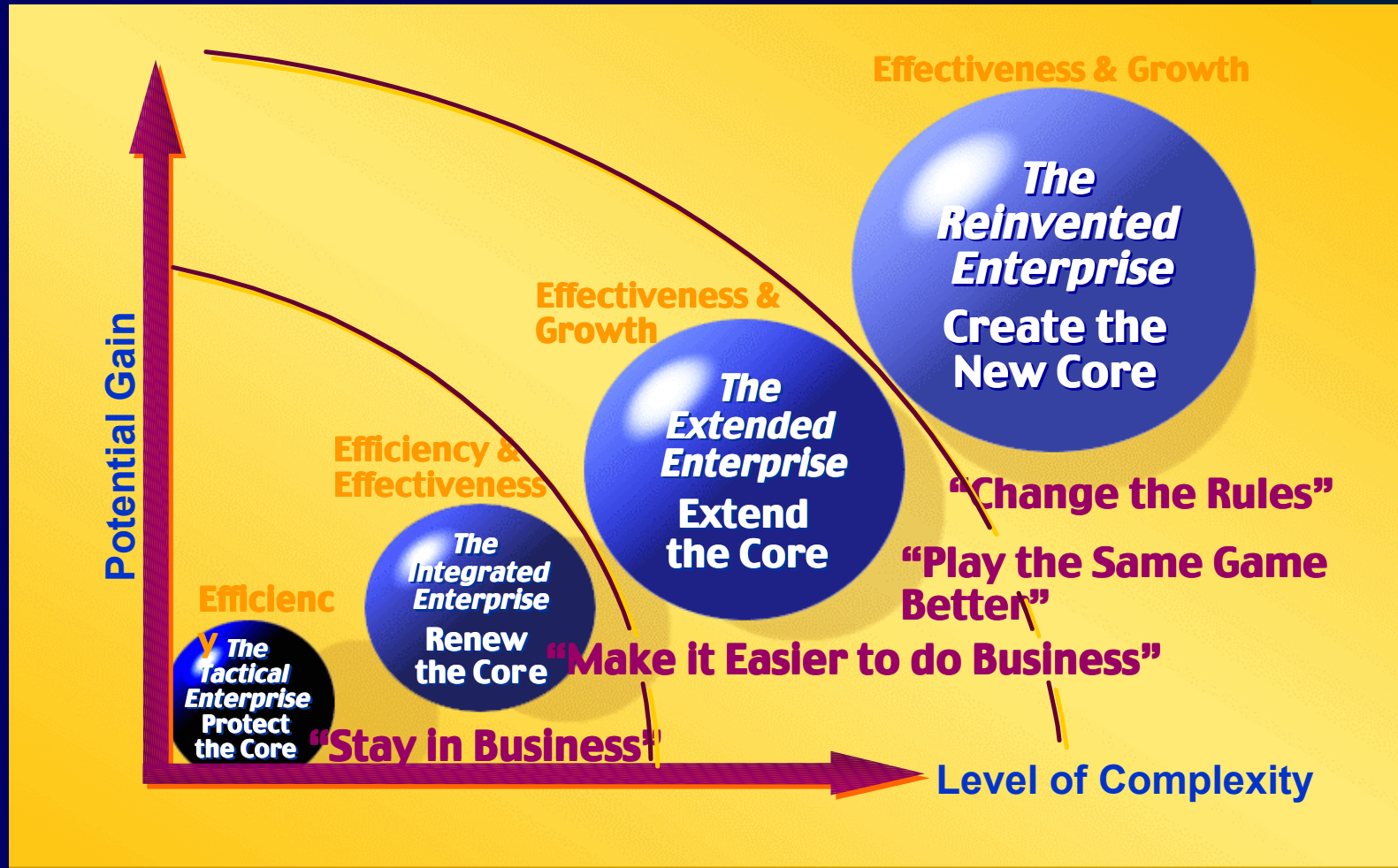# Extracting Value from the Internet & Connectivity

