



White Paper

Why California is Ready for Statewide Health Information Exchange

White Paper: Why California is Ready for Statewide Health Information Exchange

Executive Summary

How best to invest in health information technology (HIT) and health information exchange (HIE) is front and center in the debate over President Obama's economic stimulus package. Every day in California, patient care is compromised because vital health information is locked in dozens of computer systems that can't talk to each other or in stacks of paper files. Health information exchange makes it possible to securely move your personal health and medical information electronically between your doctors, hospitals, and other health care providers when it is needed for your care. The results are significantly improved care safety, quality, and efficiency. This White Paper discusses achievements that demonstrate California has an existing "shovel-ready" HIE project that, with federal funding, can be rapidly expanded to accelerate HIE deployment and adoption across the state.

Through the nonprofit, private public partnership of CalRHIO, California has completed key requirements for establishing a state-level HIE network and is ready to deploy and implement HIE in California. CalRHIO's accomplishments fulfill the recommendations for best practices in establishing statewide HIEs, as outlined in a report commissioned by the Federal Office of the National Coordinator for Health Information Technology and published in September 2006.¹ In addition, CalRHIO meets the requirements laid out by the Markle Foundation for IT investment: it has developed a "set of critical basic information policies and technical attributes that foster trust and enable sharing of vital health information" and is a leader in creating innovative ways to "achieve measurable health outcome improvement."²

Formed in 2005, CalRHIO is the state's only stakeholder initiative committed to deploying a statewide network and ensuring interoperability – the ability to communicate information within and across organizational boundaries. CalRHIO is a neutral information coordinator and integrator. It sits between data and technology providers and key delivery system stakeholders (hospitals, physicians, consumer and privacy groups, private and government payers) to ensure that HIE develops for the "public good." By moving beyond data silos and proprietary and corporate interests, CalRHIO represents and serves all stakeholders statewide.

The following achievements demonstrate California's readiness to deploy a statewide HIE:

1. A proven statewide HIE solution, selected through a rigorous competitive process, is ready to deploy; implementation plans are fully developed.
2. A statewide public-private HIE organization is already established, with fully operational governance and management, and support from a broad range of stakeholders.
3. The statewide HIE solution, which provides an online, on-demand statewide system, offers an efficient, affordable way for providers and communities all over California to collaborate and participate in an interoperable HIE (one that enables different systems to communicate with each other). The approach is embraced by many local RHIOs.
4. Privacy and security standards and policies are tested and in place which either meet or exceed national recommendations.

¹ Development of Health Information Exchange Initiatives Final Report, American Health Information Management Association, September 1, 2006.

² See http://www.markle.org/events/20090113_transition/20090113_health_it_investments.pdf

5. Clinical use cases have been defined and support the strategy for launching the statewide HIE in hospital emergency departments and then expanding into physician offices.
6. A sustainable business model has been created and has attracted interest from large commercial health plans, Medi-Cal managed care plans, and the California Department of Health Care Services.

Background

Today and everyday, as many as 50,000 Californians may get the wrong medication, a mistaken diagnosis, or a harmful treatment simply because critical information is missing at the time their physician is making a medical decision.³ The data often is locked away in paper files in different medical offices or in computer systems that can't communicate with each other. The problem is even more severe in an emergency when seconds count and you may not be able to tell your physician the vital facts about your health, such as allergies to drugs or a chronic condition.

CalRHIO's HIE provides secure, electronic access to critical patient information when and where the provider needs it for care. But CalRHIO is not just offering a technology solution. It has put together all the elements necessary to move HIE forward and to sustain it long-term. Working collaboratively with local and regional stakeholders, CalRHIO provides guidance, governance, management, operations, hospital staff and physician training, performance measurement, and communications for the entire state so that individual communities, hospitals, and physician offices do not have to take on these burdens alone.

CalRHIO offers communities and providers an HIE option that eliminates the need to individually engage in the expensive and time consuming effort of selecting vendors, developing detailed requirements, and supervising a complex HIT project. For communities that have already initiated local health information exchange efforts, the CalRHIO network offers a way to work collaboratively to expand the data and services available to providers. In addition, the CalRHIO statewide network will improve the quality and timeliness of care throughout California, prepare the state for participation in the national health information network, and support public health and bio-terror surveillance.

