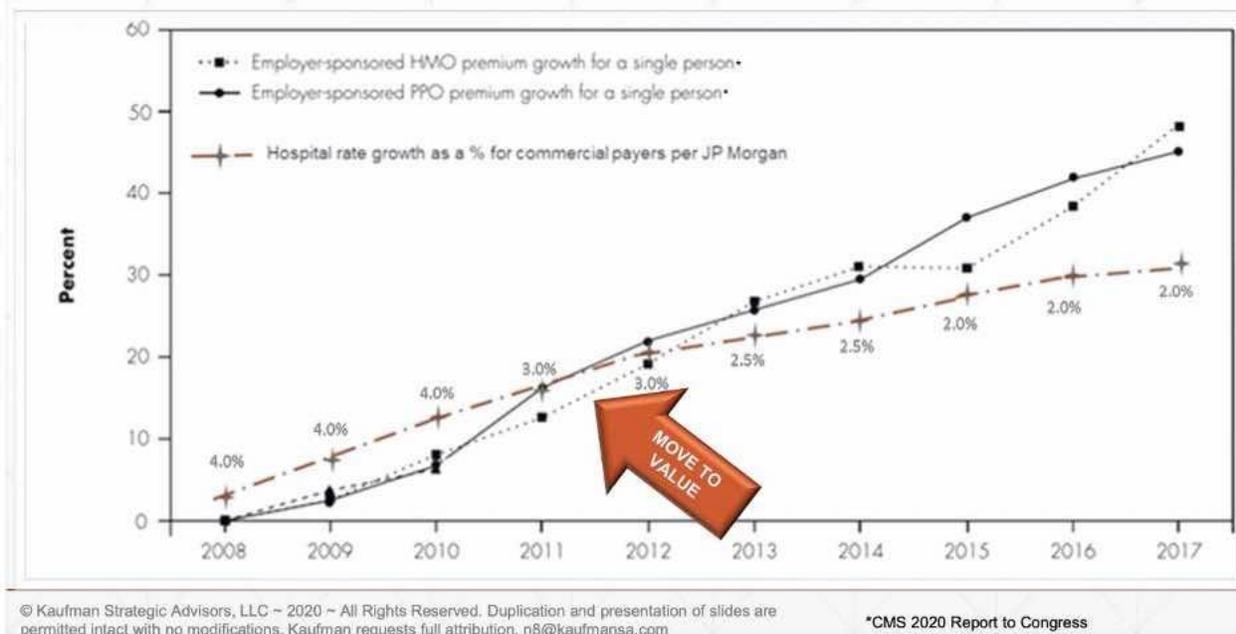
Though the ACO “industry”, mainly consultants and investors, continue hyping the idea, the federal ACO program has so far not saved the Medicare program a penny, if one counts the bonuses paid out to successful ACOs, the cost overruns by the ACOs that missed their cost targets, and the cost to Medicare of setting up, administering and monitoring the program. Paid out bonuses tended to be highly concentrated in those fortunate ACOs operating in high Medicare cost markets. Medicare’s ACOs have been, to quote MedPac, a “disappointment” (see <https://thehealthcareblog.com/blog/2016/12/14/medpac-medicare-advantage-and-acos-cut-cut-costs-and-well-never-know-why/>) And to no one’s surprise, physician-sponsored ACOs decisively outperformed those sponsored by hospitals. If there have been any savings to anyone or bonuses paid from commercial ACOs for employer groups, they remain a closely guarded

secret. Today, perhaps 10% of the US population is in some form of ACO, largely without their own knowledge.

Phase III- Machine Driven Managed Care.

The reason for the reluctance of health plans to delegate risk to providers is that not only would they have had to share profits with providers (from reducing the cost trend) , but, crucially, they would have lost much of the new data they were gathering on physicians and patients. This would have meant the loss of a crucial leverage point in containing medical costs. “Value based care” has seen a shift in economic power from hospitals to health plans (see attached graph from Nate Kaufman).