The eHealth Colloquium
August 21, 2000

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National Director for eHealth

The opportunities available to today's healthcare organizations range from protecting current businesses to reinventing the enterprise

Potential Gain (vertical axis)

Level of Complexity (horizontal axis)

Effectiveness & Growth

The Reinvented Enterprise
Create the New Core

Effectiveness & Growth

The Extended Enterprise
Extend the Core

Efficiency & Effectiveness

The Integrated Enterprise
Renew the Core

Efficiency

The Tactical Enterprise
Protect the Core

"Change the Rules"

"Play the Same Game Better"

"Make it Easier to do Business"

"Stay in Business"

When connectivity, communication, and convenience are integrated, enormous value can be created for the consumer.

CAP GEMINI
ERNST & YOUNG

DiabetesWell.com is an example of an Integrated package to Assist Diabetes Patients

Target Market
- Diabetes sufferers throughout the US who are unsatisfied with the current bricks and mortar offerings and interested in one stop shopping, education and management of diabetes
- Marketed directly to diabetics

Service Components
- 24 hour on-line access to and support from physicians, nurses, dietitians and exercies physiologists
- Personalized medical plans, food plans, exercies plans
- Personalized on-line medical record
- Up-loading of data from diagnostic devices to on-line medical record, web based tools
- On-line treatment monitoring and compliance tracking
- Ability to grant patient's off-line physician(s) access to web records
- On-line access to relevant information (content)
- On-line access to diabetes related commerce

Payment
- $20 per patient per month, paid for by patient
- Contracting with payers and employers?

Differentiators
- Complete treatment/maintenance of affliction from home
- Wealth of educational and informational materials available to subscribers

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Beansprout.com connects consumers and providers

Target Market

- Parents of young children, pediatricians, and child care providers
- Marketed through partners (pediatricians, child care providers, teachers, medical societies)

Service Components

- Online community seeking to connect parents, pediatricians, childcare professionals, and child care resources
- Consumers
  - Facilitation of physician interactions for non-urgent questions/ issues
  - Access to relevant information and commerce (toys, books, childcare products)
  - Access to childcare programs and referral agencies
- Pediatricians
  - Distribution through Beansprout's physician finder and physician websites
  - Practice management tools
  - Physician - parent non-urgent interaction

Payment

- Consumer goods company sponsorships
- Products paid for by purchaser

Differentiators

- By encouraging pediatricians and childcare providers to build their own sites, company stands to build a real community between doctors, childcare providers, and parents

Source: beansprout website; CGEY Analysis

Internet use by consumers for health information has growth significantly over the last 5 years

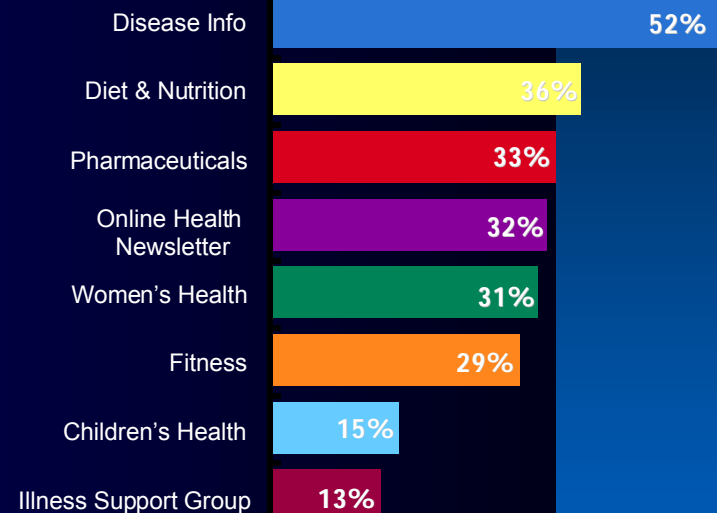## Health and Medical "Info Seekers" On-line *(millions of adults)*

