Report *From* the Field

Insights by Community Clinics on Information Technology Adoption

Community Clinics Initiative

A joint project of Tides and The California Endowment

DEC 2004

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Community clinics and health centers on the cutting edge of the health technology revolution

For the past five years, nearly 200 community clinics and health centers throughout California have improved their information technology capacity by participating in the founding program of the Community Clinics Initiative (CCI)[1]—a joint project of Tides and The California Endowment.

The results of these joint efforts are impressive. The state's community clinics have significantly enhanced their capacity to employ technology to make their economic operations more efficient and their clinic operations more effective. Please see the "Advances in Clinic IT Capacity" fact sheet in Appendix A, which summarizes achievements by California community clinics from 1999–2004.

We can report confidently on these improvements because from the outset, our evaluation program has helped us to track our progress. Equally important, it has helped us gain real insight into the process of health technology innovation, particularly in community health settings. One of our earliest and most significant insights was about the relationship between organizational capacity and successful technology innovation. As a result, we refocused our own grantmaking, technical assistance, and training programs to support not only the purchase of hardware and software, but also the organizational development necessary to manage the enormous change that technology innovation brings.

There are now dozens of clinics in California with extensive experience in health information technology innovation. These organizations have a wealth of knowledge that informs our ongoing program development, evaluation, and data gathering. As we near the end of our information technology grantmaking program, we wanted to provide an opportunity for the leaders of these organizations to talk directly with us, and with each other, about the impact of technology innovation—both positive and negative—on their organizations.

In July 2004, CCI brought together 44 leaders from throughout the state for a day of reflection, discussion, and analysis. This "Report From the Field" is a synthesis of those discussions; it is a "group photograph" of the participants' collective experience with technology innovation.[2] It is a compilation of the collective wisdom of people who have, often through trial and error, wound their way through the complexities of technology innovation, and who, for the most part, believe their communities, patients, and organizations are better as a result.

While the discussion was far-reaching and expansive, there were a number of themes that threaded through the day. Participants focused on how much the process of technology innovation was a test of organizational strength, and how strong leadership, technical expertise, and good planning were critical to their ultimate success.

For community clinics, we hope this report will continue the dialogue among colleagues that began in July 2004. We believe the document will be useful to community health providers regardless of where they are on the technology path. For people who have significant experience, it can serve as a vehicle to reflect on what has happened and fine tune, compare and contrast, and gain insight from the experiences of others. For those earlier in the process, it provides a series of lessons learned that can help with planning, avoiding some of the pitfalls, and gaining from the successes others have experienced.

1. CCI is the largest grantmaking program of its kind in the U.S. To date, CCI has granted about $40 million to 174 clinics and their consortia, affecting more than 90 percent of the field in the state.
2. A list of participants and the agenda can be found in Appendix B.

The lessons reflected in this report, which mirror our evaluation data and our research about successful community health technology programs in other parts of the country, are particularly timely as policy makers turn their attention to the relationship between quality improvement and information technology. All indications suggest that this association between quality measures and information technology will further converge as a driver within the health care system.

While we recognize the potential for national standards for health information data and the implementation of electronic medical record systems in every health facility, we are concerned that the challenge and complexity of achieving these goals is not being fully recognized and accounted for.

The evidence from community clinics suggests the need for a realistic understanding of the true potential for technology in health care, its limitations, and the factors that lead to success in making health care organizations stronger as a result of their technology innovation. The promises of technology, while real, are complicated to achieve, and the challenges are always greater than anyone foresees.

In particular, we encourage policy makers to heed the messages from our participants about the need to factor in the unique structure, financing mechanisms, and patient populations of community clinics and health centers when developing new policies on quality improvement and technology innovation.

Read on to the lessons from the field. These are direct and real-life experiences, collectively gained and reflected upon and, precisely because of that, of the highest value. We are grateful for the commitment, energy, and wisdom of the leaders who participated in our meeting and openly and honestly shared their experiences with us.

Ellen Friedman
Vice President, Tides Foundation and Tides Center
Managing Director, Community Clinics Initiative
December 2004

For more information on the Community Clinics Initiative and for other Reports to the Field, please go to www.communityclinics.org.

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CCI REPORT FROM THE FIELD DECEMBER 2004 *Lessons from the Field*

THE BIG PICTURE

In reflecting on their experience with information technology, participants repeatedly returned to the profound (and unexpected) impact that technology innovation has had on their organization. Many of the themes and lessons of the day highlighted ways to prepare and guide an organization through the planning and implementation process. While making wise decisions about specific hardware, software, vendors, and contracts is vital to success, participants concluded that a strong and prepared organization has a better chance of making decisions about specific technology that are both well-informed and appropriate for the organization.

LESSON: Technology is just a tool to help an organization realize its vision and mission.

From the outset, the leadership and all key stakeholders must share a vision for how the new technology will advance the organization's mission. Participants frequently commented on the temptation to view technology as a silver bullet that would solve a myriad of problems, and that vendors and consultants may do little to dispel this notion.

