Optimizing Health Care Delivery by Integrating Workplaces, Homes, and Communities

How Occupational and Environmental Medicine Can Serve as a Vital Connecting Link Between Accountable Care Organizations and the Patient-Centered Medical Home

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EXECUTIVE SUMMARY

In recent years, the health care reform discussion in the United States has focused increasingly on the dual goals of cost-effective delivery and better patient outcomes. A number of new conceptual models for health care have been advanced to achieve these goals, including two that are well along in terms of practical development and implementation—the patient-centered medical home (PCMH) and accountable care organizations (ACOs).

At the core of these two emerging concepts is a new emphasis on encouraging physicians, hospitals, and other health care stakeholders to work more closely together to better coordinate patient care through integrated goals and data sharing and to create team-based approaches that give a greater role to patients in health care decision-making. This approach aims to achieve better health outcomes at lower cost.

The PCMH model emphasizes the central role of primary care and facilitation of partnerships between patient, physician, family, and other caregivers, and integrates this care along a spectrum that includes hospitals, specialty care, and nursing homes. Accountable care organizations make physicians and hospitals more accountable in the care system, emphasizing organizational integration and efficiencies coupled with outcome-oriented, performance-based medical strategies to improve the health of populations. The ACO model is meant to improve the value of health care services, controlling costs while improving quality as defined by outcomes, safety, and patient experience.

This document urges adoption of the PCMH model and ACOs, but argues that in order for these new paradigms to succeed in the long term, all sectors with a stake in health care will need to become better aligned with them—including the employer community, which remains heavily invested in the health outcomes of millions of Americans. At present, ACOs are largely being developed as a part of the Medicare and Medicaid systems, and the PCMH model is still gathering momentum and evolving among physicians. But, the potential exists for implementation of both of these concepts across a much broader community of patients.

By extending the well-conceived integrative concepts of the PCMH model and ACOs into the workforce via occupational and environmental medicine (OEM) physicians, the power of these concepts would be significantly enhanced. Occupational and environmental medicine provides a well-established infrastructure and parallel strategies that could serve as a force multiplier in achieving the fundamental goals of the PCMH model and ACOs. In this paradigm, the workplace—where millions of Americans spend a major portion of their daily lives—becomes an essential element, next to communities and homes, in an integrated system of health anchored by the PCMH and ACO concepts. To be successful, OEM physicians will need to think and work innovatively about how they can provide today's employer health services—ranging from primary care and preventive care to workers' compensation and disability management—within tomorrow's PCMH and ACO models.

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INTRODUCTION AND BACKGROUND

Today, the American health care system faces enormous and growing challenges. Health care costs in the United States, already highest in the world, continue to spiral upward. An estimated 50 million Americans are uninsured and Medicare and Medicaid face huge financial issues that threaten their long-term stability. Chronic health conditions are on the rise across all age groups, with more than 50% of Americans having at least one chronic health condition.[1] Millions of baby boomers are retiring, placing new strains on the nation's health care infrastructure at a time when the shortage of physicians in the United States is projected to reach 62,000 by 2015 and 130,000 by 2025.[2] Those workers who remain in the system, increasingly beset by chronic disease, have a greater likelihood of needing to access social security disability and Medicare before retirement age, potentially weakening the nation's work capacity even more.

In response to the dual problems of increased costs and the growth of the nation's uninsured population, Congress passed and the President signed into law in 2010 the Affordable Care Act (ACA), a massive federal bill with wide-ranging mandates.[3] Although much of the law has the practical intent of simply extending insurance coverage to those who are currently uninsured, it also has a number of provisions intended to fundamentally transform the way care is delivered. Incentives are included, for example, to encourage the adoption of electronic health records (EHRs) and to promote disease prevention initiatives more widely.

Among these transformational strategies is a new emphasis on encouraging physicians, hospitals, and other health system stakeholders to work together in new ways to better coordinate care, creating a more team-based approach to health care. This approach aims to achieve better health outcomes at lower cost. Two models of care, in specific, are incentivized within the ACA:

- *The Patient Centered Medical Home*, a concept that emphasizes the central role of primary care and facilitation of partnerships between patient, physician, family, and other caregivers, is built on a "whole-person" orientation that envisions care integrated across all elements of the health care system and links hospitals, subspecialty care and nursing homes with a patient's community environment. Patients receive care in a setting that is familiar and in which their health care needs and choices are well known. A number of leading physician organizations have been proponents of the concept, including the American Academy of Family Physicians (AAFP), American Academy of Pediatrics (AAP), American College of Physicians (ACP), and American Osteopathic Association (AOA).[4]
- *Accountable Care Organizations*, a care model that makes physicians and hospitals more accountable in the care system, emphasizing organizational integration and efficiencies coupled with outcome-oriented, performance-based medical strategies to improve the health of populations, is meant to improve the value of health care services, controlling costs while improving quality as defined by outcomes, safety, and patient experience. It envisions the medical home as a central locus in a spectrum of health care services applying evidence-based approaches in joint ventures among organizations that decrease the fragmentation of the current system. Guidelines for the development of ACOs within the Medicare system have been proposed by the federal government to encourage their growth.

