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Accountable Care Around The World: A Framework To Guide Reform Strategies

ABSTRACT Accountable care—a way to align health care payments with patient-focused reform goals—is currently being pursued in the United States, but its principles are also being applied in many other countries. In this article we review experiences with such reforms to offer a globally applicable definition of an *accountable care system* and propose a conceptual framework for characterizing and assessing accountable care reforms. The framework consists of five components: population, outcomes, metrics and learning, payments and incentives, and coordinated delivery. We describe how the framework applies to accountable care reforms that are already being implemented in Spain and Singapore. We also describe how it can be used to map progress through increasingly sophisticated levels of reforms. We recommend that policy makers pursuing accountable care reforms emphasize the following steps: highlight population health and wellness instead of just treating illness; pay for outcomes instead of activities; create a more favorable environment for collaboration and coordinated care; and promote interoperable data systems.

Around the world, countries are pursuing the so-called Triple Aim in health care: to increase the quality of care, slow the growth in health care costs, and improve health outcomes at the patient and population levels. One major approach to reform in the United States involves accountable care organizations (ACOs), which have been piloted during the past few years by private insurers, states, and the Centers for Medicare and Medicaid Services.¹

The rise of ACOs may seem to be primarily an American phenomenon—a reaction to fee-for-service payment and the resulting fragmented care delivery. However, the key features of accountable care reforms are by no means unique to the United States. For example, the United Kingdom, with its single-payer health care system, is implementing an accountable care pilot program called Integrated Care Pioneers. More

generally, health care systems around the world have been implementing payment reforms to give greater prominence to health and cost outcomes through more patient-focused care delivery.^{1–6}

These care delivery reforms include improving the use of evidence-based treatments for common conditions, reducing variability in resource use that cannot be clinically justified, increasing coordination of care through the use of information technology and team-based initiatives, emphasizing prevention and disease management, and giving patients a stronger voice in their own care and in defining what matters.

Traditionally, many health care systems, whether publicly funded or insurance based, have been provider or supply driven. Providers supply, and are remunerated for, separate elements of care: Each activity involves a discrete payment. Other systems have set up fixed overall

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budgets for particular health care providers. The various attempts to improve care under these supply-driven models rely on providers' taking steps to improve care that are often not well supported. For example, paying for elements of care may encourage more volume and intensity but does not directly support efforts to reduce variation or improve the coordination of care.

Meanwhile, providers that receive siloed payments for inpatient or outpatient care and for prescription drugs may have difficulty implementing reforms and coordinating care across those payment silos. Initiatives to improve care within such supply-focused silos, through either regulatory or competitive approaches, have had difficulty stemming the growth in costs and achieving significant improvements in the quality of care and outcomes.

In contrast, accountable care moves toward a demand-driven model of payment and regulation. The emphasis shifts from providers and their inputs to patients and their outcomes. In accountable care, payments are designed to support groups of care providers in achieving a defined and measurable set of target outcomes for individual patients and specified patient populations. Reimbursement is partly based on the providers' collective performance as measured against the target outcomes.

There are two distinct but potentially reinforcing formats for accountable care. The first format involves episodes of care—which are often centered on an exacerbation of a disease or the performance of a procedure, such as a coronary artery bypass graft or cataract surgery—in which a bundled payment can cover all of the steps leading to the outcomes desired by the patient.² In the second, more comprehensive, format providers become accountable for the overall health outcomes of a defined population.

The accountable care model is particularly well suited to groups with long-term and complex health care needs, including the frail elderly and people with chronic conditions such as diabetes and asthma. These groups tend to have frequent interactions with the health care system via a range of providers, and therefore they stand to gain most from better clinical integration and a sharper focus on prevention, disease management, and self-care.

The diversity of health care systems and of the accountable care reforms being implemented suggests that there is potential for learning from different implementation experiences. Drawing on early experiences with accountable care systems from around the world, we developed a globally applicable definition of such a system and a conceptual framework for characterizing

and assessing accountable care reforms.

Using the framework, we present two case examples to illustrate how policy makers from very different starting points are adopting accountable care reforms. The article concludes by discussing the steps that policy makers can take over the short to medium term to implement accountable care reforms based on these and other case examples, and how they can build on the framework to develop better evidence about accountable care.

