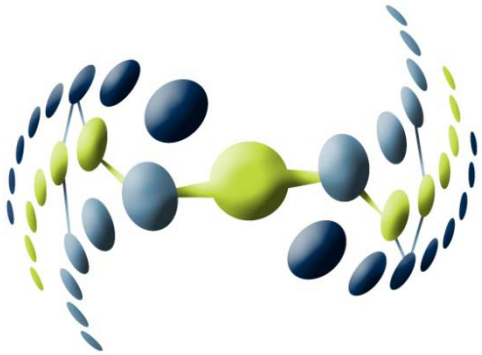
Connecting the Dots for Better Healthcare



Southern Tier HealthLink
December 2010

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Presentation Overview

- Overview of STHL and the HIE
- The goal of a patient-centered health care system
- Benefits of the HIE
- Acquiring Patient Consent
- STHL Board of Directors
- Relevance: The BC Plan
- HIE Demonstration
- Q & A

Your Medical Records THEN

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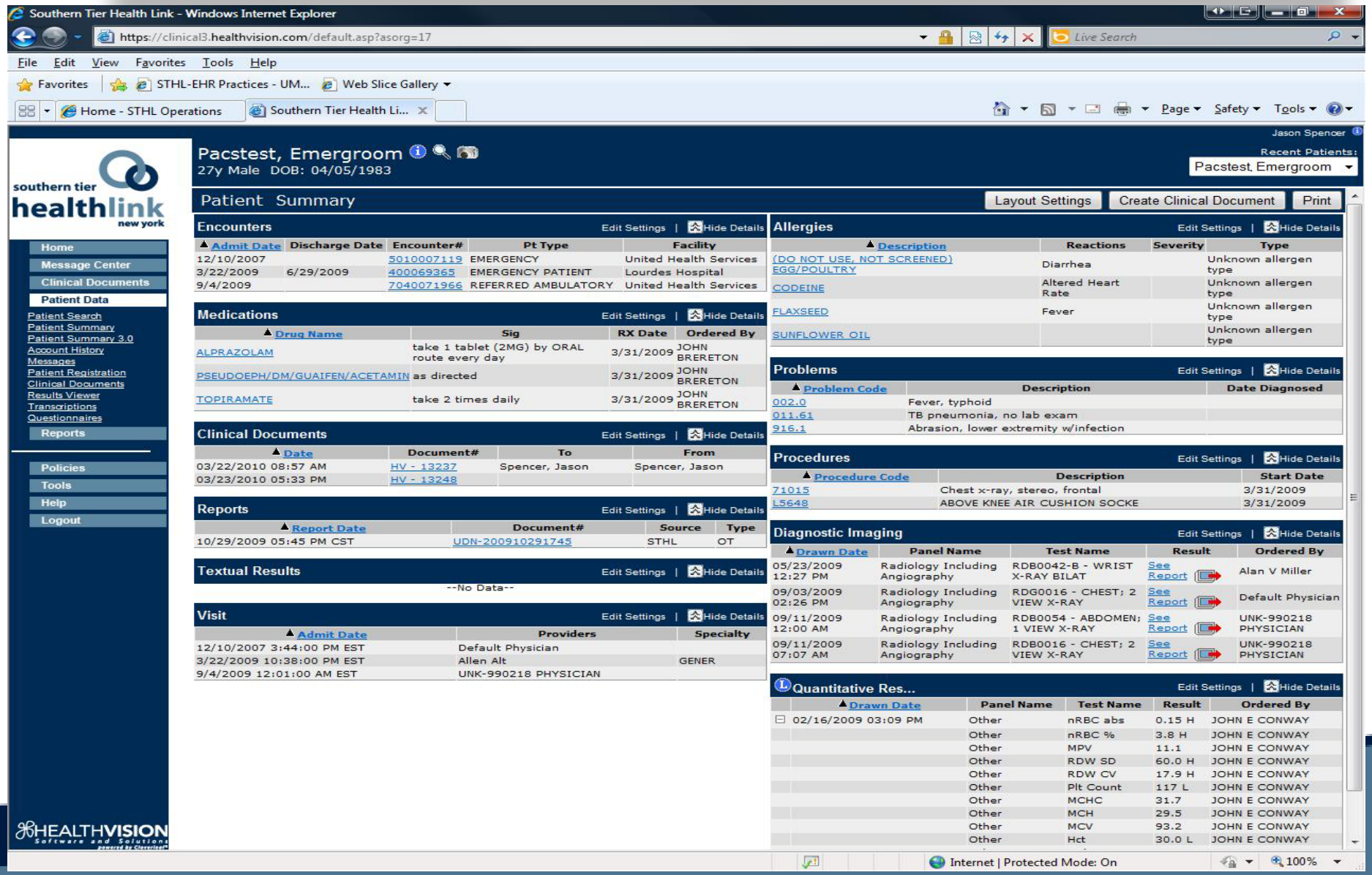
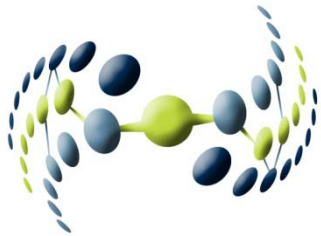
Your Medical Records NOW



The Alphabet Soup

- **EHR** (**E**lectronic **H**ealthcare **R**ecord): a computerized record keeping system at your hospital or doctor's office
- **HIE** (**H**ealth **I**nformation **E**xchange): the system of sharing (exchanging) medical information from one EHR system to another
- **RHIO** (Regional Health Information Organization): the not-for-profit group that manages the HIE, ensuring it works properly and securely
- **PHR** (Personal Healthcare Record): a computerized collection of medical information about a particular person, viewable via the internet
- **STHL** (Southern Tier HealthLink NY): our central NY RHIO that makes sure the HIE works like it is supposed to



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How Does It All Fit Together?