The connecting thread between PCMH and ACOs is a shared vision that integration and coordination of health care services, combined with a new emphasis on whole-person team-oriented care delivery, drives value and represents a vital path forward in true health reform. Interest in the two concepts is growing, especially with incentives built into the ACA. A new Center for Medicare and Medicaid Innovation has been established and is charged with implementing PCMH and ACO demonstration projects. State governments are investigating PCMH/ACO models, and most of the major health plans have started PCMH demonstrations. The Departments of Defense and Veterans Affairs have both adopted a PCMH-based approach to care.[5]

As interest in PCMH and ACOs continues to grow and demonstration projects increase, a new discussion is emerging about how a PCMH/ACO model for care could be more widely implemented and systematized. In order for the PCMH/ACO model to succeed in the long term, all sectors with a stake in health care will need to become better aligned with it—ranging from the medical education community to government policy-making agencies and insurers. Of these sectors, one of the most impactful—and, it can be argued, most essential—to the future of the PCMH/ACO concept is the employer community.

According to the US Census Bureau, 55% of the US population is covered by employer-based health plans—a total of 169 million people.[6] The health care decisions of these citizens are closely connected with their workplace, and in recent decades employers have become increasingly proactive as providers of programs and initiatives aimed at keeping their workforces healthier. A growing body of research shows an inextricable link between the health of the workforce and the productivity of the workforce, and enlightened employers are taking steps in response.[7] From disease prevention programs to on-site and near-site health clinics staffed by a spectrum of health care personnel, they are becoming a more and more influential part of the health care equation.

Moreover, if the PCMH/ACO concept is built on the idea of a whole-person approach to health, the workplace must logically play an integral role. The workplace is organically connected to the home and to the physical communities in which workplaces exist. Individuals do not leave the impacts of their personal health risks on the doorstep when they leave for work just as they cannot leave the impacts of their workplace exposures when they return home. Health behaviors extend across multiple environments and cannot be artificially separated.

Because health in the workplace, health at home, and health in communities are interconnected, workplace health initiatives are uniquely positioned to leverage the coordinated health and productivity enhancement strategies that are a fundamental goal of PCMH and ACOs. By better aligning the nation's growing workplace health initiatives with the long-term goals of the PCMH/ACO movement, the potential impact of PCMH and ACOs could be dramatically increased. Efforts aimed at integrating health initiatives in the workplace could ultimately be connected with both the medical home and ACOs, with the employer's workplace health personnel occupying roles as members of an individual's "health team" and medical community.

At the core of this envisioned effort would be the nation's OEM physicians, who are trained in the development and delivery of workplace health initiatives and are positioned to serve as the critical connecting link between PCMH/ACO concepts and the more than 130 million Americans who make up the US workforce. Thousands of US OEM physicians currently serve as the central point of connection between these employed populations and the overall US health care system.

Why is OEM Essential?

Occupational and environmental medicine physicians enhance the health of workers through preventive medicine, clinical care, disability management, research, and education. In the early days of occupational medicine, physicians specializing in the health of employees were primarily reactive to the injuries and exposures that occurred in the workplace. Workers who became sick or were injured came to the worksite clinic; the physician's focus was on treating the injured employee or on "work-related conditions."

Now the role of the OEM physician has changed significantly. As disease prevention and wellness have become a greater part of the health care equation, OEM has expanded its scope and presence accordingly, contributing to scientific research, new clinical guidelines for medical care, and public health programming aimed at the workforce and the health of the environment. Aside from employers' economic interest in the health of the workforce, the expanded focus of occupational medicine is based on the evidence that the employer resources in the work environment can profoundly impact not just health and safety on the job but also the personal health of employees. Moreover, investigators have documented the synergistic effect of integrating health protection with health promotion. The additional opportunity that an expanded focus on OEM brings is integration of employer-based resources with community-based health care resources.[8] Occupational and environmental medicine physicians currently focus their expertise on improving the overall health of the worker, including areas such as prevention of infectious disease and decreasing obesity. These chronic conditions affect employee health and productivity in the workplace.

Occupational and environmental medicine physicians have developed expertise in assessing the ability of employees to perform work; the arrangements of work; the physical, chemical, biological, and social environments of the workplace; and the health outcomes of environmental exposures. They are skilled at using the tools of preventive medicine (primary, secondary, and tertiary) to improve the health of a defined population of workers and their families. They are also trained in the complex return-to-work (RTW) process, an advanced system of health monitoring that optimizes the time in which ill or injured workers can safely return to work. Occupational and environmental medicine physicians—especially those in large corporations—often play a key role in benefit design, bringing valuable medical

perspective to this process. In addition to the skill sets they apply to the health of individuals, OEM physicians bring expertise in the health of populations—in essence, serving as public health officers for the nation's employed populations.

In one area in particular—workers' compensation—the standard of practice by OEM physicians encompasses many of the bedrock principles of the PCMH model and ACOs. Studies show that physicians who adhere to established best practices in workers' compensation cases improve patient health results and reduce costs.[9,10] Occupational and environmental medicine physicians in workers' compensation are trained to be outcome-oriented, placing a premium on returning functionality to injured or ill employees and returning them to the workplace in a timely manner. They also focus on measurable outcomes, controlling costs, and integrating care across a team, which can include primary care physicians, specialists, physical therapists, industrial hygienists, employers, and many others—mirroring the goals of PCMH and ACOs. In sum, OEM physicians represent an *integrating* health profession, serving as a connecting link between the community-based health care system and employer-based health services.