Study Data And Methods

Qatar Foundation formed an international working group to describe and assess efforts to implement accountable care around the world. The authors collected the high-level and global views and the experiences of the working group's members (the members are acknowledged at the end of this article) via semistructured individual interviews. Meetings of the whole group were used to guide the analysis.

The authors reviewed the literature that discussed reforms broadly related to accountable care. We used the following search terms in PubMed: *accountable*, *integrated*, or *value-based care*; *bundled* or *capitated budgets*; and *health-system payment reforms*.

The search produced an initial sample of several thousand publications. Articles were initially prioritized by publication date and number of citations by other articles. We then reviewed the titles and abstracts of several hundred articles to determine whether they analyzed the implementation of reforms that were at least broadly related to accountable care. Approximately fifty articles were reviewed in detail.

After this general literature review, we expanded the literature search to identify additional articles on case examples that had been identified from the review or highlighted by the working-group members. The case examples were chosen in keeping with the observation that accountable care reforms are fairly widespread and not merely a US phenomenon (for a list of the case examples, see online Appendix Exhibit 1).⁷

In-depth semistructured interviews were conducted with the senior leaders of the organizations that managed each of the case examples. Two specific case examples, one from Spain and the other from Singapore, were chosen for a more thorough presentation here.

A Definition And Conceptual Framework

We focused on developing a definition of an *accountable care system* and a conceptual frame-

work for accountable care reform that would be globally applicable. The aim was to facilitate broad comparisons between the strategies adopted and the progress achieved by accountable care systems to help identify common success factors and to build a foundation for further analyses.

DEFINITION We defined an *accountable care system* as one in which a group of providers are held jointly accountable for achieving a set of outcomes for a prospectively defined population over a period of time and for an agreed cost.

FRAMEWORK The study identified five key functional components that are involved in implementing accountable care and that together provide a framework to assess related reforms (Exhibit 1). The first component is to define a specified population for which providers are jointly accountable. The second is to determine target outcomes for the specified population—outcomes that matter to people in that population, including resource use.

The third component is to develop and refine metrics to help determine whether outcomes are improving and to learn from these measure-

ments and variations in results. The fourth is to restructure payments and other incentives to align with the target outcomes, so that providers share the financial risk of failing to deliver the target outcomes. The fifth is to implement steps to coordinate the delivery of care within teams of clinicians, across providers, and between providers and patients to improve that delivery.

Case Examples

Our detailed assessment of two accountable care case examples is presented below. Further examples of accountable care implementation can be found in the report we presented in December 2013 at the World Innovation Summit for Health, an initiative of Qatar Foundation, in Doha.⁸

RIBERA SALUD, SPAIN In the Valencia region of Spain, the private health care services company Ribera Salud pioneered the Alzira model—a form of public-private partnership. Since 1999 the company has become responsible for the daily management of five health districts in Valencia.

EXHIBIT 1

Characteristics Of Successful Population-Based Accountable Care Systems, By Level Of Maturity And Key Functional Component

Maturity level	Key functional component				
	Population	Outcomes	Metrics and learning	Payments and incentives	Coordinated delivery
5	Intersections between different morbidity groups carefully planned and accounted for ^{a,b}	Outcomes that matter to people; prioritized according to individual goals ^b	Aggregated longitudinal data made public in format consistent across providers	Full capitation with minimum required quality standards; differential payments according to outcomes ^a	Clinical and data integration across full provider network; patients codesign care
4	At-risk individuals identified, using comprehensive data sources	Focus on prevention and wellness; goals adjusted according to patient risk level ^a	Results shared with patients in usable form; monitoring built into clinical work flow	Upside and downside shared savings; strong professional competition ^b	Patients empowered to self-care; care plan and managed transitions ^{a,b}
3	Registry of population integrated with EHR	Goals comparable with those of other providers and aligned with clinical global best practice	Real-time and summary learning; results shared with payer and clinicians ^{a,b}	Shared upside savings and risk for patients' whole health; performance bonus to staff	Clinicians empowered to adjust interventions to improve outcomes
2	Defined population (for example, by morbidity, age, geography, or payer)	Incorporation of patient experience into targets	Evidence-based leading clinical indicators linked to outcomes	Bundled payments with quality controls for episodes of care	Multidisciplinary team meetings; all team members used to maximum potential
1	Patient-based (instead of disease-based) view of existing funding and providers	Basic clinical outcomes decided at local level	Administrative measures, limited transparency, summary evaluation only	Pay-for-performance bonuses on top of fee-for-service or block payments	Basic electronic data sharing across providers
0	No identified population	No target outcomes	No metrics or learning	Payments for activities only	Uncoordinated provision of elements of care