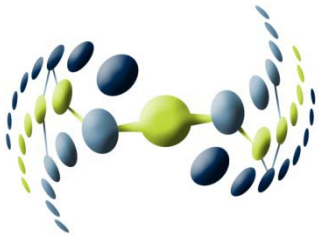
STHL is

…the local **RHIO**

…which oversees the **HIE**

…which stores **EHR** information from different sources

…that you can see in your **PHR**.



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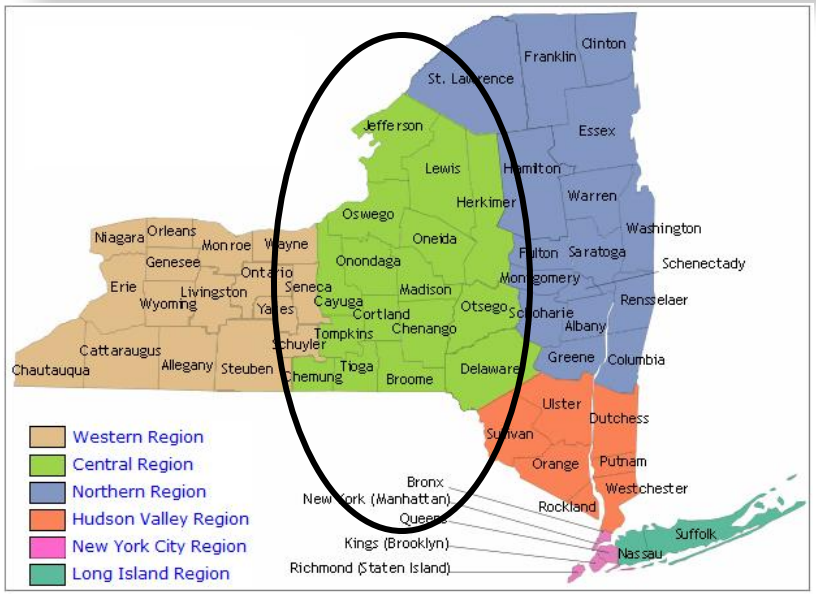
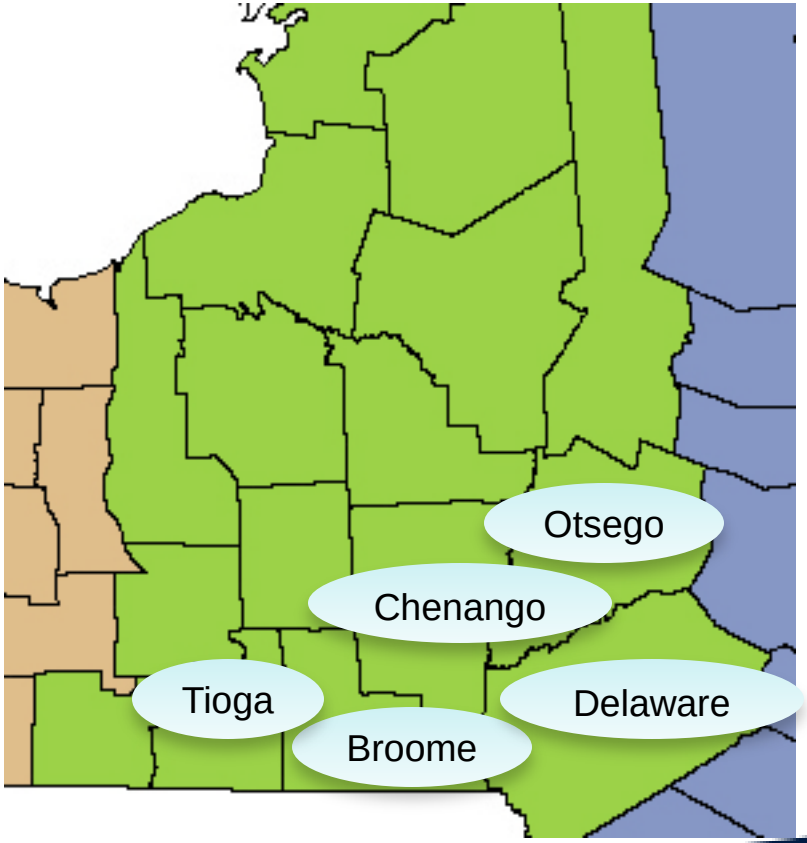
What Counties Does STHL Serve?





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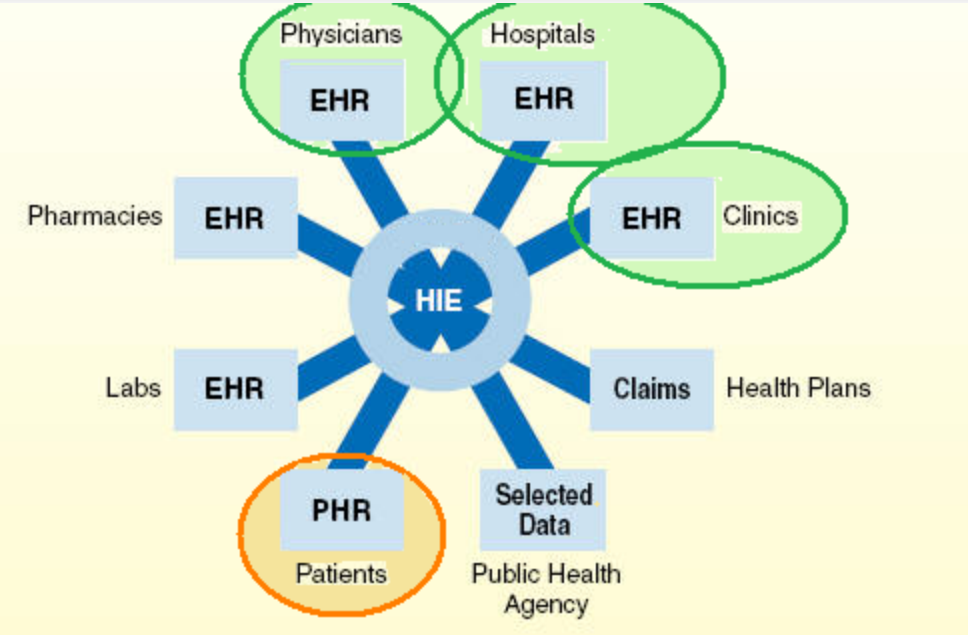
How The Information Flows