About This Document

This document explores the potentially powerful connection between the OEM community in the United States, ACOs, and the PCMH, and outlines the key points of intersection between the three (Fig. 1). Features of employer-sponsored health services that are essential to and complementary with those available in PCMH and ACOs are highlighted, along with opportunities to integrate OEM services more fully into the PCMH/ACO model to make it more effective.

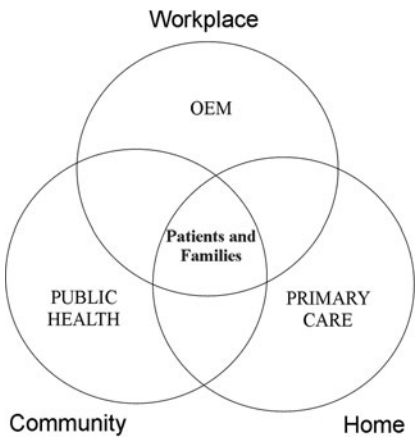

FIGURE 1. Connections between the workplace, the community, and the home.

A wide range of current infrastructure resources in the workplace are also highlighted—resources that could be leveraged to dramatically extend the impact of PCMH and ACOs. These range from a deep and wide infrastructure for supporting health behavior change (employee benefit design, workplace incentive programs, and social reinforcement mechanisms) to employer-sponsored health innovations such as exercise facilities, workplace nutrition programs, and worksite clinics delivering urgent, and sometimes primary, care in addition to occupational health services.

This article examines OEM's already well-established alignment with the whole-person concept that runs through the PCMH/ACO model, highlighting medical surveillance in the workplace, the use of health risk assessments, and case management in programs such as workers' compensation. In addition, this article offers unique structural components that could be actually added to the PCMH/ACO model to make it more effective: For example, OEM's expertise in maintenance and restoration of function as a health outcome, which could be useful in PCMH, use of business-relevant health and productivity outcomes measures and metrics or its use of evidence-based guidelines and its growing ability to demonstrate return on investment gained from workplace health programs, both of which could benefit ACO strategies. The document concludes with a set of basic recommendations for bringing the employer community, PCMH and ACOs into closer alignment for the overall benefit of the nation's patients, creating a new health care paradigm comprising these three elements.

THE EMERGING ROLE OF ACOs AND PCMH IN US HEALTH CARE

The rise of the PCMH and ACO concepts within the US health care system has been rapid—coalescing and gathering momentum recently.

The PCMH Concept

Although the ideas behind the PCMH concept have been discussed for years, the idea gained significant traction in 2007 when the AAP, AAFP, ACP, and AOA adopted a set of joint principles describing the characteristics of the PCMH.[4] Following are among the key principles in the PCMH concept, as envisioned by these groups:

- *Personal physician*: In a PCMH system, each patient has an ongoing relationship with a personal physician.
- *Physician-directed medical practice*: The personal physician leads a team of individuals at the practice level who work collectively to provide care. Patient-centered medical home teams may include a wide range of participants—from physicians, physician assistants, nurse practitioners, nurses, and pharmacists to social workers and educators.
- *Whole-person orientation*: The personal physician is responsible for providing care directly or arranging for care by coordinating with other qualified professionals. The care settings range from acute care to chronic care, prevention, and end-of-life care. An emphasis is placed on prevention.
- *Coordinated care*: Care is coordinated across all levels of the health care system—ranging from physician offices to hospitals to home health care and nursing homes. Patients receive care when and where they need and want it, in a way that responds to their unique needs.
- *Quality and safety*: Quality and safety is ensured through the use of evidence-based medicine (EBM), clinical decision support tools, patient engagement in decision-making, information technology, performance measurement, and continuous quality improvement strategies.
- *Wider access to physician services*: Enhanced access is made possible through open-scheduling systems, electronic communication, and other methods.
- *Payment reforms*: Payment becomes a key tool in advancing the PCMH concept; physicians are incentivized to make the system succeed, sharing in the savings from reduced hospitalizations and for achieving measurable and continuous quality improvements or adopting information technology, for example.

PCMH: "Neighbors"

In 2010, the ACP published *The Patient-Centered Medical Home Neighbor: The Interface of the Patient-Centered Medical Home with Specialty/Subspecialty Practices*.[10] This monograph outlined an approach to integrating specialty and subspecialty practices with the PCMH to assure effective coordination of care and meet the goals of the PCMH. The occupational medicine clinic, whether located at an employer's worksite or in the community, is an important PCMH neighbor, which brings not only a valuable clinical specialty but also a key linkage with employers.

Accountable Care Organizations

Although PCMH provides the centerpiece for a new, more efficient, and effective health system, it relies on another component to achieve its potential—the ACO. Some view ACOs as representing a greater "medical neighborhood": the extensive community of specialists and other providers that, together, comprise an accountable system that delivers value-based care and ensures cost savings, largely through assumption of

financial risk due to projected health care cost trends. If health care cost trend is mitigated, then ACOs will share in a portion of the savings. According to the US Department of Health and Human Services, ACOs are intended to provide better care for individuals, better health for populations, and slower growth in costs through improvements in care and a more satisfying care experience for both patients and providers.[11]

The establishment of ACOs is formally outlined in the recently passed ACA, and a new Center for Medicare and Medicaid Innovation has been established and charged with implementing demonstration projects of both ACOs and the PCMH. In the fall of 2011, the National Committee for Quality Assurance released the standards and guidelines that compose its new Accountable Care Organization Accreditation Program, and the first ACO contracts with Medicare were established in January 2012.