SOURCE Authors' analysis. **NOTES** On the maturity scale, 5 is most mature, and 0 is least mature. EHR is electronic health record. ^aLevel of Ribera Salud (Spain). ^bLevel of Agency for Integrated Care (Singapore).

Collectively, the districts contain several hospitals and many primary care centers that provide universal access to publicly funded health care for a population of approximately one million people.⁶

Since the care provided by Ribera Salud is publicly funded, the regional government sets the same minimum targets for key outcomes—such as vaccination rates, waiting times, patient satisfaction, and safety levels—for all providers. Metrics for tracking performance are available to all clinicians online, as are weekly benchmarks that they can use to measure their performance against that of their peers.

The data are not made public. Nonetheless, clinicians report that there is a “word-of-mouth culture” among patients who discuss outcomes and quality of care, and that culture provides a further incentive for clinicians to excel.

Other providers in Valencia are paid on a fee-for-service basis. However, the regional government pays Ribera Salud an annual capitation payment, or a fixed lump sum per resident per year, for providing comprehensive health care services for all of the region’s residents, who receive care with no out-of-pocket expenses.

Because Ribera Salud wants to renew its contract, it has strong incentives to keep standards high and reach the outcome targets. It also has incentives to keep costs low, because it retains profits of up to 7.5 percent of revenues (additional profits go to the regional government). In turn, Ribera Salud provides incentives to all of its staff members: bonuses of up to 30 percent of base salary, based on performance as measured at the individual, team, and company levels.

One further motivating mechanism is patient choice. If a patient residing in Ribera Salud’s catchment area opts to access a health care provider in an adjacent health district, Ribera Salud is required to pay 100 percent of the costs, which are usually higher than its own.

Patients with complex or chronic conditions receive an integrated care plan to promote the coordinated delivery of care. Care pathways among general physicians, specialists, and other providers are increasingly being developed and refined for patients with complex or chronic conditions. Clinicians are able to coordinate care through the use of universal electronic health records (EHRs).

The Alzira model has produced impressive quality and cost results. The capitation cost is barely 75 percent of the cost per resident elsewhere in the Valencia region. Additionally, waiting times are shorter and readmission rates are lower than the regional averages.⁶

AGENCY FOR INTEGRATED CARE, SINGAPORE In 2008 the Singapore Ministry of Health set up the

Agency for Integrated Care to reform long-term care delivery, particularly for the city-state’s soaring elderly population.⁹ One of the agency’s early priorities was to refine the segmentation of elderly patients. For instance, elderly people with chronic conditions who are living in the community have particular needs if they are near the end of life.

For several patient groups or populations—initially the frail elderly and patients near the end of life—the agency defined specific outcome measurements, evaluation metrics, and care delivery pathways. Among the initiatives launched by the agency were the Singapore Programme for Integrated Care for the Elderly (SPICE), a community program that uses both local care centers and home care to enable frail elderly patients to be cared for in the community instead of in a hospital, and Holistic Care for Medically Advanced Patients (HOME), a program that provides palliative care in the patient’s home.

The populations for each of these two initiatives were carefully defined. For example, the HOME program covers people with end-stage heart, lung, liver, or renal failure (comorbidities are common). Through the use of EHRs, eligible patients are accurately assigned to one of the two initiatives. Additionally, national patient registries for each of the two patient populations were developed.

Outcome targets for these programs are defined with an emphasis on wellness and according to surveys of patients’ preferences, such as where participants in the HOME program wish to die. Administrative and clinical metrics are specified as key performance indicators that are part of detailed evaluation frameworks. Measurements range from patient satisfaction to caregiver stress.

Evaluations are conducted by the agency every six months. Funding models include capitated monthly payments and allow providers to pool and redirect resources toward care reforms that improve outcomes, while also facilitating patients’ transitions to appropriate care settings.