- **HIE: Health Information Exchange** -- Information technology network structure that enables health data transfer
- **EHR: Electronic Health Record** (or EMR, electronic medical record) – data stored at each provider location
- **PHR: Personal Health Record** – enables individuals to access their health records (expected in mid 2011)

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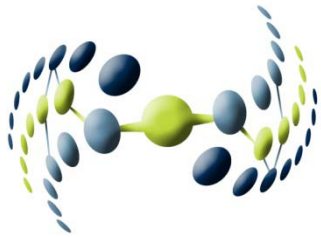
What are the benefits?

- **IMPROVED TREATMENT:**
  - A patient's doctors can provide better treatment and continuity of care when they have all of the health information available.

- **PEACE OF MIND:**
  - Medical information will be stored in one central, secure location (backed up regularly) so there is less worry about lost or damaged files.
  - Patients won't have to rely on their memory to provide the details of their conditions and medical history.

- **ACCESSING THEIR OWN RECORDS**
  - Patients will be able to view their own medical record online through their personal healthcare record (PHR).



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Who is Depositing Data Now?

Our Lady of Lourdes Hospital

UHS Binghamton General Hospital

UHS Wilson Medical Center

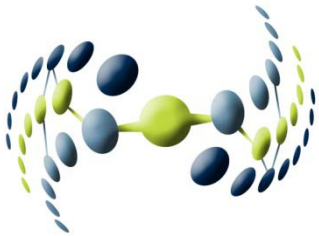
UHS Chenango Memorial Hospital

UHS Delaware Valley

UHS Primary Care

UHS Medical Group

Southern Tier Imaging



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Who Will Be Added In The Future?

Hospitals & Clinics

Broome County Free Clinic
UHS Delaware Valley Hospital

Long-Term Care Facilities

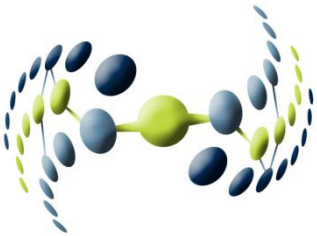
UHS Senior Living at Ideal
UHS Home Care
Lourdes Home Care & Hospice

Physician Practices/Specialist

Binghamton VA Clinic
Cardiology Associates
Endwell Family Physicians
Southern NY Neurosurgical Group

Regional Expansion

CON Projects: Oswego, Oneida
Additional outreach in Delaware, Chemung and Tompkins Counties



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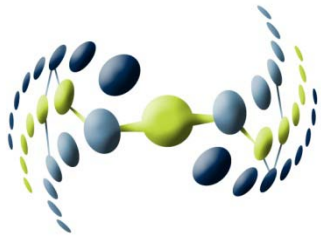
What does STHL do?

Southern Tier HealthLink NY:

- Provides governance and leadership in our HIE design
- Promotes collaboration among stakeholders
- Advocates for patient data security
- Educates and engages the community about the benefits of health information exchange
- Supports EHR adoption to achieve meaningful use



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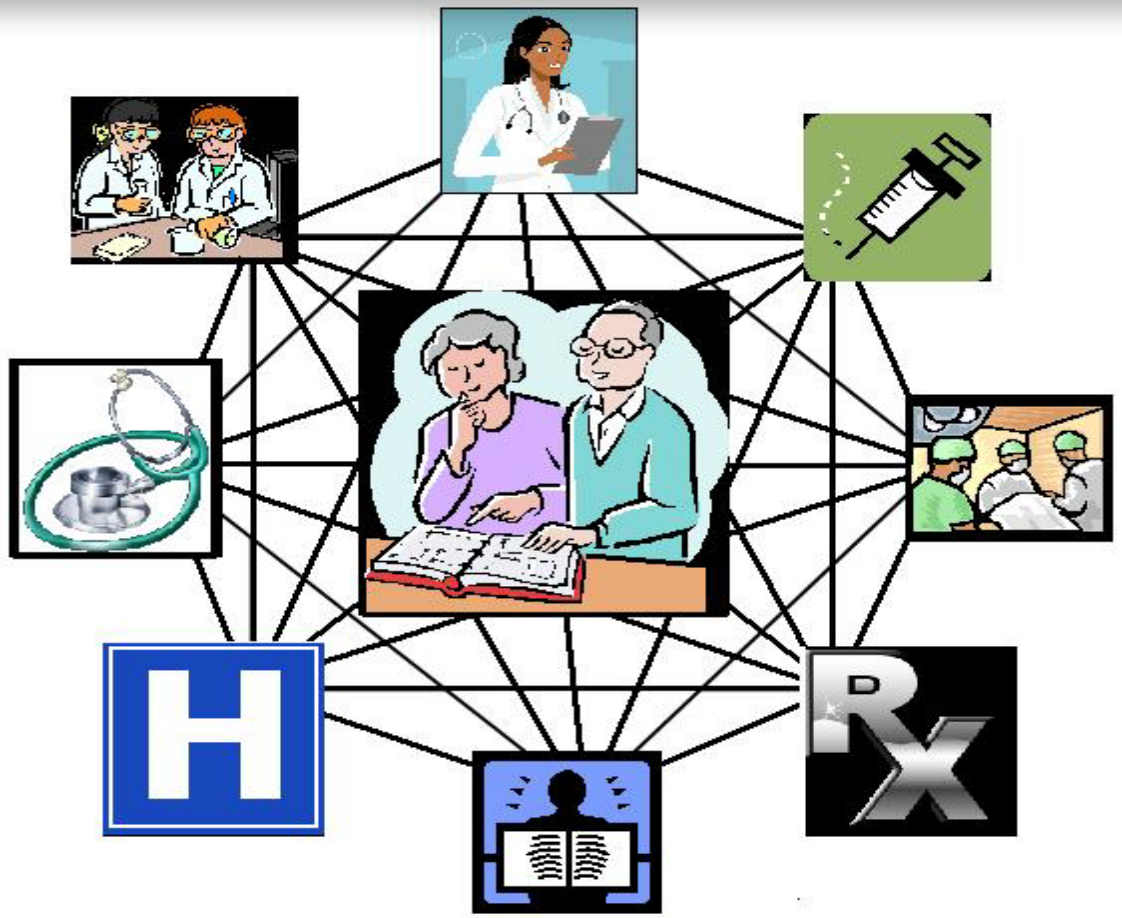
Our Goal: Patient-centered Healthcare