"You have your stethoscope and your laptop," said Dr. Ken Bernstein, Medical Director at Darin M. Camarena Health Centers, Inc. in Madera. "[Technology] is going to facilitate your practice of medicine, and if you think otherwise, that's a big mistake."

But it is a mistake to view technology as anything but a tool, albeit one with very significant potential, that can help improve patient care and build a stronger organizational infrastructure. Participants repeatedly underscored that achieving the benefit of technology requires significant organizational commitment, particularly strong leadership and vision, solid planning and implementation, and the development of new levels of expertise.

"Now that we have developed a culture that values technology to support our mission and clinical goals, we will continue to seek ways to strengthen the quality and effectiveness of our services and improve our decision support tools through information technology."
Southwest Community Center

LESSON: Be clear on the needs you are trying to meet and on financial and organizational costs BEFORE you make decisions on hardware, software, and vendors.

"It's much more complex than you can even imagine," said Dr. Bernstein. "It's a multi-disciplinary endeavor that's much more than you could envision. And Monday morning quarterbacking is really inappropriate."

Many clinics, and in fact CCI, focused initially on identifying "the best" products, vendors, and systems. As a result, decisions on systems and hardware often came before a clear understanding of how the technology would be used, its benefit, the implementation process, and the real price to the organization. This led to numerous experiences of purchasing systems that ultimately failed to meet needs or purchasing good systems but finding the organization unprepared for its implementation. Many participants remarked that a more in-depth planning process would have helped to avoid these pitfalls.

LESSON: Everyone in the organization needs to understand how technology is going to make things better.

Technology innovation will be more successful if all of an organization's stakeholders have a clear understanding of the real promise of technology. While technology cannot solve all of community health providers' problems, it can bring significant benefit to both the business and clinical care arenas. Clinic boards are more supportive when they understand the potential for increased revenue collection and improved and more efficient scheduling. Nurses and doctors will more likely accept short-term impacts on patient care budgets when shown how long-term expenditures for technology can give them a better understanding about the growing incidence of diabetes and provide tools for improving diabetes care.

The San Diego Family Care Clinic reports a "sea change" at many levels of the organization. "There is more talk of streamlining and standardizing reporting systems, of training more non-clinical staff to use the Practice Management Software for data extraction and in advocacy efforts, and a growing security in the notion that ready access to data of all types is a good and useful goal."

LEADERSHIP

LESSON: Leadership must articulate a clear vision for technology and manage the complexities of its innovation.

Participants' focus on the importance of leadership in successful technology innovation speaks to the complexity of the challenge, the impact on the entire organization, and the high levels of risk and potential reward that accompany technology projects. Organizations that have successfully implemented technology projects cite leadership's ability both to articulate a clear vision of why technology is important to the organization and the expertise to manage the complexities of technology innovation inside an organization as critical.

"Like a general minding the army," participants described strong leadership as necessary for successful project management since "you reap what you sow."

A leader's vision for technology must be articulated in terms of the organization's mission to provide better patient care, better patient outcomes, healthier communities, and better environments for both staff and patients. Ultimately, the leader needs to make a convincing case for why the organizational and financial costs are justified. Successfully managing technology innovation requires leadership to have an appreciation of the need to build and maintain buy-in; constant communication about the project's progress; adherence to plans, timelines, and budgets; and hands-on involvement during the length of the project.

"A common mistake is for clinic leaders to delegate strategic technology decision-making authority to a manager who lacks the perspective or position in the organization to negotiate conflicting needs and priorities. While consultants can provide focused support for projects or analysis that informs decision making, they are no substitute for leadership. Strategic technology decisions should never be outsourced."

CCI Report to the Field by Compumentor, January 2004

LESSON: You need staff participation and technology champions throughout the organization.

Many participants described the importance of the voice of the clinical staff in the development of technology and the need for the medical director to play a strong role in this process. Without the participation of the clinical staff, technology often fails to address the real needs of patients or those who are providing care.

"In our implementation experience, it was often overlooked that the line staff and the people that actually have to do this work are smarter than the people that are telling them what to do," said Joel Garcia of Tiburcio Vasquez Health Center in Union City.

There will also be people in the organization who naturally are drawn to the new technology, who take to it easily, who appreciate its potential, and who can therefore become technology champions. They can serve as motivators, problem solvers, and educators for their peers and colleagues. This is a role that needs to be recognized and formally built into the organizational change and communication plan.

Some may be empowered already because of their status or title, while others will be natural leaders who are trusted by their peers. It is critical that they be closely tied into the communication and information structure and be armed with reliable and current information so that they come to be viewed as informed and trusted sources. In this way, they are critical in helping to clarify misinformation and rumors as they develop.

"We have a project that involved issuing several hundred handheld computers (PDA's) with ePocrates software to medical personnel in all our member clinics. We made every effort to identify a 'technology champion' [within each clinic] who would be using the technology and become the expert. Plus, the champion becomes a local source of inspiration and support. Our experience shows this helps ensure the success of IT initiatives in clinics, especially large projects like this one where having a dedicated, knowledgeable, contact really helps. It's not enough to simply provide technology; you need to find a local person who can champion the project, the cause, and the technology tools."