Health Insurance Premium Growth vs Hospital Payment Rate Growth



Much of this trend change was due to the pricing panic referred to earlier- as hospitals and physicians scrambled to avoid being excluded from new “narrow network” plans targeted at the ObamaCare health exchanges and Medicaid managed care. But in addition, health plans markedly increased the use of contractors employing artificial intelligence (AI)- data mining, algorithms and machine learning to comb through the newly rich medical claims data sets to deny or reprice claims submitted by hospitals and physicians for their commercial, Medicare Advantage and Medicaid managed care patients.

A shadowy industry populated with billion dollar high tech firms no one in the care system had ever heard of- with names like Emdeon (now Change Healthcare), Equian (now part of Optum)

<https://www.beckershospitalreview.com/hospital-transactions-and-valuation/unitedhealth-to-buy-payments-firm-equian-in-3-2b-deal.html>, MultiPlan (<https://www.wsj.com/articles/multiplan-to-go-public-in-merger-with-churchill-capital-entity-11594593000>) and Cotiviti - emerged to service health plans with automated systems to review hospital and physician claims prior to payment. Many of these firms were founded after the passage of the Health Insurance Portability and Accountability Act of 1996 (HIPAA) whose “administrative simplification” provisions catalyzed a push toward electronic data interchange of medical claims (EDI). These firms ramped up rapidly as ubiquitous broadband replaced expensive dedicated T-1 lines. They marketed their expanded role as part of the war against medical “fraud and abuse”.

A key factor in the wave of denials was the increased centrality of hospital emergency admissions as the main gateway to complex and expensive inpatient care. With primary care physicians withdrawing from hospital practice, decisions to admit patients to hospitals were increasingly made by employed physicians or physician contractors to the hospital. Upwards of 70% of patients in many health systems are admitted through the emergency room and care is rendered to those patients on an urgent basis. “Prior authorization”, a forty year old HMO expense control tool for managing “elective care”, has given way to “prospective pre-payment review” applied after hospitals have admitted and cared for patients and submitted insurance claims.

Hospitals saw, in some cases, a doubling of claims denials or “repricing” in just a twelve to eighteen-month period after 2016 based on these automated “prospective” reviews. This surge of machine-driven denials played a major role in the mysterious 39% plummet in hospital operating earnings seen in 2016 and 2017 (<https://www.modernhealthcare.com/article/20180912/TRANSFORMATION02/180919977/health-systems-scale-not-linked-to-higher-revenue>). These denials often result in unexpected higher bills to patients with high deductible plans as well as significant new administrative expenses for hospitals to track and contest the surge of denials. Many patients were unable to pay these unexpectedly higher expenses, resulting in a rise of “insured self-pay” bad debts.

Hospitals and health systems are getting help pushing back against automated payer-driven AI claims review systems. A private equity funded startup, Olive, has developed its own AI systems to audit hospital claims prior to submission (<https://oliveai.com/blog/using-ai-to-improve-hospital-rev-cycle/>) Olive and other companies will use robotic process automation (RPA) to manage documentation to make sure they minimize the risk of a costly denial, and to assure “payment integrity”. Thus, the next decade is likely to see an escalating war of robotic provider and payer AI systems managing the filing and adjudication of medical claims.

COVID has produced what seems like a temporary cease fire in this “War of the Robots”. This is because the shutdown of routine care in hospitals has produced a multi-hundred billion windfall in cash flow for health plans. Denying care during a health emergency could produce a lot of ugly headlines, so plans appear to have turned the “denial machine” off, according to colleagues in the revenue cycle industry. Plans do not want to be socked with a “windfall

profits" tax to help fund federal hospital relief efforts. However, when health plans medical expenses (so-called Medical Loss Ratios, or MLRs) begin rising again, It is entirely likely that the denial machinery cranks up again, and the war resumes.

A managed care" movement" which began more than seventy years ago by empowering clinicians to manage care for populations within a fixed budget has devolved, by degrees, into an increasingly data driven payment system run by computers. The early stages of this devolution spawned successful, high quality integrated health systems and health plans in some parts of the country. However, the last decade has left the bulk of care providers drowning in documentation busywork and box checking, and burdened by a growing revenue cycle bureaucracy. Their incomes are increasing managed by machines, not colleagues. How this evolution will improve actual care to patients remains to be demonstrated.