CalRHIO has completed extensive planning and is ready to implement HIE beginning in hospital emergency departments, with deployment expected in the first counties by later this year. Funding and technical assistance for bringing EMR technology to the doctor's office will be generated shortly after the ED deployment.

³ Peter C. Smith, et al, "Missing Clinical Information," JAMA 293, no. 5 (2005): 565.

Key Achievements That Demonstrate California's Readiness for a Statewide HIE

1. **A proven statewide HIE solution, selected through a rigorous competitive process, is ready to deploy; implementation plans are fully developed.**

CalRHIO is ready to deploy a functioning HIE within calendar year 2009. CalRHIO's technology solution is fully developed, meets national interoperability standards, and has already been successfully deployed in a variety of settings nationally, including the country's first fully-connected statewide HIE.

By Q1 of 2010, CalRHIO can be providing HIE services to emergency departments in two of the largest counties in California, and in the early stages of deployment to several more counties.

The Web-based, on-demand query service offered by CalRHIO works in much the same way as a "Google" search. When an authorized and authenticated provider makes a query, information on a specific patient is located and retrieved from the participating data sources and then virtually integrated for presentation. Patient information remains at the data source and is not stored in a repository or warehouse by CalRHIO.

The advantage of the CalRHIO approach is that it can quickly leverage data sources that are useful and important to all health care providers -- national and regional labs, medication history from SureScripts-RxHub and pharmaceutical benefit management (PBM) companies, and clinical claims data from health plans and the state. These data sources are easily integrated with the current service offering of CalRHIO's technical partner, enabling a rapid statewide rollout and immediately providing value. As adoption grows, more data sources will be added.

CalRHIO designed its solution based on discussions with dozens of health care executives and providers around the state, taking into account the variability in IT system environments, as well as the diversity of business and clinical landscapes within health care communities. CalRHIO's platform makes it possible for physicians, hospitals, and health plans to "plug and play," using their current technology to view, acquire, or provide data to the HIE Utility Service. The SOA (service oriented architecture) framework and Web services platform can accommodate various implementation scenarios for deploying the core functional components and applications needed for successful information exchange and access.

With a flexible and adaptable architecture, CalRHIO can also accommodate the various versions of industry standards currently deployed. While CalRHIO will support emerging national standards specific to HIE, we will not limit access to our services to those organizations that are not compliant with such standards. Rather, CalRHIO will accommodate any organization that is struggling to meet the national standards but has not been able to do so in a timely manner. A strict approach to standards enforcement by CalRHIO could negatively impact participation in the HIE initiative. CalRHIO's technology partner, Medicity, has already demonstrated its success in meeting national standards for interoperability. Through its demonstration project in Delaware (DHIN) Medicity successfully met and passed all interoperability standards.

CalRHIO's technology partner has already fully developed the necessary technical capabilities and deployed them successfully in other settings. This high performance state-of-the art technology infrastructure includes:

- Hardware and software
- Integration platform
- HIE applications (On-demand query service, Master Person/Provider Index -- MPI, Record Locator Service -- RLS)
- Security and system services
- Data source environments
- Hosting and data center operations

CalRHIO has led three years of collaborative efforts with stakeholders throughout the state to address other key components necessary to implement HIE services:

- Extensive preparation for workflow analyses, training, and user support requirements to facilitate adoption by several thousand clinical and administrative personnel in emergency departments across California.
- Governance, operations, and management for statewide HIE deployment.
- Collaborative design with health plans and providers of metrics, methodology, and schedule for determining costs, benefits, and return on investment (ROI).
- Prototype legal agreements – user, business associate, data sharing -- that cover an estimated 70-80% of requirements.
- Processes established for working with data sources where local conditions require customized approaches.
- Determination of insurance requirements.
- Patient consent and processes compatible with State and federal laws for privacy and confidentiality as well as recommendations by leading organizations.
- Communications plan fully developed to enable participants and communities to track progress and provide input.

A rigorous, transparent RFP process, involving multiple stakeholder reviewers, was conducted to select a technology partner to deploy a statewide HIE system.

Rather than building an HIE solution from scratch, CalRHIO is outsourcing to a technology partner that has an existing, proven and scalable HIE solution. In selecting its technology partner, CalRHIO designed a rigorous, fully-transparent RFP process. From an earlier extensive RFI process and additional research, 11 firms were chosen to receive the RFP. Eight firms responded and all presented their proposals to a selection committee made up of key CalRHIO staff, board representatives, and outside technology and business experts. Three finalists presented proposal to the full CalRHIO Board, which made the final decision.