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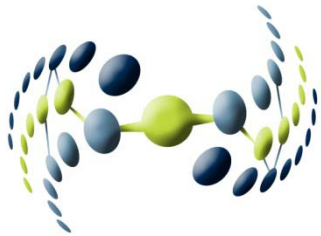
What information is stored?

Contact Information	Medical History
Insurance Carrier	Visits and Hospital Stays
Allergies	Tests and Procedures
Medications	Radiology Images

- All patient records are **deposited** but **sealed**
- Patients have to give consent before their records can be viewed (***except in case of emergency)***



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Southern Tier HealthLink Data Sources

	UHS Binghamton General Hospital	UHS Wilson Memorial Hospital	UHS Chenango Memorial Hospital	Lourdes Hospital	UHS Primary Care & Medical Group	Southern Tier Imaging	Delaware Valley Hospital
Demographics	X	X	X	X	X	X	X
Contact Info	X	X	X	X	X	X	X
PCP Info	X	X	X	X	X	X	X
Insurance	X	X	X	X	X	X	X
Allergies	X	X	X	X	X		
Medications	X	X	X	X	X		
Problem List	X	X	X	X	X		
Diagnosis	X	X	X	X	X		X
Procedures	X	X	X	X	X		
Immunizations				X			
Lab Results	X	X	X	X	X		S
Radiology Images	X	X	X	X		X	
Radiology Reports	X	X	X	X	X	X	S
Hospital Discharge Summary	X	X	X	X	X		
Transcription	S	S	S	X			S
General CCD				X	X		

Security Measures

Technical safeguards exceed industry standards:

- Access is "need to know" based on user's role
- Level 2 Assurance (federal guidelines) on user authorization
- Health information transactions are encrypted
- Access is subject to HIPAA and HITECH regulations

STHL actively monitors HIE utilization:

- Periodic audits
- Access reports available at patient request

STHL and NYS policy forbids the use or disclosure of patient information for purposes other than for medical treatment and health care operations without authorization by separate patient consent.

Consent Form Choices

The Consent Form offers three options:

I GIVE CONSENT	**Allows** access to the HIE for the named organization assuming it has a healthcare relationship with the patient
I DENY CONSENT	**Denies** access your records, ***EVEN*** *in case of an emergency*
I CANNOT DECIDE	**Restricts** access to your records ***EXCEPT*** *in case of emergency*

A consent choice does not expire but can be changed at any time by submitting a new Consent Form.

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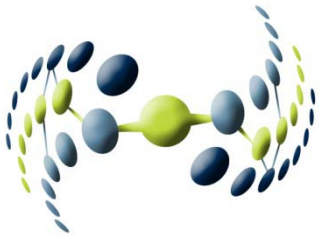
What Am I Consenting To?

Your consent allows access to your records only to

- The named organization's doctors and their staff
- as long as they have a medical relationship with you

For these purposes only:

- to provide you with medical treatment and related services
- to improve the quality of care they provide



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Consent Update

STHL Consent Forms now being collected at:

- Our Lady of Lourdes Hospital
- UHS Wilson Medical Center
- UHS Binghamton General Hospital
- UHS Chenango Memorial Hospital
- UHS Primary Care and Medical Group practices
- Binghamton Gastroenterology Associates
- Cardiology Associates
- Drs. Linda E. Fort, F. Keith Kennedy and Karen Banks-Lindner

Worthy of Note:

- Over 40,000 consent forms collected so far
- Only 3 percent of patients are choosing not to participate in the HIE

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Board of Directors

Rajesh Dave, MD*	Exec. VP/Chief Medical Officer UHS Hospitals
*STHL Board President	
Christina Boyd	VP Mktg & Community Relations, UHS Hospitals
Mark McManus	VP Finance, UHS Hospitals
Michael Rusnak	Director Information Systems, UHS Hospitals
Keith Chadwick	President & CEO United Methodist Homes
Claudia Edwards	Public Health Director, BC Health Dept.
Merwyn Jones	Director Binghamton University Linux Tech Center
John LaLiberte	Asst. VP & Chief Information Officer, Lourdes Hospital
Afzal Rehman, MD	President, Cardiology Associates, PC
Jack Salo	Executive Director, Rural Health Network, South CNY
Robert Taylor III, MD	Chief Medical Informatics Officer, Lourdes Hospital