Data points:
- 1996: 7.8
- 1997: 13.4
- 1998: 17.1
- 1999: 23.3
- 2000: 30.0
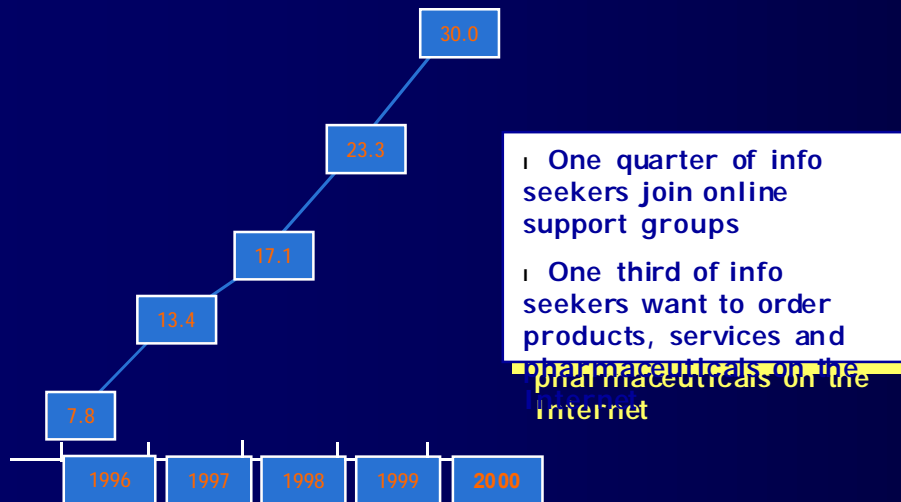
ı **One quarter of info seekers join online support groups**

ı **One third of info seekers want to order products, services and pharmaceuticals on the Internet**

Source: Cyber Dialogue Survey Estimates

ı 20% of physicians regularly use the Web
ı Average usage is five days per week
ı Average time spent on the web each week is 4.2 hours with usage anticipated to grow 28% to 5.4 hours within six months

On-line Content Used

Content	Percent
Disease Info	52%
Diet & Nutrition	36%
Pharmaceuticals	33%
Online Health Newsletter	32%
Women's Health	31%
Fitness	29%
Children's Health	15%
Illness Support Group	13%

ı Principal reasons for accessing the Web included:
- ä Medical Information 83%
- ä Travel Information 72%
- ä Product Information 65%
- ä Drug Information 57%
- ä Financial News 56%

Source: AMA and Medical Media & Marketing

Dot-comes have been leaders in information distribution based on customer responsiveness . . . and are seeking to leverage this competency with a move into the service delivery