Although the structure and implementation of the ACO and PCMH concepts are still being discussed and debated, there is widespread agreement that they represent reasonable approaches to improve health care quality and lower the current cost trend. The Obama Administration has estimated that ACOs could deliver nearly $1 billion in savings in the first 3 years of their rollout under Medicare.[12] Savings gleaned from the implementation of ACOs would be distributed as bonuses to participating hospitals, other organizations, and physicians, who meet quality standards and keep costs below benchmarks set by the government. Without the support and participation of the employer community these goals will be difficult to achieve.

Participants in Medicare ACOs may include physicians in group practices, networks of individual practices, hospitals that employ physicians, and partnerships involving these groups and other health-provider organizations, such as long-term care facilities.[13] Elements of ACOs include the following:

- Care teams, composed of primary care physicians, physician assistants, nurse practitioners, specialists, and others who coordinate patient care across the spectrum of an illness episode and health status.
- Added focus on use of EBM, quality outcomes, and safety engineering.
- Increased use of information technology in all aspects of care.
- Reduction of high-volume and high-profit margin services, new emphasis on value and outcomes.

An evidence- and outcome-based system of best practices, as envisioned in the ACO model, has the potential to return significant savings to Medicare, which, according to former Centers for Medicare and Medicaid Services Director Don Berwick, MD, spent $26 billion in 2009 on care for patients who returned to hospitals within a month of their release.[14] In the private sector, various health care entities are also establishing ACO demonstration projects. In a large-scale pilot project in New York, for example, in 2011, six health plans paid incentives of $1.5 million to 236 primary care physicians in 11 practices for demonstrating PCMHs in New York's Hudson Valley. In combination, the practices impact nearly a half million patients in the Hudson Valley area.[15]

WHY EMPLOYERS CARE ABOUT ACOs AND PCMH

Health care costs in the US continue to rise sharply—an issue that affects both individuals and employers. Average employer medical costs increased rapidly in the decade between 2000 and 2010, and show no signs of slowing down.[16] Between 2001 and 2011, employer premiums for health insurance more than doubled according to the Kaiser Family Foundation.[17] Employers are increasingly impacted by a number of significant national health and demographic trends, for example:

- *The incidence of chronic health conditions is increasing across all age groups in the United States*. It is expected that in the near future, conditions such as diabetes, heart disease, and cancer will add an enormous burden to already high costs of health care spending. One study found that more than 80% of medical spending goes toward care for chronic conditions.[1]
- *Health risks leading to chronic conditions are also on the rise*. According to the US Centers for Disease Control and Prevention, in 2007, only one state (Colorado) had a prevalence of obesity less than 20%. Thirty states had a rate of 25% or more.[18]
- *The American workforce is aging*. It is estimated that between 2006 and 2016 the number of workers aged 55 to 64 years will increase by 36.5% whereas workers aged between 65 and 74 years and more than 75 years will increase by 80%.[19] By 2015, one in every 5 workers will be 55 years or older.[20]
- *Older workers face more health challenges*. Older workers typically suffer from chronic health conditions and have multiple health risks. Moreover, the chronic conditions most common among older workers often require more care, are more disabling, and are more difficult and costly to treat than the chronic conditions that are more common in younger age groups.[21]

Employers face these trends with great concern. Increasingly, they understand that as the health risks of the US population increase, the disease burden on the workforce increases—and they recognize that this does not bode well for their companies. Research shows that as common chronic conditions, such as cancer, heart disease, and diabetes, increase in the workplace, they drive up total health-related costs for employers.[7] Other health conditions among workers—ranging from musculoskeletal/pain disorders to depression and obesity—add additional costs.[7]

But employers' medical and pharmaceutical cost burden related to these conditions is just the tip of a potentially huge iceberg of overall costs. Employers are also now seeing evidence of significant productivity-cost impacts related to poor health. Research shows a much greater connection between employee health and productivity in the workplace than was ever realized in the past.

Studies have shown, for example, that on average, for every one dollar they spend on worker medical/pharmacy costs, employers absorb two to three dollars of health-related productivity costs.[7] These indirect costs are manifested largely in the form of presenteeism (a condition in which employees are on the job but not fully productive), absence, and disability.

Employers bear the cost of poor health in the workplace directly through employer-provided health care plans and indirectly through lowered productivity. As studies increasingly show the connection between healthy employees, lowered costs, and increased productivity, employers have become attentive to initiatives that can help them raise the level of health and wellness among their workers. The PCMH and ACO models, with their emphasis on prevention, better patient outcomes, greater efficiency, and lowered health costs, align well with employers' long-term interests related to workplace health.

Thus, employer involvement in a national movement toward PCMH and ACOs is critical. Employers are uniquely positioned to recognize, measure, and respond to the indirect costs related to poor health, as well as the direct costs, and can help raise awareness of how important both of these factors are to our overall health system.

Because OEM physicians, working closely with the employer community, are experienced at identifying these indirect costs and measuring them, they represent a strong resource for the successful implementation of the PCMH/ACO models. To achieve their goals of better outcomes at lower cost, PCMH/ACO operational systems will need to include measurements of both the direct and indirect costs of poor health.

Extending measures of indirect costs alongside measures of direct costs could help accelerate the adoption of PCMH/ACO initiatives beyond Medicare. The drivers of indirect costs—presenteeism, absenteeism, and disability—speak to the reasons why employers and purchasers "buy" health care; that is,

the return they hope to gain from their investment. The inclusion of indirect—as well as direct—cost measurements in the operational underpinnings of PCMH/ACO initiatives would yield new opportunities for promoting purchaser "buy-in" into these initiatives.

