Testimony Submitted by:

Harry Lukens
Senior Vice President and Chief Information Officer
Lehigh Valley Health Network

Donald Levick, M. D., MBA
Pediatrician, Medical Director Clinical Informatics
Lehigh Valley Health Network

In collaboration with

Phoebe Ministries
Allentown, PA

Presented to:

Pennsylvania Senate Communications & Technology Committee
Hearing on Electronic Health Information Exchanges
March 2, 2011

Contact: Mary Ensslin
Vice President
Government & Legislative Affairs
Mary.ensslin@lvhn.org
484-884-0817

Good morning, Chairman Folmer, and members of the Committee. I am Harry Lukens, Chief Information Officer of Lehigh Valley Health Network (LVHN) in Allentown. With me today is Dr. Donald Levick, a pediatrician and Medical Director, Clinical Informatics at the Network. I commend the Committee on holding this hearing today and appreciate the opportunity to speak to you on a topic that is vitally important to the patients we serve. Having timely access to essential health information is critical to improving the quality of care we deliver; while at the same time can help to lower costs to the overall healthcare system. Sharing health information improves quality and provides value, both to the patient and the system as a whole. This is a goal shared by policymakers and providers alike.

You can read more about Lehigh Valley Health Network, Phoebe Ministries and Don's and my credentials at the end of our written testimony. For now, I'd like to give you an overview of some of the challenges I see from the eyes of a mechanic.

Establishing a network at LVHN

LVHN's journey began in the mid 1990's with the commitment to providing our clinicians with real-time, any-time access to clinical data from any place on our campuses. From an infrastructure perspective, we deployed a robust wired network with full redundancy to all sites; hospitals, health centers and physician practices. To accommodate the physicians' need for increased access to clinical data and to help them become more efficient, we developed and deployed a wireless network. This wireless network allowed mobile access to information from any place they roamed, including stairwells, elevators, and even bathrooms. Physicians were no longer tethered to stationary workstations.

Wireless networks were installed in ambulatory practices to support the LVHN implementation of the electronic medical record. Wireless handheld devices (sub notebook computers and tablet computers) have become devices of choice both in the ambulatory and in-patient areas. LVHN continued to expand its connectivity capability by providing high speed, reliable access to clinical data from anywhere inside the network and, by using cellular technology from anywhere outside of the network such as from home, from the beach, from wherever there is telecommunication access. Providing access to clinical information remains a clear driver of network development. As you might imagine, all this takes financial resources.

Adding other sites of care to the wired and wireless networks followed as LVHN added more ambulatory sites and developed affiliations with other group practices and outside entities. LVHN began working with Phoebe Ministries in an effort to reduce readmissions and prepare for the Accountable Care Organization world. In September 2009 a multi-disciplinary team came together to study and improve the handover of information between care settings. The team was comprised of inpatient physicians, nurses, case managers and administrators; primary care physicians; home health nurses; and skilled nursing facility administrators and physicians.

This group tracked the handover of information from the acute care setting, completing process maps of electronic, faxed, and verbal communication to skilled nursing facilities, home health agencies, and primary care physician practices.

When the process of sharing information was identified, the team focused on the content of information being transferred. The team identified 30+ items needed within 48 hours to care for patients. An 'ah ha' moment came when a home health nurse realized all of the post-acute caregivers need the same key information within a short period of time. The team determined this critical information to be:

1. Primary & secondary diagnosis
2. New & changed medications
3. Pending diagnostics & required follow up appointments
4. Allergies
5. Brief narrative of hospital course, incorporating additional information as necessary

This was information that could only be found in the chart that typically was sent several days after discharge.

We revised the discharge summary and worked through a pilot project designed to test the content, format and deliverability. Feedback from receiving providers was positive – they appreciated the identified subject areas and felt key information was easy to locate. The team continues to work to automate items 1-4, pulling the data from current information system locations. These items will be self-populated at time of discharge, triggering the physician/advanced practice clinician review.

It should be noted that this rapid discharge summary is primarily a provider-focused document and is not comprised in patient-friendly terminology. Lehigh Valley Health Network also generates a discharge instruction document that houses similar information in patient-friendly terms. Lehigh Valley Health Network simultaneously is developing a provider portal to aggregate the data and make access even easier. The second phase of this project is to refine the technology and make it available to our patients.