Degree of Interactivity

Least advanced → Most advanced

Evolution of Services

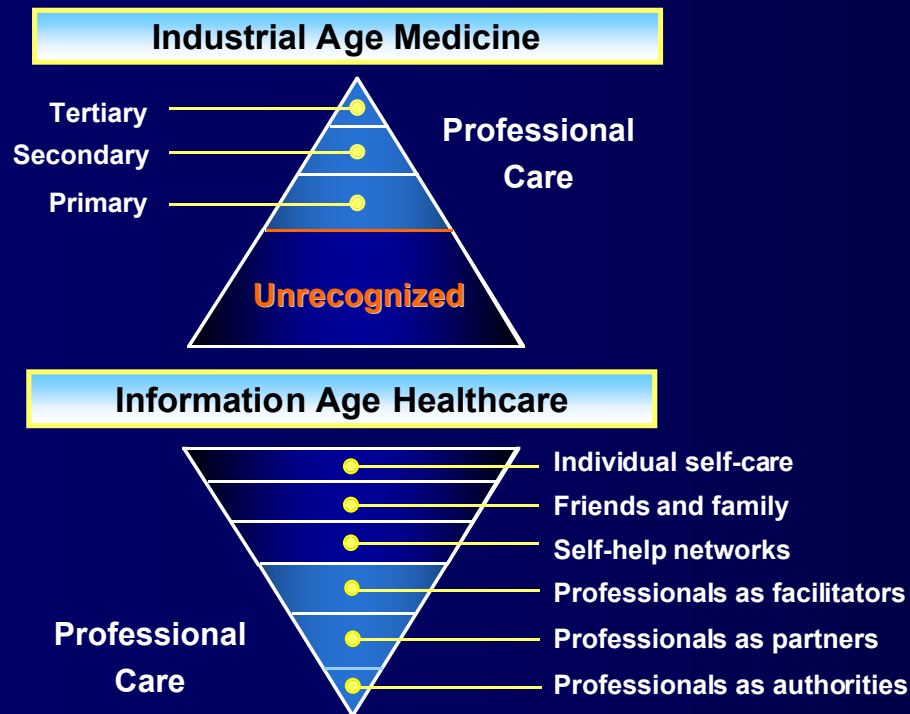|	Description	Examples
Phase 1 Static Content	Provider Information: location, phone numbers, services, qualifications, etc. Consumer medical content: causes of disease, disease progression, standard treatments, etc.	Most healthcare sites
Phase 2 "Canned" Interactive Content	Frequently asked questions (FAQs), search for providers by zipcode or qualification	Most healthcare sites, e.g OnHealth, WebMD, Planetx, Intelihealth, etc.
Phase 3 Personalization	Healthcare assessments, live ask-a-doc interactions to get questions answered (not e-Medicine), tracking of medical conditions in health-diaries, chats/support groups others with similar medical conditions	myasthma.com, mydiabetes.com America's Doctor.com, OnHealth.com (nurse connect) Onhealth.com - symptom checker Healthgrades.com, doctorquality.com
Phase 4 e-Medicine	Provision of care, incl.disease management using the internet to enable patients-physicians/ care givers to communicate and exchange medical data, care plans, etc.	Diabeteswell.com, Beansprout.com Accordant.com

However, Dot-coms are vulnerable because they have thus far failed to penetrate the core of the healthcare system