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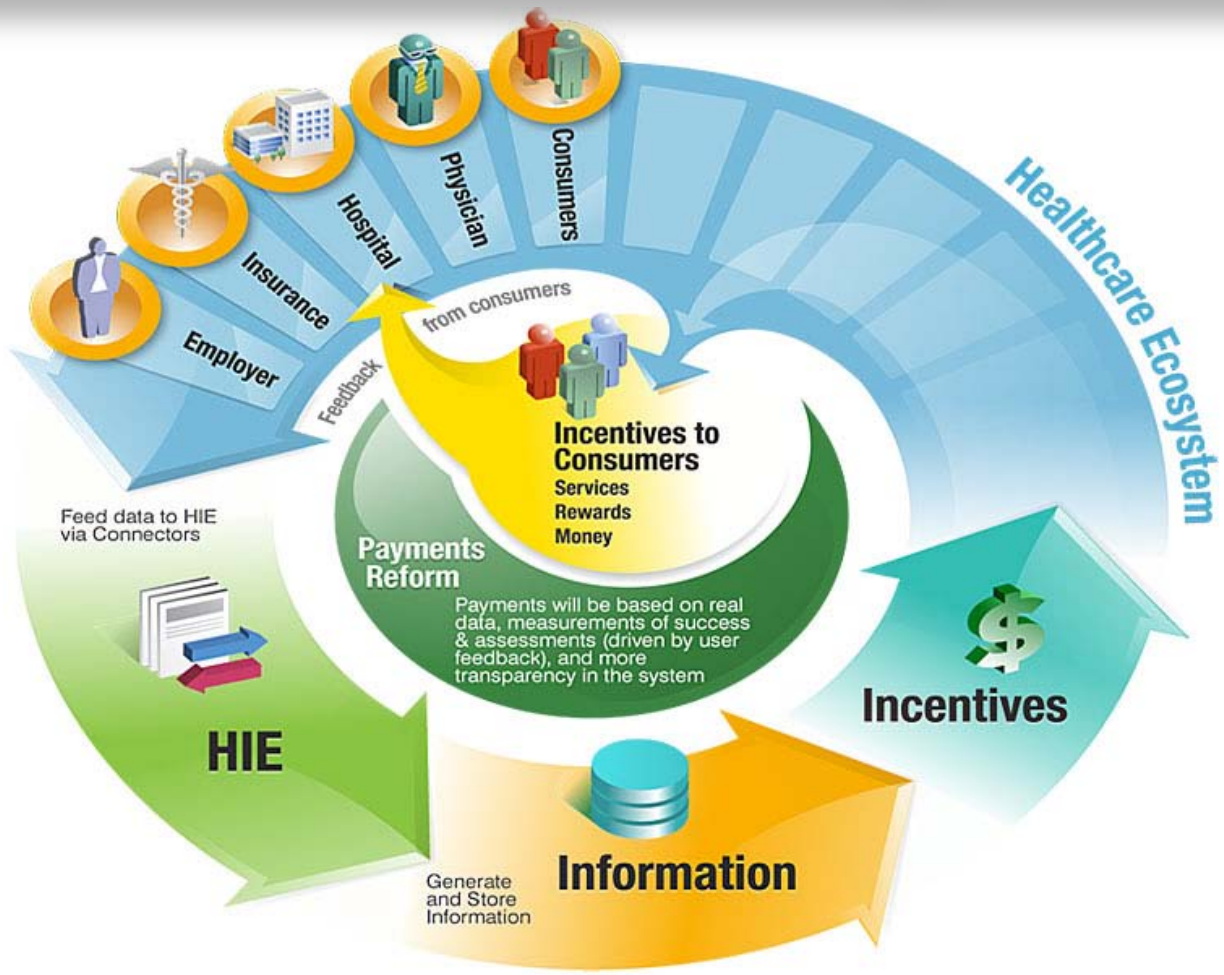
Healthcare Ecosystem



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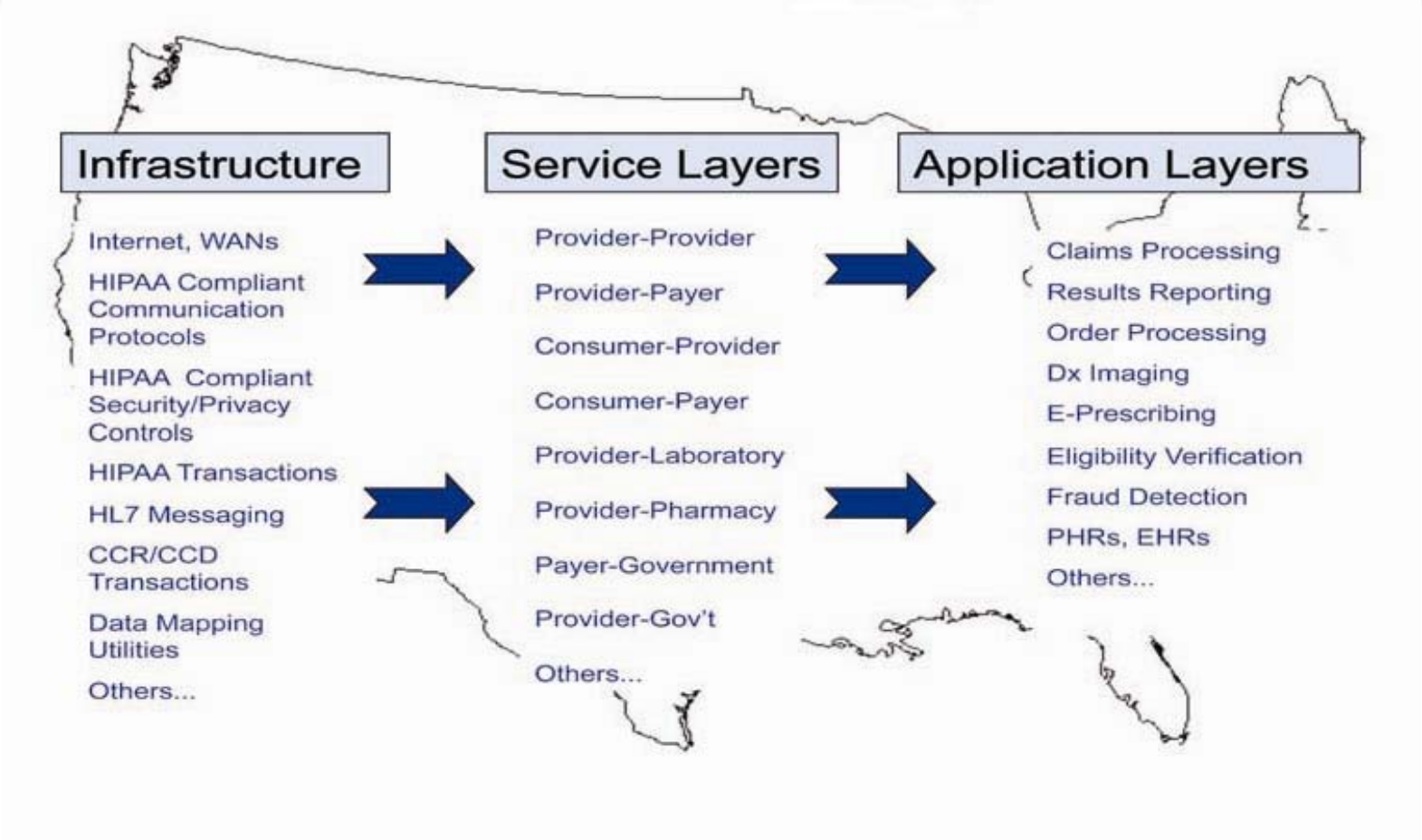
Health Information Exchange Layers