In addition to including Phoebe Ministries in our health information exchange, LVHN has initiated conversations with two inner city school districts of the Lehigh Valley to provide school health clinics and school nursing offices with access to student health information. The percentage of students switching schools in mid-tem is high, and their health records including immunization records and family history, too often remain in the previous school. This system as designed by LVHN will provide connectivity and appropriate access to electronically stored school based records. A subsequent step would be to link this information to the hospital's pediatric clinic EMR. It is a natural extension of LVHN's goals of connecting the community. It will be health system neutral, and is the beginning of a Lehigh Valley Health Information Exchange.

Establishing a meaningful exchange across the Commonwealth

First we must determine which stakeholders should be in the exchange. I submit to you that an exchange of information just among providers falls short. Instead a meaningful exchange needs to include the payors, the Commonwealth and the providers. If we are going to improve quality and lower costs for the entire healthcare system, then all members of the system must be at the table with shared responsibility. The goal of any health information exchange is to improve the care we provide to our patients by facilitating access to clinical information at the point of care, regardless of the data source.

Providers benefit by an exchange of information allowing them to improve clinical decision-making and patient outcomes. Hospitals can increase efficiency and value, especially in the world of Accountable Care Organizations (ACOs) by reducing unnecessary care and duplication of tests and procedures. With the advent of ACOs and bundled payments, a network's responsibility is for the continuum from primary care, through the acute inpatient visit to post-acute and home care. Ensuring the transfer of reliable, timely and actionable information is critical as we care for our collective patients. Lack of appropriate patient information causes a myriad number of problems from potential inadequate care to unnecessary costs.

Payors will certainly benefit from the exchange of information as patients will receive more efficient quality care. The availability of clinical information will facilitate the Patient Centered Medical Home concept and should lead to decreased admissions, elimination of duplicative tests and to a general reduction of healthcare costs. When considering the Commonwealth as a payor via the Medicaid program, the Commonwealth has much to gain by ensuring an appropriate health information exchange.

In addition to determining who should be included in the exchange we must decide what information needs to be shared. What are the most important data elements that must be exchanged to lower costs and improve care, at the point of care, wherever that might be? We then should establish a standard method to normalize that data and facilitate the integrity of the data provided. This will ensure that data from disparate sources matches up appropriately and is trusted data. We must perform identity matching as data is aggregated from disparate sources. It is critical that data on Joe Smith is matched up with data on the same Joseph Smith from another source.

From the mechanics point of view, each provider will need financial resources and experienced talent to be a player. One of the first barriers to overcome is to make sure all those who need to participate in the exchange have the financial resources and talent to do so. Given the many demands upon providers and the shrinking reimbursements, I believe there may be many providers unable to join an exchange. While hospitals and physicians have been recruiting technical talent for some time now, post-acute and other providers across the continuum have only begun the search and acquisition of talent necessary to participate in a robust exchange.

Again speaking as a mechanic, there are additional questions about how and where the data should live. The data could either exist in a federated form – living in the host systems from each of the sources, and being pulled to display as requested. Or, the data could be replicated into a centralized repository. If the data is replicated, where does the central repository live, who maintains it, who is responsible for the operation and security of the data repository and who validates the integrity of the data?

On a security note, who decides who has access to what levels of data and what will the multiple levels of access be? Issues regarding access to confidential data, such as behavioral health and HIV status will also need to be addressed. Ultimately, as we move toward more consumer driven care and personal health responsibility, will the patient be able to access their own information?

Funding will be necessary for the technology infrastructure. The exchange will need to build interfaces, possibly provide hardware, software and internet connectivity. There will be a need for a data aggregator.

Role of state government

Let's start slowly with regional demonstration projects administered by small, agile public private partnerships made up of industry experts. Starting small should limit the funding needed for start up costs. It will also give providers and the Commonwealth a chance to work out details and evaluate the impact of an exchange on local markets. Today often times, competition between health care providers prevents collaboration on use of patient information.

