



**NYCLIX, Inc.**  
Annual Report 2008



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## Mission of NYCLIX, Inc.

“To improve health by providing a clinical data exchange capability among participating stakeholders. To provide a health information infrastructure that enables innovative programs of care.”

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# Message from the Chairman

In 2008, NYCLIX achieved a major milestone by launching an operational clinical health information exchange in New York City—an electronic network that, for the first time, allowed non-affiliated acute care, ambulatory and home care providers to share essential information about patients’ medical records as they move from one facility to another. Ten healthcare organizations are currently contributing data to the exchange, and others are expected to join the NYCLIX network in the near future.

From a public policy standpoint, our timing couldn’t have been better: NYCLIX was going live at the same time that the nation’s new governing team was announcing its health information technology strategy. NYCLIX’s guiding principles are fully aligned with the strategy espoused by the new administration, which has made development of an interoperable health information network the central focus of its economic stimulus package for America’s healthcare system. This is reflected in the recently-passed 2009 federal stimulus bill, which allocates \$19 billion to help U.S. healthcare organizations implement electronic health records technologies and form linkages with healthcare information exchanges like NYCLIX.

It is by no means assured, however, that these financial resources will accrue to NYCLIX, given the fierce competition for scarce dollars in today’s dark economic climate. Our network is poised to achieve significant growth in 2009, but this growth will not come easily. In addition to effectively leveraging available public funding, NYCLIX will continue to need the financial support and resources provided by its member organizations—possibly at higher levels than before—in order to make the promise of interoperability, and all the benefits that come with it, a reality.

*Gilad Kuperman*

## NYCLIX: Who We Are and Where We've Been

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NYCLIX was established in 2004 as an outgrowth of the Information Technology Committee of the Greater New York Hospital Association. The goal was to create an organization that would be responsible for the development of interoperable healthcare information exchange (HIE) among New York City-based healthcare providers. With 14 charter members, NYCLIX represented a groundbreaking community collaboration among a number of the leading academic medical centers and hospitals in the New York City region, two of the city's largest ambulatory physician groups, and the country's largest home health care provider.

In its role as a regional health information organization (RHIO), NYCLIX's mission is to bring about improvements in the quality, safety and efficiency of healthcare delivery by enabling the exchange of essential medical information between member organizations. Our goals are:

1. To improve the coordination of care and communication of medical data among hospitals, laboratories, physician offices, and other entities by creating an effective infrastructure for the secure and authorized exchange of healthcare information;
2. To improve healthcare quality, reduce medical errors, lessen health disparities, and advance the delivery of patient-centered medical care;
3. To reduce healthcare costs resulting from inefficiency, medical errors, inappropriate care, duplicative care, and incomplete information;
4. To provide appropriate and timely information in order to help guide medical decisions as they are being made;
5. To improve the management of patients with complex chronic diseases;

6. To improve public health activities and facilitate the early identification of, and rapid response to, public health threats and emergencies;
7. To facilitate basic and clinical research and enhance their impact on healthcare quality.

As 2009 unfolds, the U.S. healthcare delivery system and its myriad flaws and inefficiencies are front and center in the public debate over the economic stimulus package outlined by our newly elected president and since ratified by Congress. At a time of unprecedented anxiety about the state of the national economy, the federal government is planning to pump billions of dollars into the transformation of the current healthcare information system. This represents a stark recognition, on the part of lawmakers and the healthcare industry, that large-scale government support is critical if we're going to realize the promise that health information technology holds for improved clinical care and service delivery.

This multi-billion-dollar investment is also an acknowledgement that government support, at all levels, will continue to be pivotal to the transformation of America's healthcare infrastructure from a paper-based enterprise to an electronic health information system. The federal government envisions NYCLIX and other RHIOs as the building blocks of this new national healthcare information network. NYCLIX is well-positioned to play an important role in this process as it moves forward.

## 2008 Highlights

2008 has been an important year for NYCLIX. As the year began, a number of key events had combined to set the stage for a major step forward in pursuit of our goal: creating an interoperable health information infrastructure for healthcare organizations in the New York metropolitan area.