Mike Matull, Coalition of Orange County Community Clinics

PLANNING

LESSON: A comprehensive and multifaceted planning process is fundamental to articulating a clear and realistic vision and bringing it to fruition.

The planning process includes strategic planning, technology planning, business and financial planning, and a plan to manage the organizational change process. It is critical that these plans are in place before embarking on technology innovation, as they will provide an organization with benchmarks and criteria to assess progress and identify when mid-course corrections are needed. The planning process also helps an organization handle the unexpected; assess its tolerance for risk, financial and otherwise; and allows the organization to chart a course that is consistent with both the organization's capacity and its culture at the beginning of the process.

"Everything is more complicated, takes longer, and is more expensive than I planned on," said Susan Fleischman, Medical Director of Venice Family Clinic.

LESSON: Business and financial planning can provide a new perspective for the risks of technology.

Although the concept of business planning is relatively new to community health providers, business and financial planning tools can help providers gain a different and important picture of the implications for the organization of taking on technology projects. In fact, business plans can provide roadmaps and scenarios of the impact of technology on an organization's budget and how this type of innovation is possible, manageable, and affordable. And, these tools help organizations to understand and plan for potential pitfalls such as failing to treat technology as a permanent and recurring organizational expense leading to budget shortfalls early on. This type of planning is increasingly important when working with funders, lending institutions, vendors, and collaborative partners.

"The actual writing of the business plan becomes an exercise of sifting through information already gathered by the health center and organizing the information so that it's easy for lenders and others to determine the merits of the investment in a clear and expeditious manner."

Capital Link and Community Health Center Capital Fund
"Creating a Business Plan for a Community Health Center Capital Project: A How-To Manual"

LESSON: The organization needs a plan for how it will manage the change that the technology innovation entails.

The process of technology innovation has implications for the entire organization, and virtually everyone's jobs and roles will be changed. This ripple effect is true for almost any systems innovation, and it is likely to lead to changes in systems and processes throughout the organization.

"Appropriate use of technology in health care is a moving target that we will never hit. We should expect to be implementing new data management systems nearly continuously, and we should think in terms of an IT staff and budget that will be able to manage ongoing change."
Open Door Community Health Center

By involving people in all roles at the beginning of the technology planning process, you are more likely to be able to predict the impact of the innovations. Participants often learned too late about the important insight of receptionists, intake workers, and coders who can often spot where the reality of implementation will differ from what the plan looks like on paper.

This organization-wide involvement is the beginning of what needs to be an ongoing, well-structured plan to communicate regularly about the progress of the technology innovation, and to hear and integrate feedback. Although "you can't really plan for everything," as Dong Suh of Asian Health Services in Oakland shared, a plan helps to build and maintain the support that is critical when changes need to be made, additional time and energy commitments are requested, or when the program is working through rough spots.

Jane Garcia at La Clinica de la Raza describes the "Alameda Merritt Systems Project," a collaborative project between four community health centers in Alameda County, as "both a far-reaching and deep change for all organizations involved. It was not simply a change in a computer system, but also a change in the way the clinics worked, and in some cases, how they were organized." The project required organization-wide participation in process improvements, and Garcia reports that in most cases, the four participating organizations are continuing to have internal work group meetings to continue the improvement process.

LESSON: Technology plans are vital tools for understanding and assessing technology innovations at your clinic.

Technology plans provide critical insight into the scale and complexity of technology innovation. Technology plans include work plans and timelines that will help identify benchmarks, key decision points, and measurable outcomes. Lack of good technology planning was cited as one major reason for over-optimistic timelines and inadequate budgets.

"Everything usually requires more resources than perhaps you anticipated at the time, so you need to adjust the work plan to match your resources or increase your resources to get your plan done," said Speranza Avram, Executive Director of Northern Sierra Rural Health Network in Nevada City. Added Jane Garcia, Executive Director of La Clinica de la Raza in Oakland, "We learned to try and break any project with benchmarks. At the end of each benchmark you can check in and evaluate and figure out what went well, what didn't go well, and try to fix that with the next group that comes up. To evaluate every major benchmark is important."

EXPERTISE

LESSON: You are going to need new, specialized expertise early on.

Skills necessary for successful information technology innovation include expertise in technology planning and implementation, systems management, and vendor selection and contracting. This highly specialized knowledge and information is rarely present in existing health center staff, and not easily gained through on-the-job experience or outside training sessions. In addition, the technology management function is time consuming and labor intensive, and retrofitting existing staff positions, or tagging on new responsibilities to existing jobs, has not proven sufficient.

"A key lesson that we learned is be highly skeptical of the vendors and have very, very good expertise during negotiation," warned Yvonne Bice, Executive Director, Central Valley Network. "Have a project manager on staff before the negotiation starts, and monitor every day what the vendor is doing and not doing."

The need for expertise in vendor contracting and management was often cited as a stumbling block to successful implementation. Vendor selection, contracting, and oversight require not only technology expertise, but also knowledge of how to maximize the organization's economic position with the vendor and how to best protect the organization when problems arise. While this expertise can be acquired through outside consultants, it is a mistake to fully delegate this responsibility outside the organization. There needs to be a strong hand, with the organization's perspective in mind, guiding this process.