The CalRHIO Board concluded that one proposal -- Medicity, with Perot as sub-contractor -- met all requirements. Medicity is experienced in the design, development, and implementation of large-scale, complex technology projects, as well as health plan operations. Its solution provides a flexible, adaptable, scalable, and proven technology platform that will facilitate participation in HIE across California. Medicity currently participates in the federal NHIN program through its work as primary vendor to the Delaware Health Information Network, the first fully-connected statewide health information exchange. Medicity has teamed with Perot Systems to deploy and operate the network, which is engineered to deliver real-time clinical information exchange across all health care providers, hospitals, laboratories, physicians, and pharmacies across Delaware.

Implementation plans address building the CalRHIO HIE in two phases:

Phase I: Establishes statewide, online, on-demand information services (also referred to as the “state backbone”) by providing feeds of data from national and statewide sources.

✦ Clinical Data Feeds:

- Lab/path reports (LabCorp, Quest, regional labs)
- Rx history (SureScripts-RxHub, PBMs)
- Clinical claims data

✦ Service Offering:

- Master Patient Index (MPI)
- Record Locator Service (RLS)
- e-Prescribing tool

- Alerts
- Aggregated clinical reports

Phase II: Leverages the technology services deployed in Phase I by adding regional/local data sources and additional technical services. Phase II enables any authenticated provider, anywhere in the state, in any clinical setting, to query the HIE and receive both state and regional data.

- Clinical Data Feeds:
 - Lab/path reports (local labs, hospitals)
 - Rx history (local pharmacies)
 - Radiology reads
 - Transcribed reports
 - Images
- Service Offering:
 - RHIO tool suite
 - EMR (electronic medical record) gateway
 - Clinical messaging
 - Clinical orders/results
 - Wireless access

These services also provide the ability for any connected community source to push test results to physicians. This “push reporting” could potentially replace the various disparate and proprietary clinical report methods currently used by community provider organizations (hospitals, commercial laboratories, etc) and create a common environment, substantially reducing costs associated with providing this clinical information today.

2. A statewide public-private HIE organization is already established, with fully operational governance and management, and support from a broad range of stakeholders.

Created in 2005, CalRHIO is a nonprofit, public-private stakeholder organization with established governance, management, and operations planning processes.

CalRHIO has received strong support and endorsements from all the major hospital associations in the state, as well as CalPERS, emergency physician contracting organizations, local RHIOs, safety-net providers, and Medi-Cal managed health plans.

CalRHIO’s public-private partnership structure grew out of the efforts of numerous, broadly representative stakeholder work groups that helped to shape the organization’s strategy and direction during a year-long planning period in 2005. Today CalRHIO is governed by representatives of California hospitals and medical groups, consumers and privacy advocates, local and state government agencies, health plans and insurance companies, safety net providers, and regional health information efforts.

From its earliest days, CalRHIO assumed the role of statewide convener, coordinator, and educator, bringing together stakeholders from all over the state to address technology, clinical data, business and financing models, governance, and regional HIE efforts. More than 400 people representing over 60 organizations participated in early work groups and committees.

With a commitment to be fully transparent, all meeting agendas and minutes were posted on CalRHIO's Web site.

In addition, six statewide educational summits were held for stakeholders with nearly 1,000 Californians attending. Speakers included federal officials, leaders of local California HIE efforts, and directors of HIEs in other states. Numerous specialty forums for safety net providers and legal counsel were also conducted early on. All proceedings are currently posted on CalRHIO's Web site. CalRHIO continues to provide an informational resource to communities in the state and nationwide through its Web site – www.calrhio.org.

In collaboration with local and regional HIE efforts, CalRHIO has conducted statewide surveys of HIE activity, sponsored an information sharing intranet site, and convened community HIE leaders to share lessons learned and explore collaboration. To ensure that safety net providers and underserved populations participate in data exchange and IT investment, CalRHIO funded three safety net HIT/HIE projects with the assistance of a safety net advisory group. It continues to provide free technical consultation to any safety net organization in the state.