WORKPLACE HEALTH: CURRENT ENVIRONMENT AND TRENDS

Employers' interest in workplace health and wellness programming as a business strategy is clear and well documented. A growing number of companies aim to keep their workers more fit by offering resources such as health screenings for high blood pressure or cholesterol, newsletters and other health-education materials, fitness counseling and exercise rooms, and more healthy food choices in vending machines and cafeterias. They are also instituting more comprehensive wellness initiatives that involve sophisticated use of health risk assessments, behavior modification programs, and the provision of primary care clinical medical services in the workplace.

These expanding initiatives in the employer community share many of the goals and methodologies that are central to the PCMH and ACO models. Elements in PCMH and ACO programming that show up in many employer programs range from team-based approaches and coordination of care to the use of electronic information technology to drive results.

Studies show for example, a new interest among employers in EBM—a key component of both PCMH and ACOs—as a tool for achieving cost savings. Employers are using EBM as the basis for "evidence-based benefit design," a concept that allows them to assess workforce health and productivity at the individual disease level and to generate and refine strategies aimed at health improvements.[22] In this model, routine data about health and medical costs, health promotion and prevention efforts, employee health outcomes, and overall productivity are carefully analyzed and integrated to identify cost drivers and develop interventions, including case management for workers with specific diseases. Worker's compensation data, in particular, offer employers the opportunity to use a best practice measuring-and-monitoring approach to health care, with an emphasis on optimal results.

Employers are also focusing their health and wellness efforts on population health—another key component of PCMH and ACOs. In workplace settings, OEM physicians act essentially as population health officers, working with employers in a type of parallel public health system. The National Aeronautics and Space Administration (NASA), for example, has implemented a widely studied paradigm of workforce health that "requires a service construct oriented toward human performance; a health model focused on population, rather than on individual goals and objectives; and a measurement system oriented toward health status and outcomes."[23] The NASA program, focused on outcomes for more than 20,000 employees in its system, shares the ACO philosophy of continuous quality improvement processes and use of best practices, leading to improved health outcomes for populations. Medical surveillance is a core competency of the OEM physicians who often administer these large-scale population-health programs in the workplace.

A strong orientation toward preventive health is also on the rise in the workplace, another key element of PCMH and ACO planning. Organizations with comprehensive prevention programs have proven that they can lower total health care costs, with shorter sick leaves, reductions in long- and short-term disability, and improved general workforce health.[24] Common prevention strategies being introduced into the workplace include health promotion, health education, lifestyle management, job ergonomics, nutrition counseling, prenatal care, immunizations, and wellness/fitness programs. Health intervention programs aimed at addressing tobacco use or screening for high cholesterol or hypertension are becoming common in the workplace and have been shown by studies to be effective.[25,26]

Some employers are also implementing on-site clinical services that offer many of the features embedded in the PCMH/ACO construct—including EHRs and evidence-based treatment. Although the number of employers offering on-site or near-site primary care clinics is still small in the US, their potential to lower costs while improving outcomes has been well documented. One of the best examples is Quad/Graphics, a large Wisconsin-based printing firm, which instituted its Quad/Med system of employer-owned medical clinics in the 1990s. Today the clinics employ 42 full-time providers. Actuarial studies have shown that the clinics save Quad/Graphics 17% to 31% in health care costs, compared with other similar employers, while improving the health status and health-risk profile of its employees.[27]

WHY WORKPLACE HEALTH SHOULD BE ALIGNED WITH THE PCMH/ACO MODELS

The workplace is organically connected to the home and to the physical communities in which workplaces exist. Health behaviors and health risks extend across all three environments and cannot be artificially separated.[8] Just as factors in the workplace can affect health and well-being at home and in the community, activities and behaviors outside the workplace can affect health and productivity on the job. In fact, health impacts work, and work impacts health.

Research shows that it is becoming increasingly difficult to distinguish individual behavior at and away from work.[28] This makes it more difficult to draw the distinction that individuals can only directly affect their own health through their actions away from work, whereas employers only directly affect worker health through the workplace environment. The concept of health must be considered in a broader, more holistic context.

Moreover, the integration of health strategies between home, workplace, and community can have a kind of ripple effect. Studies show that employer wellness programs can be used to influence the well-being of families as well as individuals. In an IBM study, for example, more than 11,000 employees participated in a health program that included goals such as limiting fast food, walking children to school, and limiting time spent with video games. As a result, family physical activity increased by 17.1%, healthy eating increased by 11.8%, and use of videogames decreased.[29]

US Surgeon General Regina Benjamin, MD, summed it up by saying "We can't look at health in isolation. It's not just in the doctor's office. It's got to be where we live, we work, we play, we pray. If you have a healthy community, you have a healthy individual."[30]

Thus, the workplace environment cannot be ignored or approached separately in the context of a national PCMH/ACO strategy aimed at improving health outcomes and lowering costs. According to the US Department of Labor, the community of workers in the United States is vast, with 143 million full- and part-time workers. Employees spend more than 8 hours of their day in the workplace, and workforce policies influence 65% of all adults.[31]

This community works within a giant infrastructure that in many ways is perfectly positioned to act as a conduit for a national health improvement effort. The natural advantages the workplace brings as a setting for health improvement strategies include:

- Workplace programs can reach segments of the population who may not have access to health information in other settings.
- Workplace programs are readily accessible to employees, who spend much more time in the workplace than in their clinician's office.
- Workplaces concentrate groups of people together who share common purpose and culture.
- The work environment can be utilized to advocate for and provide access to healthy lifestyles.