The decision on how to best staff and/or acquire expertise will rest on a number of factors, and a clear plan and strategy will help to clarify these decisions. It may make sense financially and organizationally to contract outside for some, or perhaps most, of the new expertise. There is a dilemma and significant decision involved in when and how to bring in high-level technology staff, such as the Chief Information Officer (CIO), for the organization. Given limited resources, some health centers chose to spend initial dollars on the costs related to acquiring their systems, then bringing in the expertise they needed to manage it. This decision, while logical and reasonable at the time, meant that critical and early decisions were often made without the important perspective that a CIO would bring, or mistakes were made that could have been averted.

The specific expertise needed for successful technology innovation was often described as long (or late) in coming. Failing to gain the expertise early enough was frequently identified as a source of initial stumbles and missteps.

"You need a CIO at the management table," said Kim Wyard of Northeast Valley Health Corporation. "We're a very large, complicated organization, and our anxiety level has gone down tremendously with the addition of this person. He really understands what's happening externally, internally, how the organization will benefit, what makes sense, where the added value is. I can't say enough about having this person."

LESSON: Training...training...and more training.

Virtually everyone in the organization is affected by new technology, and they need new expertise to gain the confidence and skills to be successful. One of the areas that participants described as most overlooked or undervalued was the need for ongoing, organization-wide training. In the short term, training is often viewed as high-cost and time-intensive. It is easy to cut out training programs from a budget, or to permit people to avoid training when immediate needs seem more pressing. But the experience of participants suggests that you cannot train enough. While the cost in terms of staff time and hard dollars may be significant, several participants noted that without proper training, the best vision and system will fail to realize its potential. Participants remarked that with a lack of formal training, informal training occurred constantly and throughout the organization, resulting in sporadic learning and spotty quality control.

"As you introduce new people into your organization you go through the orientation process with them, maybe touching back to the original training plan. But there's a lot of informal training that goes on among your staff that you never see, and that introduces a lot of garbage into the system," said Margie Martinez, Executive Director of Community Health Alliance of Pasadena.

MANY QUESTIONS BUT FEW ANSWERS ABOUT COLLABORATION

Participants agreed that there are clearly places where organizations are better at implementing technology on their own and others where success may be possible only through collaboration. However, they brought more questions than answers to discussions on collaboration.

The cost and complexity of technology innovation, coupled with the need to build significant expertise in a new and unfamiliar field, has already led many organizations to collaborate with other organizations. They moved into those arrangements because of the potential for economies of scale, increased purchasing power, more powerful data capacity, a higher level of technical expertise and specialization, and new financing and funding opportunities.

But the experience of our participants suggests that the challenge of technology collaboration is significantly greater than they initially understood. Unlike some of the areas discussed earlier in this paper, effective strategic approaches have not become clear. Models that worked well for other types of collaboration (advocacy and policy) were often found inappropriate or insufficient for technology collaboration, and existing collaboratives are not easily adapted to this purpose.

"We really tried to be all things to all people," said Vicky Penland from the Council of Community Clinics in San Diego County. "We have quite a diverse number of clinic members—large to small—with very different needs. In the spirit of collaboration and getting everybody on board, we tried to be everything to everybody, and that doesn't work in this type of a [technology] implementation."

The trust built over time between organizations is often not enough to hold a technology collaborative together. The high level of shared risk, competing and even conflicting priorities, and different levels of expertise requires technology collaboration to include a strong business perspective, clear agreement on goals, and a communication and decision-making structure that is often complex and extremely time-consuming to maintain.

"These are very much business arrangements," said Yvonne Bice, Executive Director, Central Valley Health Network. "A big lesson for us is that we need written, legal, binding agreements and documents to govern the relationships between the health centers on these projects."

Collaboration is an important and sometimes necessary strategic approach to technology innovation. But there is a great deal more to be learned about when and how technology collaborations can be implemented best. Participants felt strongly that CCI needs to give additional thought and attention to this subject.

CONCLUSION

The experience of community clinics in California and the lessons they have learned about technology innovation can provide important insights and direction for clinics that are implementing their own technology, for policy makers concerned about quality improvement, and for funders interested in improving health care quality or the quality of life in low-income communities.

Clinics

The experience of clinics in California suggests that technology can improve patient care and make clinics stronger. The planning and implementation process is complex, but there are lessons to be learned from prior experience. There are no roadmaps and no two organizations will have exactly the same technology needs or processes. It is clear, however, that good leadership and planning, coupled with the infusion of new expertise and skill, go a long way to making the process smoother and the outcome more successful.

Policy Makers

Community clinics are providing quality health care to millions in low-income and minority communities where they are frequently the only source of care. Their unique structures and financing mechanisms and the health characteristics of their patient base need to be well understood and addressed if these clinics are to benefit from the current drive to improve patient quality and safety. Models based on private sector economics and return on investment will likely not apply to these providers.