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The BC Plan

In 2002, Broome County hired national expert Angelou Economics of Austin, TX to develop a Broome County Plan for Sustainable Economic Development. Titled **The BC Plan** it provided:

- **Land Use Strategies**
- **Cluster Analysis and Target industries**
- **Community Benchmarking**
- **Infrastructure Assessment**
- **Marketing and Branding Strategy**
- **SWOT Analysis**
- **Workforce Assessment**

The BC Plan

Central to the BC Plan was an assessment of industry clusters which gave the Southern Tier region a competitive advantage. The assessment…

- Applied AngelouEconomics' proprietary cluster analysis to the Broome County economy. This approach was designed to reveal the strengths of the regional economy in related industry sectors
- Described potential Target Industries for Broome County's recruitment efforts. Each target included:
  - Cluster Ratios for Broome County and its competitor cities
  - Industry Overview
  - Reasons for Targeting the Industry
  - Site Location Factors
  - Niches Within Each Industry To Pursue

THE BC PLAN – TARGETS

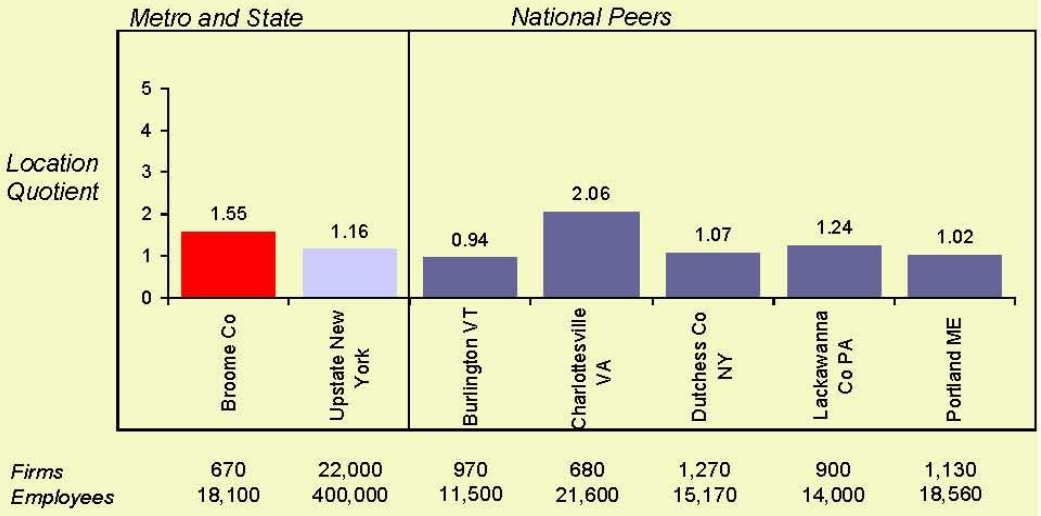
- Computer equipment & electronics
- Communications Services
- Food processing
- Health Services
- Biotechnology

Target Industry: Health Services and Biotechnology

Definition. Health services includes all of the traditional industry segments involving health care: doctor's offices, dentist's offices, hospitals, and nursing centers in addition to residential care facilities and testing laboratories. Biotechnology, as its name implies, combines biology with technology. The biotechnology cluster includes industries from pharmaceutical manufacturing, medical equipment manufacturing, medical and dental laboratories, and commercial nonphysical research.

Employment in Broome County. The health services and biotechnology sectors combine to employ over 18,000 people in Broome County accounting for over 15 percent of the total employment. As to be expected, health services provides for the bulk of the employment with 17,860 employees compared to the 240 workers in the biotech

National & Regional Comparison – Health Services and Biotechnology



Source: AngelouEconomics, Dun & Bradstreet

sector. When looking at each cluster separately, health services enjoys a healthy location quotient of 1.72 while biotech lags the nation with a 0.19.