- Communicating with workers is straightforward, due to well-established and organized communications channels.
- Social and organizational supports are available in the workplace.
- Organizational hierarchies make possible the efficient introduction of new procedures, practices, and norms.
- The physical environment of the workplace can be used to affect health behaviors (cafeteria/food selection, ergonomic office design, use of stairways, landscaping, etc).
- Financial and other incentives can be utilized in the workplace to gain participation in programs.[32]

It makes abundant sense to better integrate the growing effort among employers to improve the health of the workforce—using the nations' built-in employer infrastructure and resources—with the aims and purposes of the new PCMH and ACO models. By aligning and increasing these efforts, the spirit and intent of PMCHs and ACOs could be leveraged dramatically for greater impact on overall health care reform.

OEM'S UNIQUE RESOURCES: UNLEASHING THE POWER OF WORKPLACE HEALTH STRATEGIES AS A PART OF A NEW NATIONAL HEALTH VISION

What role can the nation's OEM physicians play in this effort? As noted, a wide range of current PCMH/ACO-friendly resources already exist in the workplace. These range from a substantial and well-established infrastructure for supporting health behavior change (employee benefit design, workplace incentive programs, and social reinforcement mechanisms) to employer-sponsored health innovations such as exercise facilities and workplace nutrition programs.

Physicians trained in the core competencies of OEM have played a major role in the conceptualization, development, and administration of many workplace health resources—which have expanded significantly in recent decades. The OEM community is an important driver behind the new effort by employers to bring a true culture of health to the workplace.

Occupational and environmental medicine physicians have become the nation's leading experts in the complex interplay of factors that affect health in the workplace, developing expertise in assessing the ability of employees to perform work, the physical, chemical, biological, and social environments of the workplace, employer health plans, and the health outcomes of environmental exposures. They have unique clinical training in managing the health of individuals as well as the health of populations, and they are skilled at using the tools of preventive medicine to improve the health of a defined population of workers and their families. Perhaps most importantly, OEM physicians occupy a critical position at the center of virtually all health-related transactional activities in the workplace. They represent the single part of the workplace health infrastructure that is often connected with virtually all of the other parts—senior management; benefits and human resources; legal; worker's compensation; government regulatory agencies; labor and unions, hospitals, and public health organizations. Occupational and environmental medicine physicians are a fulcrum of workplace health, serving as an important point of liaison between employer, employee, government, and all components of the health care system—understanding the needs and challenges of each of these diverse groups. They provide a unique bridge between the clinical/scientific medical community and the business-based employer community.

With training in a diverse set of competencies, OEM physicians display practice attributes that mirror many aspects of PCMH and ACOs. Their focus on population health management, for example, enables OEM physicians to design and implement strategies crucial to improving the health of defined populations as envisioned by ACOs. Their familiarity with workers' compensation and disability management systems provides grounding in the sort of team-oriented, integrated care envisioned by the PCMH model. As "preventionists," OEM physicians are particularly skilled at risk-factor analysis, an element of the PCMH model that is increasingly used by employers as a means of preventing health issues with their workers and lowering costs. All of these services and others provided by OEM physicians extend the reach of the PCMH/ACO model by serving as a part of the "medical neighborhood" of care that complements the PCMH.

As noted earlier, OEM physicians also have the advantage of understanding and developing care strategies that recognize and seek to manage indirect costs and their sources, alongside direct costs. Of all the clinical specialties, they are best positioned to lead an effort to incorporate indirect cost measures into the PCMH/ACO models.

Opportunities to Integrate OEM Services into the PCMH/ACO Model

With diverse training and unique skill sets, OEM physicians are at the helm of an infrastructure that is well positioned to be integrated as a functioning piece of the new PCMH/ACO paradigm. Population health care has evolved significantly in recent years at many large employers, incorporating creative new approaches and sophisticated programs that impact delivery of care far beyond responding to individual injuries or illnesses. Examples of workplace resources that are already positioned to become a more formal part of a larger national PCMH/ACO offering include the following:

- *On-site OEM clinics*
  - Worksite clinics can be included as physical extensions of community-based medical homes, and provide urgent care, chronic condition monitoring, and preventive care screening. In particular, improved access to point-of-care services can be utilized to promote effective chronic condition management. For small clinician practices, access to supplemental clinical staff may help to off-load low-intensity health care services, freeing the physician for more high-acuity/high-intensity patient care needs. It may also be appropriate to consider worksite clinics functioning in this role as eligible for a portion of outcome-based performance incentives. In this scenario, worksite clinics can provide support for PCMH by serving as a bridge between patients and their primary care physicians. Clinic personnel can offer support for chronic disease management, for example, or provide health education and lifestyle management. Rather than competing with PCMH, OEM worksite clinics in this way can bring additional resources to PCMH.[33]
- *Employer-sponsored programs for workers*
  - Health coaches, employee assistance programs/behavioral health services, exercise facilities, health messaging, healthy nutritional environment, social support, and health screenings have all become more common in the workplace.
  - As described earlier, worksite-provided health-related services can complement existing community primary care services. Improved access to these services for employees can facilitate engagement and promotion of healthy lifestyle behaviors, which may be adopted by family members, and help to reduce the disparities of health care access.[34,35]
- *Financial and social opportunities to support behavior change*
  - Occupational and environmental medicine clinicians can collaborate with employers to incorporate financial or other incentives into the workplace to promote healthy behaviors. In addition to representative examples of benefit design, activity-based incentives, and a healthy-food-choice subsidy, these strategies can be broad ranging and include elimination of co-pays for access to primary care services, as some employers have done.