Several healthcare organizations have begun this journey and are providing valuable lessons as we move forward. The Keystone HIE, being driven by Geisinger Health System, and the efforts in the Western part of the state are amazing examples of what can be done. One of the goals in the original plan for the PA health information exchange was to provide access to clinical data through an exchange for providers and hospitals in rural and underserved areas. This may still represent a great opportunity for a demonstration project; either utilizing existing emerging HIE's and extending them into underserved or at risk areas, or looking for new target areas that would otherwise have little chance of implementing an HIE.

So in closing, I want to thank you for taking another look at the need for health information exchanges. I'm grateful for this opportunity to share my ideas with you and look forward to helping in any way that I can. Don and are I will be happy to answer any questions you might have.

Lehigh Valley Health Network

Lehigh Valley Health Network (LVHN) includes three hospital facilities - two in Allentown and one in Bethlehem, Pa.; eight health centers caring for communities in four counties; numerous primary and specialty care physician practices throughout the region; pharmacy, imaging, home health services and lab services; and preferred provider services through Valley Preferred.

Specialty care includes: trauma care at the region's busiest, most-experienced trauma center treating adults and children, burn care at Pennsylvania's largest Burn Center, kidney and pancreas transplants; perinatal/neonatal, cardiac, cancer care , and neurology and complex neurosurgery capabilities including national certification as a Primary Stroke Center.

Lehigh Valley Health Network is Network Cancer Program accredited, one of only 26 in the nation and the highest available from the American College of Surgeons' Commission on Cancer. It is only one of three National Cancer Institute's Community Cancer Center Programs in Pennsylvania.

LVHN has been recognized <http://www.lvh.org/awards> by US News & World Report for 14 consecutive years as one of America's Best Hospitals; is a national Magnet hospital for excellence in nursing, and has been honored eight straight years among the top integrated health networks in the U.S.

Additional information is available at lvhn.org <http://lvhn.org> and by following us on facebook.com/LVHN <http://facebook.com/LVHN> and twitter.com/LVHNnews.

Phoebe Ministries

Phoebe Ministries is an Allentown-based, multi-service organization specializing in health care, retirement communities and support services for older adults throughout eastern and central Pennsylvania. Affiliated with the United Church of Christ, Phoebe Ministries has been serving the needs of older adults since 1903. Today, more than 2,300 senior adults are served throughout Phoebe's four main campuses and affordable housing communities in 6 counties.

Phoebe helps seniors return to their own homes through short-term rehab and allows them to stay independent longer through a geriatric management program. Memory support is a highlight of Phoebe's care and has been recognized by the Alzheimer's Association of America with a Program of Distinction designation at two of our communities.

HARRY F. LUKENS

461 Greensward S • Warrington , PA 18976 • 215/491-5018

SUMMARY

Thirty-four Years of Diverse Experience Within the Health Care Industry. Solid Background in Information Systems and Finance. Strong Organizational, Analytical and Communications Skills.

EXPERIENCE

LEHIGH VALLEY HEALTH NETWORK *1994 - PRESENT*

Senior Vice President and Chief Information Officer

- Develops and Directs Strategic and Operational Plan for Information Technology for the Network and its Affiliates
- Administers the 280 member Information Technology and Telecommunications Division of the Lehigh Valley Health Network
- Recommends and Implements Technology Options in Re-Engineering of Work Processes for the Network and Affiliated Medical Staff Offices
- Chairs Information Services Advisory Board Committee

PENNCARE[SM] *1996 - 1999*

Chief Information Officer

- Developed Information Technology Strategic Plan for Integrated Delivery System Comprised of 11 Health Care Institutions

THE LUKENS GROUP *1989 - 1994*

Managing Partner

- Established Group, Developed and Managed Business Plan and Operations

PROFESSIONAL HEALTH CARE SYSTEMS *1986 - 1989*

Vice President

- Developed Systems' Support and Consulting Divisions
- Planned and Directed Hospital Systems Implementations

UNIVERSITY OF PENNSYLVANIA HOSPITAL *1982 - 1986*

Deputy Associate Executive Director

- Directed Hospital Information Services, and Finance Departments
- Developed and Administered University Student Health Plan