Broome County has seen tremendous growth in health services over the past five years, adding approximately 6,000 people in this field, or nearly 50 percent growth compared to the national rate of just under 30 percent. Biotech employment in Broome County has remained steady since 1997 and has not kept up with the nation's 40 percent growth rate.

Industry Overview

Health services has been one of the fastest growing clusters in the United States in recent years. More health care is needed for the country's aging population. **The U.S. health care market, the world's largest, is estimated to be worth $1.2 trillion annually and employed almost 10.5 million people during 2001.**

		Health Services	Medical Instruments & Supplies	Drugs
New York Employment				
(source: BLS)	1991	666,200	15,400	24,400
	2001	795,200	13,600	26,300
	Growth, 1991-2001	19.4%	-11.7%	7.8%
US Employment				
(BLS)	1991	8,350,000	258,400	246,700
	2001	10,483,000	295,100	330,100
	Growth, 1991-2001	25.5%	14.2%	33.8%
New York Weekly Wages				
(BLS)	1991	NA	$361	$515
	2001	NA	$499	$688
	Growth, 1991-2001	NA	38.2%	33.6%
Productivity				
(Economic Census)	New York, 1997	NA	$60.57/production hour [1]	$216.64/production hour [2]
	US, 1997	NA	$87.70/production hour [1]	$312.71/production hour [2]
New York Exports				
(Miser)	1990	NA	$3.0 billion [3]	NA
	2000	NA	$4.8 billion [3]	NA
	Growth, 1991-2000	NA	60%	NA

1) NAICS 3391- Medical equipment & supplies manufacturing
2) NAICS 3254- Pharmaceutical & medicine manufacturing
3) SIC 38- Instruments and related products

INDUSTRY GROWTH

Health Services. As the country continues to age, health services is expected to grow through the current decade and reach almost 13 million by 2010, according to figures released by the U.S. Bureau of Labor Statistics (BLS). In addition, residential services, in which establishments are engaged in the provision of residential care for children, the aged, or disabled in which medical care is not a major element (which does not fall under the BLS definition of health services but falls in AngelouEconomics' health services cluster) is expected to be the second fastest growing industry from 2000-2010. Over 500,000 jobs are expected to be added over the ten-year period for an average annual rate of change of 5 percent. As the decade moves forward, and health services accounts for 13 percent of all additional employment over the next 10 years, the industry will begin to decentralize. Hospital employment will rise only 10 percent, while home healthcare will grow 68 percent and become the main driver of growth in this industry.

Biotechnology. As fast as the pace of growth has been in health services, biotechnology has grown at an even faster rate, albeit beginning at a much smaller base. Global sales of prescription drugs currently tops $300 billion with the US, Japan, and Europe accounting for 80 percent of all sales. According to the BLS, drug manufacturing will add 75,000 jobs through 2010, an average annual growth rate of 2.2 percent, while output will grow even faster at an average annual rate of 5.6 percent (in real terms). Medical equipment is expected to add another 50,000 jobs in the same time period, a growth rate of 1.6 percent. Additionally, research and testing facilities are expected to net an additional 244,000 jobs during the period from 2000-2010, growing at an annual rate of 3.3 percent. All told, biotechnology should add 369,000 jobs throughout the current decade across the United States.

manufacturing employee who receives $597 per week. Team assemblers in drug manufacturing make much less than this average earning less than $11 per hour.

INDUSTRY OUTLOOK

Health Services. The health service sector is expected to remain largely the same over the decade. There will be an increasing number of aged people that will decentralize the system. In the long-term, technological advances could dramatically change the process of providing medical treatments. In the short term, however, the medical service sector of the health care industry will remain the same system that treats and prevents illnesses.

In contrast to the medical service sector, the residential care segment is changing rapidly. As baby-boomers continue to age, they do not necessarily want to slow down. Developers of active adult communities are taking notice. They are adding amenities designed to appeal to the generation's energetic lifestyle. The new look includes more activities ranging from rock wall climbing to softball to kayaking. His-and-her home offices with Internet access are also on the rise, as well as continuing education classes, fitness centers, luxury spas, and indoor swimming pools. Many developers now avoid the word "retirement" to describe these communities, referring to them instead as "active adult" or "country club" properties. The goal is to attract boomers who aren't

Why Target Health Services and Biotechnology?

HEALTH SERVICES

1) Growing Nationally and Locally, and is expected to continue growing. The sector pays average wages, provides part-time employment, and provides a necessary service to the community at large.

2) Established Regional Leader. Broome County, like many metro areas, has become a regional health center as seen in its 1.72 location quotient. Rural areas around metro areas have long used the regional centers for health care rather than creating their own hospitals and the costs that they bring. This gives places like Broome County a head start when attracting these types of services to the area.