- Content alone is no longer sufficient

- Access to capital is becoming more difficult due to market correction

- Trying very hard to achieve profitability

- Have revenue models that are at risk

- Have offerings that are not sustainable on a stand alone basis

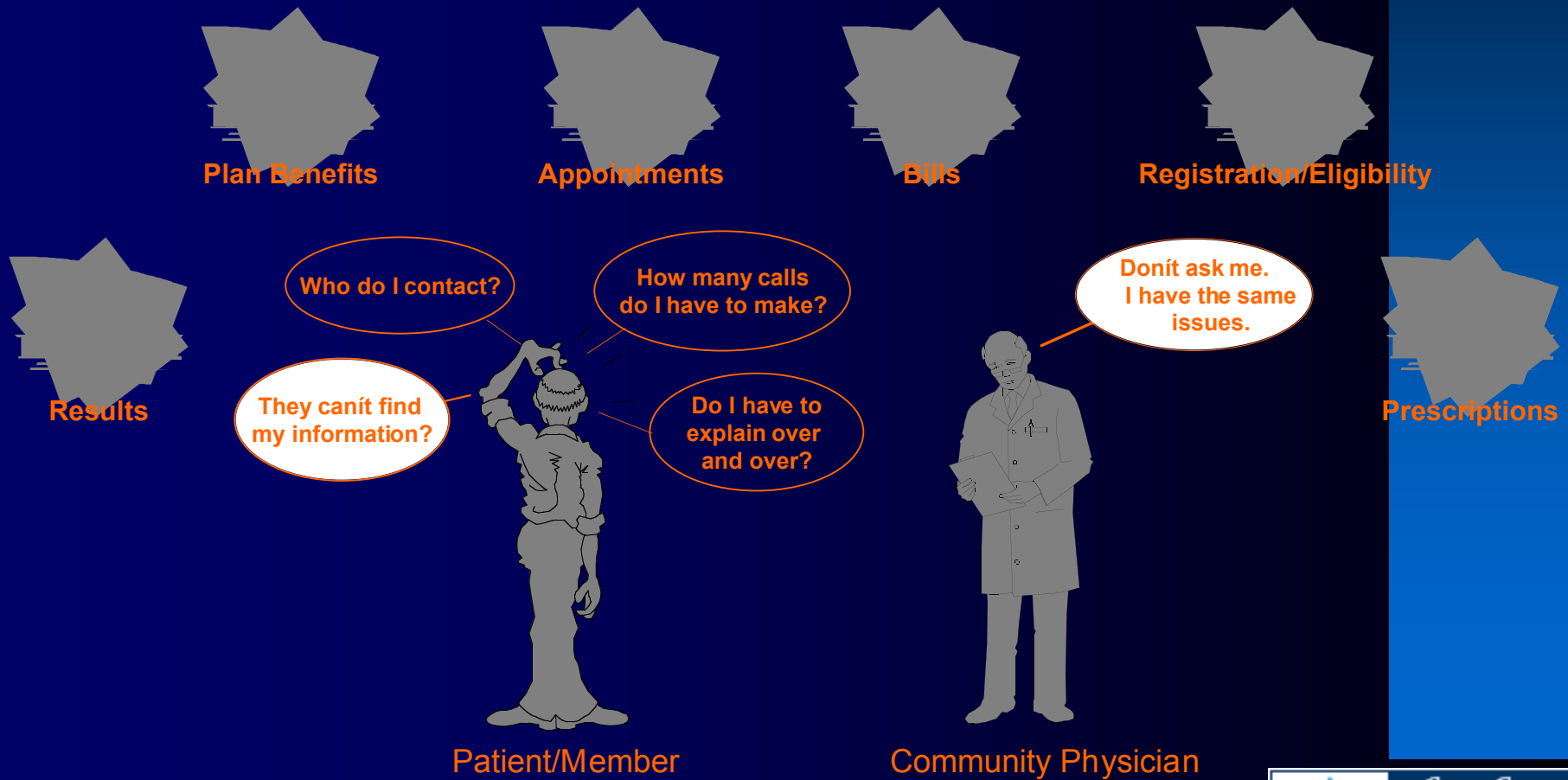- Are struggling in attempts to expand product offerings to include service

Healthcare providers Are Not Yet Filling Consumer Needs

Industrial Age Medicine

Tertiary
Secondary
Primary

Professional Care

Unrecognized

Information Age Healthcare

Professional Care

- Individual self-care
- Friends and family
- Self-help networks
- Professionals as facilitators
- Professionals as partners
- Professionals as authorities

- 48% of on-line users express interest in communicating with their doctors via email, but only 3% are doing so
- Among those online users who express interest in using doctor web sites, 29% said they would be likely to switch doctors to do so
- The connected consumer demands full information and 24/7 access
- consumers want self service options that allow them to schedule appointments, create personalized information filter, pre-registration, check account status
- "This type of consumer demand threatens to completely change the health care distribution chain. The industry has never had to deal with customers directly-the Internet makes this an imperative." New York, PRNewswire

4

Customer ìDisconnectî is Common in Health Care

Health Care Organizations are Challenged by Deteriorating Patient Relationships Due to the Quality of Customer Service Interactions, the Lack of Consistent Experiences, and the Limitations Imposed by Islands of Information

Plan Benefits

Appointments

Bills

Registration/Eligibility

Results

Prescriptions

Who do I contact?

How many calls do I have to make?

They canít find my information?

Do I have to explain over and over?

Donít ask me. I have the same issues.