- 3. The statewide HIE solution, which provides an online, on-demand statewide system, offers an efficient, affordable way for providers and communities all over California to collaborate and participate in an HIE that enables different systems to communicate with each other (interoperable). The approach is embraced by many local RHIOs.**

CalRHIO has been endorsed by one of the state's most active and organized local RHIOs, the Orange County Partnership RHIO. It is collaborating with several local and regional HIE initiatives to provide HIE services as soon as the system is operational.

CalRHIO's health information exchange platform makes it possible for physician offices, hospitals, and health plans that have invested in health information technology to use their current technology to access data from community sources outside their walls.

For those communities that do not want to create their own platform and prefer the efficiencies of a shared effort, CalRHIO provides a business model and technology solution that ensures compatibility with the CalRHIO statewide network. For communities that have already initiated local health information exchange efforts, the services offered enable access to additional data sources.

CalRHIO has designed a utility approach that enables participants to easily and economically plug into a system that not only provides a technology solution, but takes care of HIE governance, training, performance measurement, communications, and operations for the entire state. No major investment in hardware or software is required of participating facilities. As a result, this will be a sustainable system for both private and public hospitals and clinics.

- 4. Privacy and security standards and policies are tested and in place which either meet or exceed national recommendations.**

CalRHIO and its technology partner Medicity currently comply with or exceed national recommendations for privacy and security as developed by the Markle Foundation and the National Health Information Network.

Medicity, in its work with the National Health Information Network as the technology partner for Delaware, complies with or exceeds all privacy and security standards and policies required by the federal government.

Users must be authorized and authenticated and have either obtained a patient's consent or documented an emergency. All data sharing is carried out pursuant to State and federal laws involving patient consent, privacy, and security. All appropriate parties must agree on data

sharing scope and methodology. Data security and data encryption along with full privacy and confidentiality compliance is provided at all times.

CalRHIO has also been involved in a collaborative effort to document and coordinate a process for developing policies to resolve differences between national and State laws. In the spring of 2006, CalRHIO and the California Office of HIPAA Implementation formed a highly successful public-private partnership under a federal privacy and security project. Numerous stakeholder meetings convened around the state resulted in a final report on current business practices, barriers, and proposed solutions concerning privacy and security issues in HIE. The work led to the establishment of the California Privacy and Security Advisory Board which is providing private and public collaboration to address and coordinate HIE privacy and security efforts in California.

5. Clinical use cases have been defined, supporting the strategy for initiating the statewide HIE in hospital emergency departments and then expanding into physician offices.

CalRHIO will deliver information that will provide immediate value to physicians in treating patients in an emergency situation and create demand for the data.

Clinicians who treat patients presenting at emergency departments are most often in critical need of information that is not readily available today. Numerous interviews with ED physicians have confirmed that the information CalRHIO intends to provide – medication history, lab data, and clinical claims data -- will be of great use to the practicing doctor. (See Appendix for specific clinical case examples demonstrating the impact of HIE on diagnosis and treatment.)

ED utilization is consistently rising every year and is a substantial contributor to the increasing cost of health care. By providing ED physicians with currently missing clinical data, CalRHIO can help EDs improve care quality and safety, decrease unnecessary, redundant, or ineffective tests, and avoid unnecessary hospital admissions.

As one ED physician wrote in a letter endorsing CalRHIO: “The information that will be available from CalRHIO’s Health Information Exchange initiative will be welcomed by me and other ED physicians around the state.... Every day of delay means that Californians have to wait that much longer to get the care they deserve.”

When physicians witness the value of the information, they will become champions for the system and demand that the data be delivered. For example, LabCorp and Quest Diagnostics will provide a Web services environment for accessing patient result history, with data refreshed every 24 hours. Medication history information from retail pharmacies and others will be obtained from SureScripts-RxHub, which typically adjudicate medication claims in real time and capture prescription information as each prescription is filled.

The HIE system will significantly improve continuity of care. Patients with chronic conditions, such as diabetes, asthma, and congestive heart failure can be flagged for follow-up by the health plan or physician group responsible for their case management and/or disease management programs. Primary care physicians can receive timely access to information about the treatment their patients received in an ED, enabling follow-up that wasn’t possible before.

- 6. A sustainable business model has been created and has attracted interest from large commercial health plans, Medi-Cal managed care plans, and the California Department of Health Care Services.**

CalRHIO has developed a business model that is self-sustaining and does not depend upon continuing infusions of contributions from foundations, government, or providers.