Detailed Cluster Data- Health Services and Biotechnology

SIC	Description	Employment	Location Quotient	National Industry Growth Rate 1997-2002
8011	Offices and clinics of medical doctors	1,686	0.75	57.4%
8021	**Offices and clinics of dentists**	**553**	**1.07**	**19.1%**
8031	Offices and clinics of osteopathic physicians	16	0.36	55.1%
8041	Offices and clinics of chiropractors	60	0.61	8.8%
8042	**Offices and clinics of optometrists**	**78**	**1.02**	**20.3%**
8043	**Offices and clinics of podiatrists**	**49**	**1.59**	**12.1%**
8049	**Offices of health practitioner**	**639**	**1.48**	**107.4%**
8051	**Skilled nursing care facilities**	**1,752**	**1.73**	**17.0%**
8052	Intermediate care facilities	14	0.09	28.8%
8059	**Nursing and personal care nec**	**1,735**	**5.14**	**23.4%**
8062	**General medical and surgical hospitals**	**6,821**	**1.93**	**13.9%**
8063	**Psychiatric hospitals**	**700**	**4.68**	**-21.0%**
8069	Specialty hospitals except psychiatric	128	0.53	30.3%
8082	**Home health care services**	**853**	**1.76**	**47.8%**
8092	Kidney dialysis centers	10	0.28	96.0%
8093	Specialty outpatient clinics nec	240	0.79	54.1%
8099	Health and allied services nec	146	0.93	94.0%
8361	**Residential care**	**2,385**	**5.37**	**39.9%**
8734	Testing laboratories	12	0.10	20.9%
2833	Medicinals and botanicals	0	0.00	74.7%
2834	Pharmaceutical preparations	0	0.00	47.9%
2835	Diagnostic substances	0	0.00	16.5%
2836	Biological products except diagnostic	18	0.95	62.1%
3841	Surgical and medical instruments	0	0.00	19.5%
3842	Surgical appliances and supplies	23	0.24	22.3%
3843	Dental equipment and supplies	0	0.00	34.1%
3844	X-ray apparatus and tubes	0	0.00	-6.8%
3845	Electromedical equipment	0	0.00	59.6%
8071	Medical laboratories	37	0.18	61.8%
8072	**Dental laboratories**	**53**	**1.22**	**6.0%**
8731	Commercial physical research	111	0.31	38.9%

Source: Dun & Bradstreet

3) Specialized in Fastest Growing Sectors. As can be seen in the chart on the preceding page, the largest employment in Broome County is in the general medical and surgical hospital, residential care, skilled nursing care facilities, nursing and personal care facilities, and offices of clinics and medical doctors industry segments, all employing over 1,000 people. The following sectors mirror the largest concentrations of employment as well, with residential care (5.37), nursing and personal care (5.14), and psychiatric hospitals (4.68). With the exception of psychiatric hospitals, all of Broome's health service segments that have location quotients above 1.00 are growing.

Nursing and personal care, residential care, and skilled nursing care facilities, which employ over 5,900 people in Broome County and have its highest location quotients, is also forecasted to be one of the fastest growing industries in the United States from 2000-2010. Residential care is expected to grow at a rapid rate as the nation's second fastest growing industry in the coming ten years. Broome should capitalize on its specialization in this sector. By building on its current skill set, Broome could develop the next generation of retirement living centers, catering to middle to high-income active retirees.

4) Strength in Health Services Can Boost Community as well as Economic Development. Additionally, strength in health services can be beneficial to community as well as economic development. Hospitals are near the top of the list when people make decisions about where to locate in a community. Having a strong health care system will help both the employment levels in health services and the community at large. Broome's quality health care is an attribute that should be marketed to attract residents as well as other companies to Broome County.

Biotechnology research and development, particularly in the field of bioinformatics, is a recommended target industry for Broome County. The following table shows the employment breakdown of the Research, Development, and Testing

SIC 873 - Research, Development, and Testing Services

source: Occupational Employment Statistics, Bureau of Labor Statistics 2000

Occupation	Employment Estimate		Wage Estimate	
	US Employment	% of Total	Mean Hourly	Mean Annual
TOTAL	**657,250**	**100%**	**$ 23.30**	**$ 48,450.00**
Management occupations	81,700	12.43%	$ 40.62	$ 84,500.00
Business and financial operations	54,930	8.36%	$ 26.90	$ 55,940.00
Computer and mathematical	50,860	7.74%	$ 29.40	$ 61,140.00
Architecture and engineering	68,700	10.45%	$ 28.12	$ 58,490.00
Life, physical and social science	**143,850**	**21.89%**	**$ 22.58**	**$ 46,980.00**
Community and social services	2,920	0.44%	$ 16.83	$ 35,000.00
Legal occupations	1,740	0.26%	$ 37.78	$ 78,590.00
Education, training, and library	5,890	0.90%	$ 24.61	$ 51,200.00
Art, design, entertainment	8,720	1.33%	$ 21.46	$ 44,630.00
Healthcare practitioners	15,030	2.29%	$ 21.84	$ 45,430.00
Healthcare support	6,480	0.99%	$ 11.88	$ 24,710.00
Protective services	2,260	0.34%	$ 14.67	$ 30,510.00
Food preparation	330	0.05%	$ 10.15	$ 21,110.00
Building maintenance and ground cleaning	3,990	0.61%	$ 10.79	$ 22,450.00
Personal care and service	1,900	0.29%	$ 8.83	$ 18,360.00
Sales and related	14,060	2.14%	$ 19.43	$ 40,420.00
Office support and administrative	**146,800**	**22.34%**	$ 12.95	$ 26,930.00
Construction and extraction	7,930	1.21%	$ 17.51	$ 36,410.00
Installation, maintenance, and repair	8,230	1.25%	$ 17.94	$ 37,310.00
Production	24,300	3.70%	$ 15.16	$ 31,540.00
Transportation and material moving	5,380	0.82%	$ 11.10	$ 23,080.00

The BC Plan

In 2006, Broome County asked Angelou Economics to review and update the original BC Plan. This update focused on…

- **Greater Binghamton "Today"**
- **Target Industries**
- **What it Takes to Compete!**
- **Best Practices**
- **Community Priorities**

The 2006 Update reinforced the relative strength of our regional Healthcare system

THE BC PLAN – TARGETS

In 2002, we recommended:	Keep?
• Computer equipment & electronics	X
• Communications Services	Yes
• Food processing	Yes
• Health Services	Yes
• Biotechnology	Yes

Consider adding: Back office, call centers, defense

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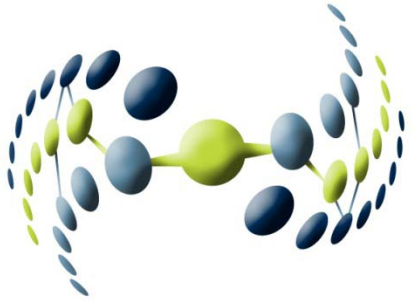

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