UNIVERSITY OF PENNSYLVANIA HOSPITAL *1979 - 1982*

Director, Systems & Financial Operations

DONALD LEE LEVICK M.D., MBA, CPHIMS
Lehigh Valley Health Network
1245 S. Cedar Crest Blvd.
Allentown, PA 18103
(610) 402-1426 Email: donald.levick@lvhn.org

PROFESSIONAL EXPERIENCE

Medical Director Clinical Informatics **2008-present**
Physician Liaison, Information Services **2000–2007**
Lehigh Valley Health Network

Medical Director **1999–present**
Eastern Pennsylvania Down Syndrome Center
An organization dedicated to providing comprehensive medical evaluations of children with Down syndrome in a family-centered model. The center also provides consultative and educational services.

Practicing Pediatrician
ABC Pediatrics, Allentown PA **1985-1993**
ABC Family Pediatricians, Lehigh Valley Physician Group **1993-present**

EDUCATION

MBA	University of Phoenix	1996-1999
Resident in Pediatrics	St. Christopher's Hospital for Children Philadelphia, PA	1982-1985
MD	Medical College of Pennsylvania Philadelphia, PA	1978-1982
BA, Biology	LaSalle College, Magna Cum Laude Philadelphia, PA	1974-1978

CERTIFICATION AND LICENSURE

Certified Professional in Healthcare Information and Management Systems (HIMSS) 2005-present
Diplomate, American Board of Pediatrics 1987-present

PROFESSIONAL MEMBERSHIPS

Member, College of Healthcare Information Management Executives 2009-present
Member, Association of Medical Directors of Information Systems 2005-present
Member, American Medical Informatics Association 2001-present

Member, Senior Status, Healthcare Information and Management 2001-present

Systems Society
Fellow, American Academy of Pediatrics 1987-present
Member, Advanced Standing, American College of Physician Executives 1986-present

OTHER ADMINISTRATIVE ACTIVITIES (LVHN)

Member, Quality Improvement Collaborative Committee, LVHN 2009-present
Member, Information Services Advisory Committee, LVHN 2008-present
Member, Medical Records Committee, LVHN 2007-present
Member, EMR Oversight Committee, LVHN 2007-present
Chair, EMR Data Sharing Committee, LVHN 2007-present

OTHER ADMINISTRATIVE ACTIVITIES (EXTERNAL)

Chair, GE Healthcare Physician Advisory Group Steering Committee 2009-2011
HIMSS Clinical Decision Support Task Force 2009-present
Editorial Board, CMIO Magazine 2009-present
Board of Directors, Pennsylvania eHealth Initiative 2007-present
Vice-Chair, Finance Comm., PA eHealth Initiative 2009-present
HIMSS CPOE Workgroup 2009-present
Board of Directors, Delaware Valley HIMSS 2005-present

RESEARCH & PUBLICATIONS

Principal Investigator, IAIMS Planning Grant (Integrated Advanced Information Management Systems); National Library of Medicine; grant period: March 2005 – March 2008; grant award: $150,000

Osheroff, J., Levick, D., Kleeberg, P.., Collins, D., "Meaningful Use Clinical Decision Support Guide." HIMSS Publishing. February, 2011.

Yackanicz, Y., Kerr, R., Levick, D., "Physician Buy-In for EMR's. What does it really mean?" Journal of Healthcare Information Management, Volume 24, No. 2, Spring 2010 p. 41-44

Levick, D., "Optimizing Physician – IT Relations," HIMSS eLearning Module; January 2009

Arnold, Steven L, Editor, Guide to Electronic Medical Practice: Strategies to Succeed, Pitfalls to Avoid, HIMSS Publishing, October 2006; contributing author.

Miller, J, Editor, et.al. Implementing the Electronic Health Record: Case Studies and Strategies for Success, HIMSS Publishing, September 2005; Contributing author

Levick, Lukens, Stillman. "You've led the Horse to Water; Now How Do You Get Him to Drink: Increasing Utilization of Computerized Order Entry" Journal of Healthcare Information Management, Volume 19, No. 1, Winter 2005; p. 70