- We were embarking on our HEAL Phase 1 project (an outgrowth of New York State's Health Efficiency and Affordability Law, or HEAL), which would establish the technical platform necessary to interconnect NYCLIX members.
- As an institution, we were newly focused on establishing a sustainable business plan for the future.
- The HEAL 5 program, which focused on extending healthcare information technology to Medicaid and other public health venues, had just been announced.
- Lori Evans had just been appointed to fill the newly created position of New York State Deputy Health Commissioner for Health Information Technology Transformation.
- A statewide public-private partnership, the New York eHealth Collaborative (NYeC) had been recently established to help create a consensus regarding IT-related priorities and policies in New York State.
- The Nationwide Health Information Network Trials Implementation project (known as NHIN 2), sponsored by the United States Department of Health and Human Services, was being launched with NYeC as a contractor and NYCLIX as one of NYeC's subcontractors.
- The New York State Department of Health had obtained a contract from the Centers for Disease Control (CDC) to assist in examining how health information exchange could be used to support public health reporting activities. As the year began, NYCLIX was engaging in discussions regarding its possible role as subcontractor on the project.

By year's end, almost all of these promising developments had resulted in significant accomplishments. As the rest of this section will outline, NYCLIX had notable successes with its HEAL 1 project and its participation in the NHIN 2 project. We also won a one-year subcontract for the CDC's public health initiative, and have been integrally involved in the NYeC's Statewide Collaboration Process (SCP), a program established to develop the policies that will govern the emerging State Health Information Network for New York (SHIN-NY, pronounced "shiny"). In the years ahead, SHIN-NY will form the backbone for health information interoperability in New York State and will also be an important part of the emerging Nationwide Health Information Network.

In September, as a result of NYCLIX's successes to date and to help assure the organization's transition to a more stable and secure entity as it matures, NYCLIX hired Catherine (Cathy) Egan, RN, MPH, as its Deputy Executive Director. Cathy's primary responsibility is to oversee NYCLIX's business development efforts and improve coordination of its operations. She brings to NYCLIX over 20 years of experience working on insurance company and health plan-based quality improvement programs, both as a consultant and an employee of health plans. She has extensive experience designing data-based quality improvement programs, including the use of explicit metrics as a measure of performance and basis for success. Cathy's understanding of the valuable role that real-time access to data plays in quality improvement programs will allow her to help establish programs that benefit the full spectrum of potential clients for the healthcare system that NYCLIX is creating—including insurance companies/health plans and physician groups in addition to hospital centers.

One unfortunate event that occurred in the past year was NYCLIX's failure to receive an award under New York State's HEAL 5

program. NYCLIX put a fair amount of effort and planning into its HEAL 5 application, and we believed we had assembled a competitive proposal. The fact that we did not get an award led to a retrenching of NYCLIX's strategy, which included revisiting the vision and goals of the organization. In completing this review, the Board of Directors reaffirmed that NYCLIX has a worthwhile mission and should continue to persevere as a self-sustaining organization. This experience also helped NYCLIX realize that it has to focus more intensely on pursuing non-governmental business opportunities rather than risk being overly reliant on governmental funding. At the same time, it affirmed that NYCLIX's best chance for creating value and achieving sustainability in the near and medium term lies in identifying ways to use its capabilities to improve care-coordination and efficiency for its member organizations.

The next few pages contain detailed descriptions of NYCLIX's key accomplishments in 2008.

### HEAL Phase 1 Project

As mentioned above, our HEAL Phase 1 project was very successful. The goal of the project was to create a technical platform to interconnect our member organizations and, as a first use of this platform, to implement an application that our members' emergency physicians could use to access NYCLIX data in the course of care.