The experience of community health clinics also provides important lessons for policy formation around information technology innovation. The lessons described here about complexity and the need for reasonable timelines and adequate budgets are applicable to all technology innovation. Similarly, what has been learned about organizational impact and management of technological change bears attention in policy development and suggests that resources need to be provided not only for the purchase of systems, but for the delicate process of managing technology innovation inside organizations.

Funders

The lessons learned by more than a hundred community clinics in California can provide important insight for funders interested in information technology in health care, improvement of low-income communities, or improving quality of care. To strengthen clinics and their ability to provide quality care, it is not necessary to invest in hardware or software. Greater long-term benefit may, in fact, come through supporting organizational development such as planning, training, and leadership development. Ultimately, this type of support leads not only to improvements in technology but to stronger clinics that are better prepared to take on the increasingly complex challenges that face them.

LESSONS LEARNED

- Technology is just a tool to help an organization realize its vision and mission.
- Be clear on the needs you are trying to meet and on financial and organizational costs BEFORE you make decisions on hardware, software, and vendors.
- Everyone in the organization needs to understand how technology is going to make things better.
- Leadership must articulate a clear vision for technology and manage the complexities of its innovation.
- You need staff participation and technology champions throughout the organization.
- A comprehensive and multifaceted planning process is fundamental to articulating a clear and realistic vision and bringing it to fruition.
- Business and financial planning can provide a new perspective for the risks of technology.
- The organization needs a plan for how it will manage the change that the technology innovation entails.
- Technology plans are vital tools for understanding and assessing technology innovation at your clinic.
- You are going to need new, specialized expertise early on.
- Training...training...and more training.

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Community Clinics Initiative

Advances in Clinic IT Capacity

The State of IT in Community Clinics, 2000

Clinics had highly inadequate IT infrastructures to support the complexity of their administrative needs. Clinical uses of IT were minimal.

- 25% of clinics had information systems over 5 years old.
- Internal communications systems had significant gaps. One-third had a significant number of computers unconnected to a LAN. Two-thirds of clinics with remote sites had locations that couldn't access their practice management system.
- Most information exchange with outside partners occurred verbally or via paper.
- Internet access was limited to the top staff. Providers had minimal computer or Internet access.
- Most clinics had automated basic business functions (billing, accounting, registration). Only 33% of clinics were automating or analyzing data related to clinical management (patient tracking and recall, utilization review).
- Practice management systems (PMS) were underutilized. One-fourth of clinics were not using some of the basic automation capabilities in their software due to inadequate training and lack of key modules.
- One-third of clinics had no basic information system at all.
- IT planning was haphazard. Most clinic leaders had little knowledge or comfort with information technology. Knowledge was concentrated in one or two people. IT costs were spread across budget categories, impeding ability to manage clinic-wide needs.
- Medical staff were not well-represented in information systems planning.

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415-677-9700 www.blueprintrd.com

CCI's Theory of Change for IT

Improved IT Infrastructure

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Better Data and Communications

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Better Data Analysis

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More Data-Driven Business and Clinical Decisions

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More Efficient Clinics and Higher Quality Care

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Stronger, Healthier Communities

CCI Funding

To date, CCI has invested over $37 million toward improving clinics' IT infrastructures. In the six rounds of IT grantmaking (1999-2004), CCI distributed 384 grants to 158 clinics.

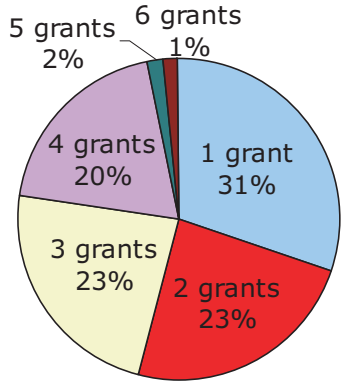
Average size of individual grant: $65,070

Average total dollars to individual clinics: $158,144

Average size of individual grant to consortia: $140,520

Average total dollars to individual consortia: $590,184

Number of grants received by individual clinics (1999-2004):



Additionally, in 2003, CCI granted $2.85 million to eight consortia and clinic collaboratives for large-scale IT strategic investments.

What Progress Has Been Made?

IT planning has increased dramatically.

- 84% now have IT goals in their business plans. 59% have interdepartmental IT planning teams. 47% have formal IT plans.
- Medical director involvement in IT planning has increased 50%.
- Clinics with formal written IT plans increased 57% between 2000 and 2002.
- Most clinics have an IT budget.

IT infrastructure has been strengthened.

- Basic business and administrative automation is in place at most clinics. Only 15% lacked automation in 2002.
- 84% of clinics purchased new hardware.
- 75% increased internal and external connectivity.
- 55% purchased or upgraded their PMS.

Clinical uses of IT have increased.

- Providers are using the Internet for communications and research. Since 2001, medical directors' access to the Internet increased 25%.
- 75% of clinics now have some type of disease registry. About half have more than one.
- 70% of clinics have at least some providers using Personal Digital Assistants (PDAs).

Management teams are making greater use of data to inform their decisions.