The CalRHIO business model ensures that a statewide HIE network can be deployed, maintained, and continually improved over the long-term.

Most efforts to establish HIE capabilities in the U.S. have foundered because they did not have a business model for the “build” phase of HIE development. Charitable contributions from hospitals, health plans, and foundations have provided important seed capital for planning in California, as in other states, but are not adequate for the tasks of building and deploying full HIE services. The federal government has furnished planning and early stage development grants for HIE to a limited number of states and regions. Under President Obama’s stimulus package, statewide HIEs and local HIEs are expected to receive financial help. But even with funding, a long-term solution is necessary. A sustainable business model is essential to ensure that a health information exchange network can not only be deployed, but maintained and continually improved.

CalRHIO is borrowing the capital to build the early stages of the HIE system. Like a highway project, those benefiting from the project contribute only when the road is open and used. CalRHIO will repay the loans, finance the on-going deployment of HIE services, and assist in the IT-enablement of safety net providers using shared savings. The savings result when providers use the system to care for members of health plans. Under the "Shared Savings" financial model, health plans, whose members benefit from the HIE, pay CalRHIO only from proven cost of health care savings that will be objectively quantified by a neutral third party.

CalRHIO is committed to a set of implementation and savings metrics that will demonstrate success of the initiative to the satisfaction of all stakeholders and minimize risk. CalRHIO will use independent consultants to verify savings and return-on-investment. This approach is in keeping with CalRHIO’s commitment to ensure that participants realize savings from HIE, in addition to important improvements in patient safety and quality of care.

Conclusion: The Opportunity

Although there have been several efforts in the state to establish statewide health information exchanges over the past two decades, none has reached this level of feasibility with broad stakeholder support, and a business model that does not rely on health plans, employers, or the state for the initial investment required to build the exchange.

CalRHIO represents an unprecedented opportunity for California to not only improve quality and safety, but also to produce significant savings as a result of care becoming more efficient, safe, and satisfying to patients and providers. CalRHIO’s HIE utility model supports the Governor’s Executive Order on HIT/HIE and the President’s stimulus package. Without a statewide solution like CalRHIO, there will be a significant delay in the widespread sharing of important patient medical information.

APPENDIX

Clinical Case Examples of Patients Presenting to the ED With and Without CalRHIO Health Information Exchange

Case 1 – Flank pain, urine abnormalities

Example of how CalRHIO HIE can avoid incorrect diagnosis, prolonged hospitalization, and harmful treatment.

Presenting Information	Without CalRHIO HIE	With CalRHIO HIE
<p>Patient Profile: 41-year-old female</p> <p>Presenting Symptoms: Longstanding history of “severe arthritis.” Now having flank pain and a low grade fever.</p> <p>Meds are “steroids and arthritis meds.”(She didn’t bring her meds with her to the ER).</p> <p>Physical Exam: Temperature of 100°F, pulse 92 and right sided CVA (flank) tenderness.</p> <p>Laboratory Tests: CBC shows increased WBC (12,500 with normal differential) and urine analysis positive for many WBC’s seen in clumps.</p>	<p>A diagnosis of acute pyelonephritis (kidney/urinary infection) would have been made and she would be admitted for IV antibiotics. She would not have responded well and the treatment could have led to a prolonged hospitalization.</p>	<p>Lab tests in the past month show a high anti-DNA titer and positive ANA test all consistent with lupus erythematosus.</p> <p>Medication history shows low dose Prednisone (5mg every other day) and low dose Chlorambucil (chemotherapy/ arthritis medication).</p> <p>Given these test positive for lupus, the patient is presumed to have a flare of her lupus now causing nephritis. She thus admitted with that diagnosis and orders to increase in steroid dosage and have a rheumatologist specialist see her ASAP. With increased steroids her fever drops, her pain improves, and she improves dramatically to the point she can be discharged within 2 days.</p> <p>Impact of HIE: The patient’s complicated condition was correctly recognized, diagnosed, and appropriately treated.</p> <p>Her steroid deficiency and underlying lupus (autoimmune arthritis) could have caused dangerous complications if not promptly recognized.</p> <p>A prolonged hospitalization was avoided and the patient’s diagnosis and treatment significantly more safe and effective.</p>