The project commenced in September 2007, with ten NYCLIX members participating: Beth Israel; St. Luke's-Roosevelt; NYU Langone Medical Center; NewYork-Presbyterian; Mount Sinai; St. Vincent's; Staten Island University Hospital; SUNY-Downstate; the Institute for Family Health; and the Visiting Nurse Service. Myriad details had to be

managed in order to bring this project to fruition. To create the master patient index and the edge servers that form the heart of the NYCLIX platform, over 80 secure interfaces had to be constructed within the IT networks of our member organizations. This effort required the coordination of multiple IT resources (networking, security, interfacing, etc.) at each participating organization. It also required input from a number of non-IT departments at each organization. For example, privacy officers had to be involved in the planning, since implementation of the NYCLIX privacy policies was a new and unique process requiring separate, written affirmative patient consent. In addition, because patient consent to participate in NYCLIX is typically given at the time the patient visits the member institution, registration staff had to be trained to obtain the NYCLIX consent. Finally, emergency physicians, who will be the clinical users of the initial NYCLIX application, also had to be trained to utilize the network.

While NYCLIX staff managed the project and coordinated the above-mentioned activities, the staff at each participating organization also contributed significantly to the project, and their input and hard work was critical to its success.

By the end of 2008, NYCLIX had met all project goals. Our ten participating organizations have implemented live production interfaces with the NYCLIX platform. Clinician training at several sites has been completed, and usage of the emergency department application will commence as soon as a critical mass of patient consents is obtained.

NYCLIX is extremely proud of our success in achieving the goals of the HEAL 1 project. Although we had only a modest level of funding, we benefited greatly from strong partnerships with our member organizations and with our vendor, MedPlus. NYCLIX was also fortunate

to have a highly skilled staff working on the project, both in-house and at our member organizations. Each participating organization brought a strong sense of mission and purpose to the effort—reflected in the fact that our members were able to marshal all the requisite resources for the project’s success, despite operating in an environment of multiple and competing priorities. The successful construction and launch of this platform will form the basis for NYCLIX’s future efforts to create demonstrable interoperability-based improvements in patient care.

### Nationwide Health Information Network Trial Implementation (NHIN 2)

In the summer of 2007, the Office of the National Coordinator for Health Information Technology (ONC) announced the launch of a \$22 million trial implementation program, known as NHIN 2, designed to help extend the fledgling Nationwide Health Information Network (NHIN). A previous program, NHIN 1, had identified some key architectural principles for the NHIN (for example, that it should be a “network of networks,” that it should not require a centralized patient identifier, etc.). The goal of NHIN 2 was to demonstrate that emerging operational RHIOs such as NYCLIX could be successfully interconnected using the existing standards and principles that had been laid out for the NHIN.

Nine Health Information Exchanges (HIEs) representing different communities around the country were awarded contracts. In addition to New York, other geographical areas receiving contracts included Indianapolis, Delaware, Virginia, West Virginia, California and New Mexico. Most communities were represented by a single RHIO. New York differed from this model in that the New York eHealth Collaborative (NYeC) was designated the

prime contractor for the region, with six New York State RHIOs serving as subcontractors. NYCLIX was one such subcontractor.

NYCLIX’s role was to participate in an aspect of the program known as “exchange of the summary patient record.” This involved taking patient data, making sure that it conformed to identified terminological and structural standards, and then, using services that adhered to identified technical specifications, exchanging the data with other RHIOs participating in NHIN 2. NYCLIX’s staff, together with our vendor, MedPlus, worked arduously to meet the specifications and successfully achieved the project’s goals.

The NHIN 2 results were presented at national forums in September and December of 2008. The September presentation took place at a meeting of the American Health Information Community (AHIC), chaired by then-Secretary of Health and Human Services Michael Leavitt. NYCLIX was one of the RHIOs involved in a demonstration of retrieval and exchange of patient data from around the country. The December demonstration took place at the National Health Information Network Trial Implementations demonstration forum. The demonstration drew over 700 attendees from around the nation, all eager to hear about the progress being made to advance the NHIN.

Because interstate privacy and consent approaches had not yet been worked out, the two national NHIN demonstrations did not involve actual patient data. In July of 2008, as part of the effort to test privacy and consent guidelines under development, NYCLIX and LIPIX (the RHIO serving Long Island, which was another NYeC subcontractor on the NHIN project), demonstrated the exchange of live patient data in accordance with privacy policies currently under development for health information exchange in New York State and with consent of the patients involved. We believe

this represents one of the first (if not the first) exchanges of live data between operational RHIOs. It was an important demonstration of the feasibility of the data exchange process and also a valuable test of our model for obtaining patient consent. We are continuing to work with the six NYCLIX members who are currently supplying us with patient consent documents to refine the consent process.