The patient-focused funding model supports Aged Care Transition teams to help ensure the coordinated delivery of care after a hospital discharge. The teams consist of transition coordinators who access national EHRs that are linked to patient registries, track all relevant patients, and transition them from a hospital to an optimal care setting. The transition coordinators manage referrals of patients and supply integrated information for case management to other providers, with a particular focus on high-intensity hospital users.

Outcomes are positive. The Aged Care Transition teams have reduced thirty-day hospital re-

At the most comprehensive level, population-based accountable care involves whole-person accountability.

admission rates by more than 40 percent.¹⁰ SPICE has halved the number of emergency department visits among its population.¹¹ And of the patients who died within one year of the launch of the HOME program, about 70 percent of those who stated their preferred place of death as their home died there.⁹

The annualized savings attributed to the Aged Care Transition program has been 17,000 hospital days, worth more than US\$11 million.⁹ The Agency for Integrated Care is expanding its existing programs and launching new initiatives—in mental health and social care, for instance—to cover other segments of the elderly population.

Accountable Care: The Implementation Journey

Based on the literature and our case examples, it is clear that provider groups and payers that have successfully adopted accountable care models often did so incrementally. They tended to start with pilot programs and other initial steps toward accountable care goals and then to make multiple adjustments; incorporate lessons learned; and gradually build shared trust, more sophisticated data systems, and technical capabilities.

As shown in Exhibit 1, this progressive journey toward more comprehensive accountable care can be mapped for each of the categories of our framework, from the adoption of basic accountable care characteristics (level 1) to an advanced state of accountable care delivery and payment formulas (level 5). Exhibit 1 shows where Spain's Ribera Salud and Singapore's Agency for Integrated Care fit in the framework.

Note that each level builds on its predecessors. To reach level 4, for example, an accountable care system has generally already incorporated the capabilities in levels 1, 2, and 3. The information in Exhibit 1 can help payers and providers assess their own health care systems and

identify potential improvements.

POPULATION Accountability may focus on particular health problems and their treatment. However, accountable care reform efforts have generally found that patients' health care needs often span multiple conditions and health risks.

At the most comprehensive level, population-based accountable care involves whole-person accountability. This means that providers are accountable for all of a patient's health care needs and outcomes (and potentially for social services and behavioral care that also affect health). Thus, even if the population is based on a single condition, such as diabetes, payments would assume that providers are accountable for all of the patients' health care needs—not just care specifically related to diabetes.

OUTCOMES Accountability for outcomes encourages care reforms that focus on the effective long-term management of chronic conditions and the promotion of wellness and preventive care. The target outcomes should consist of those that matter to the patient. They encompass both health-based and non-health-based determinants of value and include practical benefits related to the person's overall wellness—such as increased mobility or reduced risk of stroke. Outcome measures also account for the patient's reported experience of care and stated preferences, such as a preference for dying at home instead of in a hospital.

Crucially, the targets are not based on activity, although resource use outcomes are important for promoting efficiency. Different populations call for different outcomes. Every patient should have a say in prioritizing his or her own set of outcomes.

METRICS AND LEARNING Accountable care reforms around the world are focused on improving outcomes. However, the outcomes of greatest interest to patients may be difficult to measure in a timely and reliable manner. For clinical outcomes in diabetes care, for example, monitoring usually relies on intermediate metrics such as glycosylated hemoglobin levels, which eventually translate into improved outcomes.^{2,12} Tracking is also often done on administrative targets—such as the avoidance of potentially preventable hospital admissions and rates of readmission—as indicators of inappropriate care and missed opportunities for care coordination.

Metrics should include resource use and levels of individual self-reliance. As experience with accountable care increases and data systems improve, measures can be refined not only to address measurement gaps but also to include more sophisticated risk adjustments for patient factors, such as disease severity, that influence

outcomes. Standardization across organizations and countries is increasingly being pursued, through organizations such as the International Consortium for Health Outcomes Measurement.¹³ Measures may also focus on performance improvement instead of performance levels.