CASE 2 – Abdominal Pain with Anemia

Example of how CalRHIO HIE can avoid expensive tests and hospital admission

Presenting information	Without CalRHIO	With CalRHIO HIE
<p>Patient profile: 58 years old Hispanic Female Postal worker</p> <p>Presenting symptoms: Acute abdominal pain, nausea, vomiting (1x)</p> <p>Reports taking a “pill for pressure” (high blood pressure?) and a “pill for my joints.”</p> <p>Exam and Lab findings: Physical exam:</p> <ul style="list-style-type: none"> ▪ elevated BP 160/95 ▪ abdominal findings of epigastric tenderness and guarding ▪ rectal exam with stool is trace positive for occult blood <p>Laboratory results:</p> <ul style="list-style-type: none"> ▪ normal serum electrolytes and a CBC with normal white count but anemia with HCT of 33%. 	<p>Patient is considered to have a possible GI Bleed from duodenal ulcer or gastritis.</p> <p>She is scheduled for plain films of the abdomen followed by Upper GI x-ray series and serial CBC tests to check for worsening anemia from a possible bleed (falling hematocrit).</p> <p>Tests take 8 hours to complete. Her hematocrit drops to 32% on repeat and gastric mucosa thickened and appears abnormal on UGI.</p> <p>Patient is admitted for management of possible gastric carcinoma and possible GI bleed.</p>	<p>Medication history reveals patient is taking Linsopril/HCTZD combination pill for hypertension (elevated blood pressure) and Naprosyn 500 mg 3x/day for osteoarthritis. In the past year she has been on two other arthritis medications -- Tolectin and Voltaren.</p> <p>Her high blood pressure meds have not been refilled for 30 days. She also has a prescription for a histamine-2 and antagonist (H-2) for gastritis which is Cimetidine also not filled for 30 days.</p> <p>Lab tests from 30 days ago show anemia is chronic. She has a CBC with HCT of 31. Iron studies on that date are consistent with anemia of chronic disease, not bleeding.</p> <p>Her claims history from 4 months ago shows a claim from a G.I. specialist with a diagnosis of chronic gastritis.</p> <p>Now the ED physician knows the anemia is chronic and stable. The patient is asked about her BP meds and stomach meds. She reluctantly admits that she did not refill them because she didn't want to pay the co-payment. She also admits increasing the dose of her arthritis pill thinking it would help her stomach pain.</p> <p>No further testing is necessary. She and her family are instructed on the need to stop her arthritis pill, start her 2 Cimetidine to heal her inflamed stomach (Zantac type pill) and</p>

		<p>restart her BP medication. She is given an appointment to follow-up with G.I. specialist. She leaves with a copy of ED work-up to show her GI specialist to ensure adequate follow-up.</p> <p>IMPACT: An expensive UGI x-ray and a hospital admission is avoided.</p>
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Case 3 - Back pain, prior laminectomy

Example of how CalRHIO HIE can identify drug seeking behavior, avoid expensive narcotic drug prescription, and offer potential to permanently address addiction problem.

Presenting Information	Without CalRHIO HIE	With CalRHIO HIE
<p>Patient Profile: 52-year-old white male construction worker</p> <p>Presenting Symptoms: Severe low back pain unable to walk or transfer without assistance.</p> <p>He says he's been regularly taking Oxycontin (very expensive controlled opiod narcotic).</p> <p>Physical exam:</p> <ul style="list-style-type: none"> ▪ very limited range of motion of hip flexors and inability to complete knee to chest movement. ▪ Lumbar area reveals surgical scars from previous laminectomy (disc surgery) 	<p>Patient would be thoroughly evaluated including lumbar sacral x-rays and possible orthopedic or neurosurgical consultation. His Oxycontin prescription would likely be renewed and he would be discharged assuming orthopedist or neurosurgical opinion felt it was safe to do so.</p>	<p>Medication and claim history reveals 25 refills for Oxycontin in first 3 months of the year. Patient picked up a 30-day supply of Oxycontin 3 days ago.</p> <p>When confronted with this information the patient suddenly bolts up and leaves the emergency department against medical advice. (If the patient had been more willing, he would have been offered a referral to the hospital's chronic pain program.)</p> <p>IMPACT: With medication history, the patient's drug seeking behavior is noted. Costs of expensive narcotic medications were avoided. If he was willing, he could have been referred to a more appropriate chronic pain treatment program and his condition more permanently addressed.</p>