NYCLIX also played an important leadership role on the NHIN 2 project, with Gil Kuperman, NYCLIX's Executive Director and Board Chair, serving as co-chair of the project's Core Content Working Group (CCWG). The CCWG was responsible for taking data standards developed by the Health Information Technology Standards Panel (HITSP) and modifying them to serve as data specifications for the NHIN 2 project. The CCWG was one of seven key work groups overseeing the details of the project.

In summary, the NHIN 2 project was an excellent opportunity for NYCLIX and its vendor, MedPlus, to gain experience working with emerging national standards, obtain visibility at a national level, and take on a leadership role in the development of the NHIN. This experience will be of lasting value for several reasons—not the least of which is that several of the SHIN-NY protocols will be based on protocols now being used in the NHIN.

### Centers for Disease Control (CDC) Public Health Initiative

The federal government, along with various state governments and public health agencies, are eager to learn how emerging RHIOs could be used to support public health activities such as biosurveillance, case reporting, and providing public health agencies with access to data for case investigations. In 2007, the federal Centers for Disease Control (CDC) announced it was launching a five-year program to explore these

goals, with contracts to be awarded for one year at a time. The New York State Department of Health (NYSDOH), in conjunction with the New York City Department of Health and Mental Hygiene (NYCDOHMH), was one of three awardees to receive a contract for Year One of the project. NYCLIX was subsequently invited by NYSDOH to be a subcontractor on the project.

As a participant, NYCLIX is required to send registration data (e.g., records of admission events, discharge events, etc.), laboratory data, and emergency department data (e.g., chief complaint, patient's temperature on admission, etc.) to the NYSDOH. All data will be de-identified to protect privacy. NYCLIX was well positioned for this role, since it was already collecting registration and laboratory data as part of its information exchange activities. At the same time, some enhancements of the interfaces with NYCLIX participants' emergency department systems had to be implemented to conform with the CDC's specific data requirements.

The first year of the project has been devoted largely to "proof of concept." As part of our Year One activities, NYCLIX and the rest of the project team has been working to develop specifications for public health-related data exchange services that will be used in subsequent years of the project. These specifications (known as the "Universal Public Health Node", or UPHN) are being developed as part of the State's health information architecture, or SHIN-NY.

NYCLIX is hopeful of getting second-year funding under this program, which will allow us to continue playing a key role in determining how health information exchange can be used to contribute to the public health.

## Involvement in the Statewide Collaboration Process (SCP) of the New York eHealth Collaborative (NYeC)

In late 2007, the New York eHealth Collaborative (NYeC), a statewide organization bringing together virtually every public and private stakeholder in the New York State healthcare system, was established. The Collaborative undertook a number of formative activities in 2008—the foremost being the establishment of a Statewide Collaborative Process (SCP) whose aim is to develop a governance and policy framework for New York State’s health IT agenda. Over the course of 2008, NYCLIX has been an active participant in the SCP.

The guiding principles for the SCP, as laid out by the NYeC, are that it should:

- Represent state-wide and multi-stakeholder perspectives
- Assure that the state’s health IT activities are inclusive and transparent
- Focus on clinical priorities and the delivery of patient-centered, coordinated treatment and preventive care
- Protect patient privacy and support the right of New Yorkers to have greater control over and access to their personal health information
- Ensure the financial viability of the health IT and interoperability agenda
- Foster innovation and industry growth in the public’s interest

The goals of the SCP include:

- Facilitating a governance process to drive consensus on policy development, implementation approaches and operation support services.
- Providing a functional structure to serve as a vehicle for convening stakeholders and coordinating the implementation and operation of New York’s health information

infrastructure. This structure will support a bottom-up and top-down approach in which policies, standards, and technical approaches take into account regional market variations and population needs.

- Providing project management (staff, tools and resources) to streamline, coordinate and document activities of its component workgroups (see below).