- Clinics are producing a greater range of management reports, they feel more confident in the quality of report data, and reports are read more widely among management team members.
- 63% of clinics developed new management reports or improved existing ones over the last 4 years.
- 75% of clinics report increasing staff time dedicated to analyzing data.

Consortia have expanded IT support services.

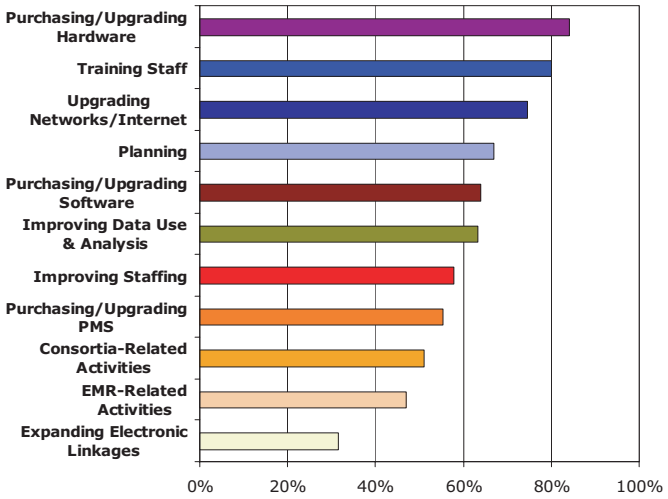
- Activities include providing IT planning and implementation assistance, facilitating trainings and user groups, coordinating joint technology purchasing, developing shared data standards, and data warehousing.

Information in this fact sheet comes from the folllowing data sources:

- 2000, 2001 & 2002 Information Management Survey
- Grantee Reports Rounds 3-5
- Information Management Case Studies
- Evaluation of CCI-Funded MD Leadership Program

Clinic IT Activities

Percentage of clinics engaging in the following IT activities, 2000-2003:



Areas for Improvement

Clinics continue to significantly underutilize the power of their practice management systems.

- Most medical directors say their PMS can identify patients by chronic diseases or preventative measures, but they view this information only intermittently. Barriers include difficulty in extracting data, concerns about data quality and lack of staff capacity to prepare reports.
- Half of clinics have a PMS that can generate automated wellness reminders to patients, but only 14% use this functionality.

Clinics can make more systematic use of data to inform business and clinical decisions.

- Less than half of clinics regularly produce reports on quality assurance or patient flow.
- Many medical directors are not receiving reports that could be valuable to them, such as patients by geographic identifiers or service utilization.
- Few clinics compare their clinic data to national standards. Less than half of clinics regularly compare their data on patient demographics, service utilization, or patient health status to other clinics.
- Only 20% of clinics have electronic systems for tracking referrals.

Clinics could benefit from greater IT collaboration. Less than half collaborate with other clinics on operating their IT systems. Around a third collaborate on analyzing data to inform business decisions or understand patient populations and community health.

APPENDIX B. COMMUNITY CLINICS INITIATIVE SALON ATTENDEES, JULY 19, 2004

Mike Anguera, Community Clinics Initiative, San Francisco
* **Speranza Avram**, Northern Sierra Rural Health Network, Nevada City
* **Ken Bernstein**, Darin M. Camarena Health Centers, Madera
* **Yvonne Bice**, Central Valley Health Network, Sacramento
Heather Bonzer-Bishop, North Coast Clinics Network, Eureka
* **Carmela Castellano**, Califorina Primary Care Association, Sacramento
Carole Chamberlain, The California Endowment, Fresno
Steve Christiano, Meeting Facilitator, Fairfax
* **Jim Crouch**, California Rural Indian Health Board, Sacramento
Alicia Daniels, The California Endowment, Woodland Hills
Tom David, Community Clinics Initiative, San Francisco
Tom Dawson, Full Circle Projects, San Francisco
Michel Dory, The California Endowment, Woodland Hills
Nanette Falkenberg, Health Policy Consultant, New York
Susan Fleischman, Venice Family Clinic, Los Angeles
Sarah Frankfurth, Community Clinics Initiative, San Francisco
Ellen Friedman, Community Clinics Initiative, San Francisco
Jane Garcia, La Clinica de la Raza, Oakland
Joel Garcia, Tiburcio Vasquez Health Center, Union City
* **Dean Germano**, Shasta Community Health Center, Redding
Kendall Guthrie, Blueprint Research & Design, Inc., Seattle
Astrid Hendricks-Smith, The California Endowment, Woodland Hills
Laura Hogan, The California Endowment, Sacramento
Mandy Johnson, Community Clinic Association of Los Angeles County, Los Angeles
John Knapp, Alliance for Rural Community Health, Ukiah
SA Kushinka, Full Circle Projects, San Francisco
* **Donzella Lee**, T.H.E. Clinic, Los Angeles
Kathy Lim Ko, Community Clinics Initiative, San Francisco
Peter Long, The California Endowment, Santa Monica
Justin Louie, Blueprint Research & Design, Inc., San Francisco
Amy Luckey, Blueprint Research & Design, Inc., San Francisco
Marty Lynch, Lifelong Medical Care, Berkeley
* **Margie Martinez**, Community Health Alliance of Pasadena, Pasadena
Mike Matull, Coalition of Orange County Community Clinics, Santa Ana
Rhonda McClinton-Brown, Community Health Partnership of Santa Clara County, San Jose
Tomi Nagai-Rothe, The Grove Consulting, San Francisco
Olivia Nava, Community Clinics Initiative, San Francisco
Jeremy Nobel, Harvard University School of Public Health, Boston
Victoria Penland, Council of Community Clinics, San Diego
Maria Powers, San Francisco Community Clinic Consortium, San Francisco
Mary Jane Puffer, California Family Health Council, Los Angeles