- In collaboration with workgroups in an organization, OEM resources can trigger the power of social networks to promote healthy lifestyles.

■ *Near-site full service primary care clinics*

- Under the guidance of OEM physicians, some employers have implemented near-site primary care for employees and family members, with a comprehensive delivery model that has incorporated the elements of the PCMH model. Use of employer-provided primary care clinics are often incentivized through lower out-of-pocket employee and family member costs. In rural communities and underserved areas of the country, these clinics have an added advantage in that they can help reduce health access disparities that these areas frequently face.

■ *Whole-person services*

- Medical providers, in general, have not adopted a practice of acquiring information about a person's job that may be critical to understanding that person's health or ability to work safely.[36] Although a cornerstone of PCMH care is whole-person orientation, the OEM clinician augments the whole-person perspective by including a deep understanding of the relationship between a worker's health and his or her job hazards and demands. Work-focused services include workers' compensation management, preplacement physical capability examinations, medical surveillance, and ergonomic consultation. The findings of these evaluations can complement existing primary care practices.

■ *Assessment of work fitness and disability prevention and management*

- One of the important attributes of OEM physicians is that they can provide support for stay-at-work and RTW practices. In this role, injured or ill workers can return to work in a more timely and medically safe manner. Collaboration between community PCMH and OEM physicians can generate employer value by optimizing workforce health and productivity. Ultimately, employer-based disability prevention and management programs benefit the greater society by reducing the number of people requiring social security disability insurance.

■ *Public health, surveillance, and disease prevention in conjunction with community-based public health*

- Occupational and environmental medicine physicians, like those in other specialties, are increasingly adopting electronic medical records. Their growing presence in the OEM community will eventually be an essential component in the effort to more tightly connect health across the boundaries of home and the workplace—especially facilitating the connection between OEM specialists and primary care physicians.
- In the workplace setting, OEM physicians may be among the earliest to identify and monitor for outbreaks of infectious conditions among employees. They are also in a position to promote public health interventions in the workplace, including infection prevention behaviors, such as hand washing and social distancing, as well as provide a convenient source of immunization programs for employees. In recent years, workplace health programs have become much more proactive; medical professionals bring health strategies and messages directly to employees, rather than passively waiting for them to attend clinics or report health issues.
- Other resources include:
  - Mass immunization and screening, such as flu shots, biometric testing/diabetes screening.
  - Environmental interventions.
  - Safety improvements in work environments.
  - Proactive employer interactions, including offering healthier food options, opportunities for physical activity through environmental design, creating recreational opportunities.

■ *Practice guidelines*

- Occupational and environmental medicine evidence-based guidelines emphasize functional outcomes as a part of health measurement and return to activity and work as part of a treatment plan. Screening for psychosocial factors, such as depression, which can increase the severity of many conditions, and the judicious use of opioids/pain management, can be provided by OEM clinicians in a worksite clinic setting. These clinical care activities can either complement—or in regions of limited clinical community resources, supplement—the available offerings as a part of the guidelines process.

Putting the Concepts into Practice: IBM and Quad/Graphics

Employers are increasingly creating workplace health initiatives that put to use many of these OEM capabilities and strengths for the benefit of their employee populations. Two leading examples are IBM and Quad/Graphics, which have created sophisticated health infrastructures that have led to documented improvements in health outcomes as well as cost savings.

IBM

IBM has become a leading proponent of a modernized, digitally connected model of health care delivery, with a focus on better integration between all members of the health care team. It has launched the Patient-Centered Primary Care Collaborative in an effort to create an environment of coordinated, integrated, accessible, and compressive care for employees. A number of pilot projects structured with coordinated care in mind have delivered measurable results for IBM: In one pilot study, the new coordinated care model resulted in a 36.3% drop in hospital days, 32.2% drop in emergency department visits and significant savings in costs. IBM's collaborative program emphasizes population health management, patient-centered prevention, and integration of efforts among primary care, hospitals, and specialists who are accountable for the quality, outcomes, and cost of health care received by that population. As a part of its move toward coordinated and integrated care, IBM now asks health care plans to offer patient self-management support, performance outcome measures, open scheduling, the use of EHRs, and other elements commonly found in both ACOs and the PCMH concept.[37–39]

Quad/Graphics

By creating worksite health clinics that focus on comprehensive primary care and wellness programs, the Wisconsin-based printing company Quad/Graphics transformed itself from a purchaser of health insurance to an investor in employee health and productivity. The worksite clinics, managed through its subsidiary, Quad/Med, place a high priority on patient health and convenience by organizing care so that it is oriented toward prevention and outcomes rather than production. Patient visits, which last 30 minutes or longer, enable physicians to address health prevention needs and promote the company's wellness programs, which promote physical activity, weight loss, smoking cessation, and early identification and control of diabetes, as well as risk factors for cardiovascular disease. The company's health care model has helped to lower costs, improve health outcomes for employees, and enhance their experience of care.[27]

WHERE DO WE GO FROM HERE?