In 2008, the SCP established four main workgroups:

- Protocols and Services
- Privacy and Security
- Clinical Priorities
- Electronic Health Records (EHR) Collaborative

These four workgroups report to a Policy and Operations Council (POC) that reports in turn to the NYeC Board. Workgroups make recommendations to the POC which, if approved, are then sent to the NYeC Board. If the Board approves a recommendation, it is sent on to the New York State Department of Health for further consideration.

Project teams (e.g., HEAL projects, the NHIN project, the CDC project, etc.) inform and are informed by the workgroups’ activities. Strategic initiatives such as financial sustainability, evaluation, and consumer advocacy activities are coordinated by the NYeC Board under the rubric of the SCP.

NYCLIX has been an active participant in almost all of the SCP workgroups. Gil Kuperman, NYCLIX Executive Director and Board Chair, is a member of the Policy and Operations Council, while Cathy Egan, NYCLIX Deputy Executive Director, serves on the financial sustainability workgroup. In addition, we’ve ensured that our vendor, MedPlus, is actively involved in the discussions of the Protocols and Services Workgroup, since this is where the technical specifications for the SHIN-NY are

being developed, which will impact MedPlus more directly than they will NYCLIX.

NYCLIX appreciates the need for a governance structure to guide the development of a regional infrastructure for health information technology. The person-power requirements of participating in the various workgroups can be daunting—especially given our lean staff—but NYCLIX is committed to supporting SCP activities to the greatest extent possible.

## Business Development

Due to the unusually fluid and dynamic political and economic landscape of recent years—particularly in terms of healthcare—NYCLIX’s business strategy has by necessity been fluid as well. In 2008, spurred by its technology successes as well as by the realization that our organization cannot afford to be overly dependent on government funding, NYCLIX took steps to further develop and refine its near- and long-term business sustainability plan. A key hire was made in third quarter 2008, bringing on a Deputy Executive Director whose focus includes the development and launch of a sustainable business model based on leveraging the potential value that the NYCLIX health information exchange offers to various healthcare stakeholder groups, including health plans and physician groups.

The particular group that we have targeted for focused initiative discussions consists of the five healthcare payers with the greatest member penetration in the New York City market:

- Aetna
- Emblem
- Oxford/United Healthcare
- Anthem/Empire Blue Cross Blue Shield
- Healthfirst

Throughout 2007 and into 2008, a NYCLIX disease management subcommittee met with

various healthcare payer representatives to analyze and agree on the components of their care management programs that would most benefit from the timely and comprehensive clinical data exchange offered by NYCLIX. The group reached a general consensus on the potential of clinical data exchange to enhance the plans’ disease management programs. In late 2008, NYCLIX met with several chief medical officers of these companies and began a dialogue about how our organizations can collaborate on the design of projects going forward.

Another important area of focus for the Deputy Executive Director has involved formalizing NYCLIX’s financial and administrative processes. NYCLIX is the recipient of significant funding, and at year’s end was on target to realize a total of \$6.7 million dollars in funding from public, private and member sources for the calendar year 2008. The enhanced organizational and administrative structures now in place will help ensure that this income flow, along with expenditures and day-to-day support activities, will be managed efficiently and effectively.

## Goals And Challenges for 2009

NYCLIX has several goals for the coming year. Most importantly, NYCLIX needs to “harden” the technical and organizational platform that was built under the HEAL 1 project. From a technical perspective, NYCLIX needs to ensure that its data interfaces are robust and are suitable for clinical care and a variety of other possible applications. Organizationally, NYCLIX needs to ensure that the processes necessary for growth of the platform are in place—for example, ensuring that training can be done as and when needed, that authorization and consent processes are in place, and that methods exist for keeping member organizations’ senior leadership, clinicians and other parties informed about directions that NYCLIX is taking. NYCLIX and its members also need to be sure that organizational structures within the member organizations are in place to support these goals.

NYCLIX also needs to consider what other projects it might undertake. Any project NYCLIX seek to take on should meet the following criteria: (a) it should advance NYCLIX’s mission of identifying ways to improve care through interoperability; (b) it should leverage and/or extend the NYCLIX platform; (c) it should have a way of being funded; and (d) ideally, it should advance NYCLIX’s sustainability efforts.