Angela Roberts, AltaMed Health Services Corporation, Los Angeles
* **Kathleen Rodriguez**, Santa Ynez Tribal Health Clinic, Santa Ynez
Roger Sharma, Eisner Pediatric and Family Medical Center, Los Angeles
Jane Stafford, Community Clinics Initiative, San Francisco
Anthony Stever, Redwood Community Health Coalition, Santa Rosa
* **Dong Suh**, Asian Health Services, Oakland
Pam Tupper, Shasta Consortium of Community Health Centers, Redding
* **Arcadio Viveros**, Salud Para La Gente, Watsonville
* **Kim Wyard**, Northeast Valley Health Corporation, San Fernando

* Community Clinics Initiative Steering Committee Member

COMMUNITY CLINICS INITIATIVE

Lessons Learned: A salon about what makes for successful IT projects

July 19, 2004, Santa Monica, California

DESIRED MEETING OUTCOMES

- Collect and analyze the lessons learned through the CCI IT program to-date
- Broaden the lessons beyond CCI SC to other leaders in the field
- Understand most effective strategies for disseminating lessons learned throughout the field

INVITEES

CCI Steering Committee, Regional and State associations, CPCA Exec Committee

AGENDA

10:00 am **Registration**

10:30 am **Welcome**—Ellen Friedman and Laura Hogan
Outcomes/Agenda/Ground rules—Tomi Nagai-Rothe & Steve Christiano

11:00 am **Table Discussions and Report Back**

- From your experience with IT projects, what has been the single greatest lesson you've learned?
- In IT work, what worked best and why? Either your own direct experience or that which you have observed.
- What didn't work and why?

12:00 pm **Just The Facts**—Kendall Guthrie, Blueprint R&D on the status of the field

12:15 pm **Lunch**

1pm **Lessons Learned**—Case Studies and Panelists

- Individual Case Study

1:45–2 pm **Break**

- Collaborative Case Study

3:00 pm **Break**

3:15 pm **Discussion Questions**

- What are the key lessons learned both from the morning tabletop discussions and the case studies?
- What are the most effective dissemination strategies to the wider field of community health centers, funding sources?
- What future opportunities exist given where the field has come in California?
- What more do we need to know to optimize this collective experience?

4:15 pm **Next Steps and Meeting Evaluation**

4:45 pm **Close**

APPENDIX C. INDIVIDUAL CLINIC CASE STUDY

The following case study was used as a springboard for discussion at the July 2004 meeting. The 45 participants at the meeting discussed this case study in small groups and their responses to it helped shape the discussion for the day. While the discussion went far beyond the issues raised in this case study, it was a reference point for the group and allowed everyone to focus on some of the common challenges that clinics face when implementing complex technology projects.

We encourage you to use this case study with your organization to facilitate discussions regarding the causes of and solutions for challenges with technology projects. By engaging in an open and frank discussion with your staff about the issues involved in implementing technology and working collaboratively, we hope that you will be able to effectively address similar situations in your own projects.

Please use the case study for discussions with:

- Interdisciplinary Management Team (ED, MD, CIO, COO, CFO)—discussions or planning sessions
- Entire staff—to gain insights into the challenges that staff face when implementing technology
- Regional consortium—to identify issues that individual clinics may have while participating in collaborative projects.

Note: The case study is not a real situation; it is a composite aggregated from many of CCI's grantees' experiences.

Individual Clinic Case Study: The Clinic for Healthy Families

Community Clinics Initiative—July 19, 2004

"I don't understand why there's a $40 balance on my account or what this $85 means right here," said Mrs. Hodges, pointing to a line item on her patient account statement. "The last time I came here, I thought the nurse said my visit would be covered by Medi-Cal." As Lisa Sanchez, operations manager at the Clinic for Healthy Families, typed the patient's account number into the computer, she could see why the patient was confused. Thanks to the clinic's new practice management system, Lisa was quickly able to identify the amount on the bill that was covered by Medi-Cal, the charges for services not covered by Medi-Cal, and the remaining costs based on a sliding fee scale, which were Mrs. Hodges' responsibility.

While things were so much better with the new system, there were still problems. A few persistent bugs were causing some slow-downs in billing and the vendor hadn't responded yet. Lisa had heard that the vendor had been bought by another company and the main contact was no longer there. When they first bought the system, the vendor's project manager was calling every other day, helping them along the path. Now, however, it wasn't clear who to call. She made a mental note to check if the vendor had called yet with the status of these fixes. Last time they called requesting examples of the problem, the message sat in the voice mailbox of the billing clerk, who was on vacation, for over a week.