Strategies for Integrating OEM With the PCMH/ACO Model

Infrastructure strategies

- The workplace should be better leveraged as an ideal place to support improvement in health behaviors. A new, stronger emphasis should be placed on the inclusion of the workplace as one of the key settings for addressing individual and population health.
- PCMH and ACOs should take advantage of the population health management experience and skills of occupational physicians, many of whom effectively manage populations. Occupational and

environmental medicine physicians will play a central role as integrators of employer and community-based health resources.

- An effort should be made to build awareness that the social benefit of enhanced productivity from improved health requires engagement of employers to support disability prevention programs. To promote this awareness, the development and integration of measures of indirect costs and the factors that drive them should be integrated in PCMH/ACO operations.
- Employers should work with the government sector and medical community to establish a roadmap for integrating the PCMH and ACO models with current workplace health-oriented infrastructure to accelerate adoption of a true workplace culture of health.
- Initiatives should be launched to integrate efforts at creating a workplace culture of health with similar efforts in the communities in which workplaces are located. Employers should engage with local institutions, ranging from city governments to schools and not-for-profit organizations.
- A more standardized system of metrics should be developed in conjunction with employers and OEM providers to better measure the impact of workplace health initiatives on both health outcomes and total benefit costs, including productivity costs. Accountable care organizations must be able to address and measure concepts such as "work capacity," disability prevention, and RTW prescriptions.[40]
- Financial incentives being considered as a part of the PCMH/ACO models should be translated and extended into the workplace to extend the focus on full cost savings (absenteeism/presenteeism cost savings as well as medical/pharmacy cost savings), quality outcomes, and value-based decision-making.
- Similar incentives should be implemented that would encourage employers to partner with insurers who are aligned with the PCMH/ACO models. The ACA, for example, includes the promotion of PCMHs in its minimum requirements for participation by qualified health plans in health insurance exchanges.
- The system of EBM should always include functional status measures in addition to risk and disease status. Maintenance and restoration of function must be a part of evidence-based treatment.
- Occupational medicine residencies should be funded to ensure the supply of an ongoing and critically needed resource: the inclusion of an OEM physician as a member of the health team positioned to facilitate synergy between PCMH, ACOs, and employers.
- Alignment of major stakeholder groups whose interests are not necessarily consistent is needed to ensure PCMH/ACO initiatives gain traction. The employer/OEM community can play a major role in encouraging this effort. Tactics can be shaped and implemented to foster and advance the collaboration and cooperation needed from diverse groups. These tactics may include steps such as government appointments, targeted tax incentives, the establishment of best practices, and the creation of educational programs for providers and consumers.[41]

OEM clinician strategies

- Organizations in the occupational health community, including the ACOEM (American College of Occupational and Environmental Medicine), should educate their members about the PCMH/ACO models and provide them with the tools to engage more proactively in the creation and management of PCMH and ACOs in their regions and localities.
- Occupational and environmental medicine clinicians working with employers, and particularly corporate medical personnel, should be provided with education regarding health benefit strategies to enhance their ability to more broadly apply their public health knowledge and skills to the employer setting.
- By virtue of their public health training, OEM clinicians can take a more active role in community health improvement efforts, by applying their employer-focused population health management expertise to a community level.
- Occupational and environmental medicine clinics can work with local PCMHs to be recognized as "PCMH Neighbors" important to realizing the goals of both PCMH and ACOs. In particular, OEM clinicians can use their expertise in disability prevention and management to add value for ACOs and employers in the health management of employed populations. Occupational and environmental medicine clinicians can work to integrate these principles into community health care practices, as well as ACO performance metrics.
- With their population health management experience and skills, OEM clinicians should be incorporated into the administrative framework of ACOs.
- Occupational and environmental medicine physicians should work more proactively to encourage an increase in the number of workplaces offering on-site clinical services for workers.

CONCLUSION

Accountable care organizations and the PCMH concept offer great promise in helping the United States achieve meaningful health reform. Encouraging a more team-based approach to care delivery and better coordination and information sharing between all stakeholders providing health care services can ultimately improve patient outcomes and lower costs.

Both concepts have much development work ahead before they are widely integrated in the health system; for now, much of the focus of the ACO model, for example, has been aimed at Medicare/Medicaid patients. But there are indications that the ACO/PCMH paradigm will be adopted more broadly. Hospitals and some of the largest health insurers in the country, including Humana, United Healthcare, and Cigna, already have announced their intention to form their own ACOs to serve the private market.[42] And, the PCMH continues to gain visibility, thanks to the strong backing organizations such as AAFP, AAP, ACP, and AOA.[4]

For these new paradigms to continue to evolve and to succeed in the long term, all sectors with a stake in health care will need to become better aligned with them—especially the employer community, which is structurally connected through benefit design and workplace wellness programs with the health outcomes of millions of Americans. The nation's community of OEM specialists—which is at the frontline of workplace health—is the logical catalyst and connecting link between ACOs, the PCMH concept and the nation's employers.

With its focus on disease prevention, wellness, and public health programming, the OEM community can help complete the integration of health between the home, community, and workplace, which is essential to the successful implementation of ACOs and the PCMH model. As the government continues to develop formal standards for ACOs, and leading health organizations adopt the PCMH model, the role of the workplace health community should be integrated into these efforts.

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