More than 30 years ago, competing banks formed the VISA credit card collaborative and, together with the merchants, built a real-time, private financial information exchange at the point of service. Transactions are processed for less than one cent. Some people wonder, If the banking industry can do this, why can’t healthcare? Well, it can.

Using a VISA-like approach, U.S. patient, physician and hospital leaders are building a medical information exchange network. Through the not-for-profit Patient Safety Institute (PSI), Plano, Texas, they’re demonstrating and developing the organization and network needed for the economies of scale to make connectivity possible.

A neutral organization in which all affected parties have equitable representation in decision-making, PSI aims to be the overseeing organization to facilitate access, delivery and exchange of patient information (with consent) via the national network. Recognizing that such a system must be cultivated, not artificially imposed, PSI has begun building the network in the state of Delaware. It plans to develop technology and organizational structure in tandem.

In laying the foundation, PSI has identified the essential requirements for national clinical-information connectivity. The technical building blocks of such a network account for only part of the requirements and include network architecture, communication standards and protocols, electronic clinical data availability, an acceptable patient identifier, and a national focus and design.

The more difficult requirements concern governance, organization and operations. A viable legal and financial model, which must be community driven and patient supported, is necessary. And the organization must be trusted and willing to assume cross-industry governance. When all these parts are in place, they create a catalyst for interoperability and electronic medical record (EMR) adoption among physicians.

Technical building blocks
Open, nonproprietary, scalable and inexpensive infrastructure architecture is essential. For a universal network, all system users or data providers need interconnectivity without having to change their existing or future IT systems. The most cost-effective architecture for an individual facility or small group of hospitals is rarely compatible with the architecture needed to take advantage of the economies of scale available with regional or national network models. Local networks are great for providing viability. However, without a national collaborative governance organization, community networks alone perpetuate the current fragmented, proprietary morass of care, similar to bank credit cards pre-VISA.

For any communication network to become effective, there must be agreement on the basic rules for connectivity, operating protocols and policies. Ideally, a single organization will coordinate, manage and maintain, for all participating members, interface definitions and specifications, communication standards and protocols, security and privacy processes, and community, state and national connectivity models.

In hospitals, a significant amount of data is electronic, but in ambulatory care offices, about 80 percent of data is still paper-based. PSI will overcome this by accessing relevant data stored in the electronic repositories of key ancillary providers, such as major reference laboratories, pharmacy benefit managers, retail pharmacy chains and payers.

The PSI approach bypasses the controversial unique patient identifier issue by using a national master patient index “switch” and pointer system. This method allows facilities to retain local control of their data and numbering schemes. Sophisticated algorithms and master patient index engines can retrieve and aggregate individual patient records—with patient consent—for display to a provider, in real time and without the delays inherent in global network match searches.

Governance, organizational and operational building blocks
For success, a single, voluntary governance model with representation of all healthcare constituencies, open equally to all and controlled or dominated by none, is required. PSI’s board of directors currently represents...
each of the three essential constituencies: patients, doctors and hospitals, but PSI’s bylaws are designed to expand to include others who are ready and willing to participate.

Patient representation ensures privacy protection and encourages patient support. Patients within the PSI network always have the right of choice—to participate and grant access to their designated providers.

Gaining authority to access patient data often requires a combination of individual contracts, Health Insurance Portability and Accountability Act-related agreements, and individual authorizations. To facilitate securing and maintaining the required series of individual contracts and authorizations for a peer-to-peer network to each data source of existing or future patients, the PSI membership model uses a single national voluntary membership and authorization contract.

To save significant costs and overcome the healthcare islands that still exist, a formal collaborative, national framework is necessary. However, communities must retain local control, have a voice in national policy, and be able to select their own vendors, technology, participants and priorities.

Attempts to quantify the potential return on investment of community clinical information sharing have been meager, but a recent study by First Consulting Group, Long Beach, Calif., found potential savings of up to $40 billion annually from a fully participating national PSI model. But costs savings, as great as they may be, pale in comparison to the reduction in pain, suffering and death resulting from prevention of medical errors.

Still more benefits are possible. The state of Delaware is configuring a network to also support homeland security efforts at little incremental cost. The Western Governors’ Association, Denver, also has endorsed such a two-for-one approach. PSI estimates costs for building such a national private network at about $3 billion, with yearly operational costs at about $1 billion.

Patient groups strongly oppose any control over patients’ clinical information by either government or entities wishing to profit, necessitating a nonprofit vehicle for coordination of the information-sharing effort. The public, in general, distrusts the concept of a centralized national database of medical information and resists national patient identifiers, which is why PSI adopted the master patient index switch and pointer system.

To date, physicians have had few incentives to make the transition from paper to EMRs. PSI drives EMR adoption by giving physicians access, even if their only technology is a fax machine, to critical patient data that’s not currently available. With PSI data, the attractiveness of a single patient-centric view (PSI and paper) with integrated decision support (EMR) is significantly enhanced.

Beyond Delaware borders PSI has successfully completed a demonstration project in Seattle and announced its expansion into other markets, with endorsement from the 21-member Western Governors’ Association. In addition to building a national network, PSI has aligned with national data source companies, including Burlington, N.C.-based Laboratory Corporation of America (LabCorp) and RxHub L.L.C., St. Paul, Minn.

Dee Hock, founder and CEO emeritus of VISA, is advising PSI on issues related to governance and structure necessary for a national, cross-constituency healthcare collaborative. The speed with which PSI can scale and unlock the benefits and savings of universal clinical information connectivity is directly related to the extent of participation and support from public and private leaders for the collaborative model.

Johnny Walker, M.B.A., is CEO of the Patient Safety Institute, Plano, Texas.