PAYMENTS AND INCENTIVES Accountable care systems are at different stages in linking payments and other incentives to outcome measures. Long-running and well-developed accountable care systems, such as Ribera Salud, often remunerate providers on a capitated basis. If the providers fail to meet minimum quality standards for the care provided, they suffer reduced remuneration or face the risk of losing contract renewals to competing providers.

Providers often take steps to implement performance-related remuneration within their organization or network. They might tie a portion of pay for all of their staff members, not just clinicians, to the overall record of the provider or provider network in meeting outcome targets.¹⁴

In addition to these financial incentives, indirect incentives may be introduced. An example is the publication of transparent evaluation data to stimulate competition between clinicians.

Patients are also involved in accountable care incentives, with patient engagement increasingly forming part of reforms in many countries. Two promising examples are noteworthy. In several countries, including the United States, patients are sometimes offered reduced insurance premiums or copayments when they choose lower-cost, high-quality providers. And in some countries, including South Africa, patients can receive rewards such as shopping vouchers in return for participating in exercise classes or other health-promoting activities.

COORDINATED DELIVERY Payment reforms allow accountable care providers to more effectively support the coordination of care and other important patient services that are not well funded under traditional payment mechanisms. Coordination across a group of providers is more straightforward in single-provider delivery systems, which can more easily implement automated, fully integrated information systems and other shared activities. When the members of the provider group do not belong to a single organization, a joint process to collaborate and promote effective communication is required.⁴

If payments are fragmented, broad collaboration may be difficult to achieve. A gradual approach might be best in such cases, starting with payment reforms that reduce fragmentation within primary and secondary care and only later expanding to social and behavioral care. Singapore's Agency for Integrated Care has taken this approach.

Accountable care systems are at different stages in linking payments and other incentives to outcome measures.

Indeed, such gradual approaches may be a more efficient way to achieve the best population health results at the lowest cost. For example, some US accountable care organizations that consist only of primary care physician groups are making progress on selective contracts with specialists and hospitals for providing episodes of care.¹⁵ The providers are not fully integrated. Nonetheless, these physician ACOs can take on population health accountability and make notable progress.¹⁵

Improved coordination of care should allow more task shifting within and between the collaborating provider organizations, enabling team members to act at the top of their license and implement innovations in care that might otherwise be difficult to support. Often such reforms give patients better tools and education to increase their confidence in managing their own care at home, avoiding hospital admissions and consultations with specialists.

Early Evidence Of Impact

Many accountable care reforms are in their early stages, and some have clearly not succeeded in reducing costs. Nonetheless, emerging evidence across diverse settings and countries shows that accountable care reforms can improve the quality of care and health outcomes substantially and sometimes rapidly.

Several accountable care systems that meet our definition have shown strong evidence of enhanced care quality and patient experience,^{2,3,5,10,11,13,16–18} including many of our case examples (see Appendix Exhibit 1).⁷ Unnecessary treatments have been reduced,^{16,17,19} as have admission and readmission rates.^{4,6,10,11,13,16,18}

Health outcomes can improve dramatically,^{2,3,5,10} with the effects often apparent after just two or three years.^{2,5,13,17,19} Integrated delivery systems, such as Ribera Salud in Spain and various organizations in the United States, have proved

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particularly successful.^{6,16} Networks of independent providers have often shown more modest successes.^{4,17,18} However, there are also examples of successful and sustained cost reductions.^{5,17,20} The greatest savings are often achieved with those cohorts of patients for which the accountable care model has the greatest potential: the elderly, the vulnerable, and people with multiple chronic conditions.^{8,9}

However, some studies indicate that overall cost savings during the early years of accountable care reform programs tend to be modest.^{3,4,8,13,17} To achieve short-term savings, accountable care reforms might do best to concentrate on high-risk patients (who account for most of the costs in the short term) and on patients whose cases are amenable to a few substantial yet specific and fundamental changes in care regime.

Potential reasons for delays in cost savings are the high transaction costs of collaboration in the early stages and the investment needed to change systems and build new capabilities—including the successful implementation of the noninstitutional and self-care aspects of accountable care. Clearly, more work must go into finding ways to secure more reliable short-term savings from accountable care reforms.