At this time, NYCLIX is exploring a number of possibilities. These include:

- Obtaining a second year of funding under the Centers for Disease Control automated biosurveillance contract
- Getting funding for “option years” that the Department of Health and Human Services said it may make available under the NHIN contract
- Identifying a collaborative project that can be undertaken with health plans to explore how health information exchange could

be used to make care management more efficient and effective

- Leveraging additional New York State granting activities (e.g., Phase 10 of the HEAL program)
- Collaborating with other health information exchange organizations who wish to connect to NYCLIX; for example, a network of nursing homes has recently approached NYCLIX to explore whether connecting to NYCLIX is technically possible and mutually beneficial

In addition to these specific avenues, NYCLIX also continues to explore other potential partnerships where we think there may be opportunities.

Although NYCLIX is building on its many successes of the past year, there are some important challenges that need to be addressed in the coming year if NYCLIX is to continue to be successful.

As part of “hardening” the organizational platform we’ve built thus far, NYCLIX needs to affirm that it has solid sponsorship on the part of its member organizations. NYCLIX will be successful only if its members feel they are deriving value from it; and our members will only feel they are getting value if the senior management team within each member organization—including the CMO, CFO, CIO and CEO—have a broad awareness of NYCLIX’s activities, and a clear vision of how interoperability can be used to advance their own organizational goals. We are currently developing strategies to meet this important challenge.

The other main challenge is financial. Currently, NYCLIX is projecting a budget deficit for the calendar year 2009. Although there are many possibilities as to how this deficit may be overcome, the NYCLIX staff needs to ensure that these budget issues are addressed over the course of the year.

# Leadership

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## NYCLIX Board of Directors

### Voting Members

Gilad Kuperman, MD, PhD (Board Chair)\*  
*New York-Presbyterian Hospital*

Thomas Check (Vice Chair)\*  
*Visiting Nurse Service of New York*

Bert Robles (Secretary)\*  
*SUNY Downstate Medical Center*

Abha Agrawal, MD  
*Kings County Hospital*

Louis J. Capponi, MD  
*NYC Health and Hospitals Corporation*

Paul Conocenti\*  
*NYU Langone Medical Center*

Paul Contino\*  
*Mount Sinai Medical Center*

Gregg Husk, MD  
*Beth Israel Medical Center - Petrie Division*

Kathy Kania  
*Staten Island University Hospital*

John McDaniel  
*Saint Vincent Catholic Medical Centers*

Bonnie Sessa  
*St. Luke's-Roosevelt Hospital*

Robert V. Sideli, MD  
*Columbia Doctors*

Weston Willett  
*Institute for Family Health  
Executive Committee Member*

### Allied Board Members (Advisory)

Farzad Mostashari, MD, MSPH  
*New York City Department of  
Health and Mental Hygiene*

Michael I. Oppenheim, MD  
*North Shore Long Island Jewish Hospital Center*

Laurel Pickering, MPH  
*New York Business Group on Health*

Alan Silver, MD  
*I PRO*

## NYCLIX Subcommittee Chairs

### Business Subcommittee

Mark Lipton, MD  
*NYU Langone Medical Center;*

Laurel Pickering,  
*MPH New York Business Group on Health*

### Clinical Advisory Group

Jason Shapiro, MD  
*Columbia University and  
Mount Sinai Medical Center*

### Evaluation Subcommittee

Gilad Kuperman, MD, PhD  
*New York-Presbyterian Hospital*

### Legal Subcommittee

Brian Wyatt  
*Hospital for Special Surgery*

### Privacy Task Force

Thomas Check  
*Visiting Nurse Service*

\*Member, Executive Committee of the Board

## **Public Health Working Group**

Gilad Kuperman, MD, PhD  
*New York-Presbyterian Hospital*

## **CIO Subcommittee**

Paul Conocenti  
*NYU Langone Medical Center*

## **NYCLIX Staff**

**Executive Director**  
Gilad Kuperman, MD, PhD

**Deputy Executive Director**  
Catherine Egan, RN, MPH

**Technical Manager**  
Thomas Moore