Vendor issues aside, Lisa was acutely aware of a different kind of problem. Although the system automates the process of applying for Medi-Cal, checking eligibility and capturing the HAP number in the patient's record, the front desk staff is still printing out the confirmation of eligibility and putting it into the patient's chart manually. On the back end, the billing staff has to manually look up the number in the chart and type it into the system. These manual hand-offs weren't necessary anymore and caused slippage and, even worse,

claims were still rejected at the old rate. Lisa thought she was really clear about the new process when the staff was trained, but maybe they were overwhelmed by everything there was to learn in four hours.

There was little space in the budget for staff training and Lisa had mentioned this several times to the CEO. Carol Peterson, her CEO, was one of the most dynamic people Lisa had ever worked for and a great leader. She was always advocating for the clinic, writing grants, being a tough negotiator with the county, and being visible in the community. Because she was away from the clinic so much, her time was in demand when she did come in. Since Carol's time in the clinic was limited, she had no problem delegating activities to staff members. Whenever Lisa came to her with issues like those related to the computer system, Carol made it clear that Lisa should use her best judgment. Lisa felt good about her decision to hire Tech Associates to deal with all those network and hardware set-up issues. Carol said it wasn't cost justifiable to hire a "techie" for a clinic their size, when they really needed an MA and a budget analyst.

Just then Dave Duncan, the CIO of the consortium that Lisa's clinic belonged to, arrived for a meeting with her. The consortium, South Coast Association of Community Health Clinics (SCACHC) was preparing a grant proposal to enable its members to manage diabetic patients through participation in a disease collaborative. Participation would require the implementation of a computerized disease registry, and Dave wanted to assess their IT capabilities to better understand what portion of the grant would need to be allocated to the Clinic for Healthy Families. Lisa thought back to Mrs. Hodges and knew that a real disease registry with clinical decision support features would help enormously in managing diabetic care, as well as other chronic illnesses. She supported the goals of the consortium and, in general, believed in the benefits of belonging to the group, but she just wasn't sure that the clinic could handle another computer system implementation.

Just then Dave came through the lobby and spotted her. Lisa always admired the way Dave was so organized and knew so much about technology. "Hi, Lisa," said Dave, glancing at the line of patients beginning to form at the front desk. "I think we can make this pretty quick, since I'm sure you've got your hands full today."

"Today is no different than most others," sighed Lisa.

"If I could just get a copy of your clinic's technology plan, your inventory of hardware and software, your network topology diagram, a copy of your contract with Tech Associates, and a six-month summary of their performance against their service level agreement, that would be great," said Dave. "I'd also like to get the number of diabetic patients by primary physician, and if you could just run a set of year-to-date UDS reports for me, that would be really helpful," he added.

"Sure, no problem!" Lisa joked. She didn't know what half of those documents were and wished that the clinic could have afforded a "techie" after all. As for diabetic patients by provider, she wasn't exactly sure how to get that information. She knew the practice management system had the capability to collect and report on this data, but she had not yet had time to figure out how. The accuracy of diagnostic coding in the practice management system was another issue she'd been meaning to address with the staff.

On the other hand, the UDS reports were a breeze, and while several of the schedules printed out, Dave explained the purpose of some of the other information he needed and how it would be used for the grant proposal. As they made a plan to gather the missing information, Lisa wondered where on earth she would find the time to pull everything together in two weeks. Although she wasn't afraid of technology, she felt more confident handling tough clinic problems like staff retention and inventory management than the computer

project, which she felt was never quite under control and never finished. She seemed to spend more time figuring out whom to turn to for help—the system vendor, Tech Associates, Dave or Carol—than actually solving the problem.

Dave noticed Lisa's discouraged look. "Hey, remember all the progress you've made over the last two years. And just think of how this diabetes registry can make a difference for the patients in the communities we serve."

"I know that technology is making a difference for us," said Lisa. "I just wish I could prove it to Carol in a way that would justify more resources. With budget cuts, staff turnover, and all the outstanding issues with our current system, I don't know how we'll be able to do it. It just feels like such a burden at times, even though it seems like the right thing to do."

DISCUSSION QUESTIONS

1. What could the Clinic for Healthy Families do to better support clinic staff, manage the relationship with their practice management vendor, make more effective use of the system, and manage the change in work flow processes at the clinic?

2. How effective are Carol and Dave in supporting Lisa's efforts to manage their systems? Given their respective roles, how can each be more supportive?

3. What kind of technology leadership and management structures could the Clinic for Healthy Families implement in their resource-constrained environment to insure that their IT investments were strategic and sustainable?

4. How should the Clinic for Healthy Families make the decision about whether they should participate in the SCACHC disease collaborative, and if so, how? How can the clinic best balance the tension between using technology to further the mission of the clinic against meeting the day-to-day challenges it brings?

5. What could Lisa and the Clinic for Healthy Families do to measure the impact of their investments in technology systems and partnerships?

Action

Information

Resources

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