We found significant accountable care reform activity worldwide, with positive impacts on outcomes and quality. This suggests that greater efforts to learn from these experiences could help accelerate health care reforms in many countries. Because there is no widely used framework for tracking accountable care reforms, our results have necessarily been based on a review of the literature and on case examples. As accountable care becomes increasingly widespread, this work can be a foundation for more systematic evaluations.

Implications For Policy Makers

The transition from a supply-driven system based on activities to a demand-driven system

based on outcomes is a fundamental one. Adopting accountable care requires a rich understanding of data and the development of new capabilities and forms of collaboration. It may also involve the reconfiguration of markets, payments, and organizational culture. Evidence on how to succeed in accountable care reform is still emerging. However, the accountable care framework can support a wide range of reform initiatives aimed at improving outcomes while lowering costs.

A key attribute of accountable care that is seen across the global evidence base is its iterative nature. Policy makers have learned and are still learning from successes and failures alike. Not everything can, or should, be done at once. Implementing accountable care requires multiple steps that will vary according to the specific starting point and local circumstances, including the heterogeneity of the population, economic and technological status of the region, balance between private and public funding of the legacy health care system, and related considerations.

Priorities and opportunities will differ from country to country and from system to system. One common priority, however, is a steady commitment by policy makers, clinicians, patient advocates, and other stakeholders to implementing reforms that deliver measurably better results at lower cost.

We identified four common “no regrets” actions that we believe policy makers should take, which we describe below.

TAKE A BROADER PERSPECTIVE THAN ILLNESS

In shifting the focus from activities to outcomes, policy makers also need to shift the focus from illness to wellness or population health. The policy emphasis should shift from supporting particular providers such as hospitals and other health care institutions toward taking the most promising steps to improve population health, including greater emphasis on preventive medicine, primary and community care, public health, and social and behavioral care.

For policy makers, this more holistic approach will usually involve developing strategies such as working across funding streams; securing agreement on key outcomes for each population; creating mechanisms to link data sets; developing novel workforce approaches that integrate different teams; and pressing providers to report their outcomes more fully to increase data transparency, sharpen competitiveness, and refine treatment protocols.

START TO PAY FOR OUTCOMES Just as increasing transparency on outcomes should lead to improved performance, so should adjusting payment mechanisms to reward outcomes. This adjustment will also signal to providers that health

system priorities are truly changing. The adjustment is best made incrementally, with initially modest transfers of risk to providers (such as case-based payments tied to results and shared savings) and progressing toward shared risk and partial or full capitation.

One way to begin is by applying episode-based models for measuring quality, outcomes, and resource use for prevalent, high-impact diseases. This will enhance the evaluation data and build providers' capabilities for managing risk and coordinating care. Launching population-based approaches can be implemented later.

CREATE A FAVORABLE ENVIRONMENT FOR COLLABORATION Creating an environment that is favorable for collaboration to improve outcomes will take strong clinical and managerial leadership and continual learning. It could also involve adjusting market mechanisms to reduce transaction costs.

To that end, policy makers may need to take measures such as revising data-sharing and payment regulations to facilitate collaboration; determining more disease- or person-focused approaches to choice and competition—that is, competition across bundles of services or systems of care instead of on fee-for-service rates or administrative efficiencies; offering external program evaluation support to new implementations;²¹ and collecting and disseminating lessons from national and global examples.

ENCOURAGE ADOPTION OF INTEROPERABLE DATA SYSTEMS To achieve clinically integrated

care and help stratify the patient population by risk category, it is essential that information systems allow multiple providers and patients to share data and access them in real time. These data should be integrated directly into the clinical work flow.

Early initiatives might include facilitating the use of EHRs to establish patient registries that can describe treatments and track complications across settings of care. Policy makers will face several challenges here: how to strike a balance between data privacy and data sharing, how to enforce common reporting standards, and how to find ways for patients to access their own records without compromising confidentiality.

Conclusion

Many accountable care reforms around the world are in their early stages, and they involve a broad variety of health care organizations, populations, and starting points. As a result, detailed evidence is still fairly limited on the best approaches to refining accountable care, and even on the impact of accountable care overall. However, the evidence is accumulating rapidly. The framework presented in this article provides a basis for more systematic assessments of the growing number of international experiences in accountable care, and for converting them into best practices and policies for achieving wide-ranging health improvements and cost reductions. ■

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