Patient/Member

Community Physician

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Healthcare providers have the opportunity to transform their businesses and become/remain the center of the emerging Connected Healthcare market
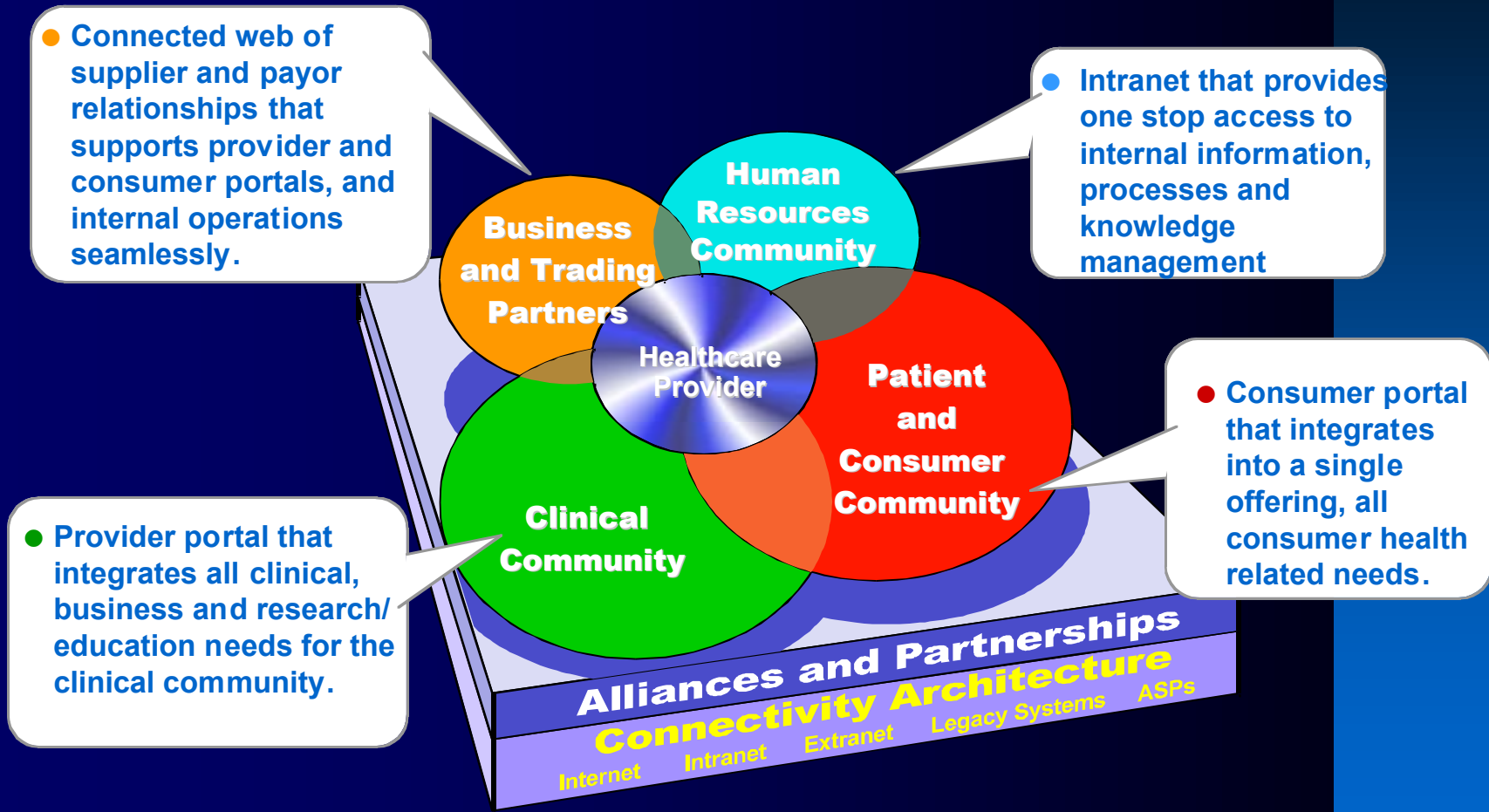
Connected Healthcare Market

The Internet and other system tools provide the opportunity for healthcare providers to create connectivity between patients, the community, physicians and payors resulting in a virtual environment where the Healthcare provider is the center of the Connected Healthcare Market

Business and Trading Partners

Human Resources Community

Healthcare Provider

Patient and Consumer Community

Clinical Community

Alliances and Partnerships

Connectivity Architecture

Internet Intranet Extranet Legacy Systems ASPs
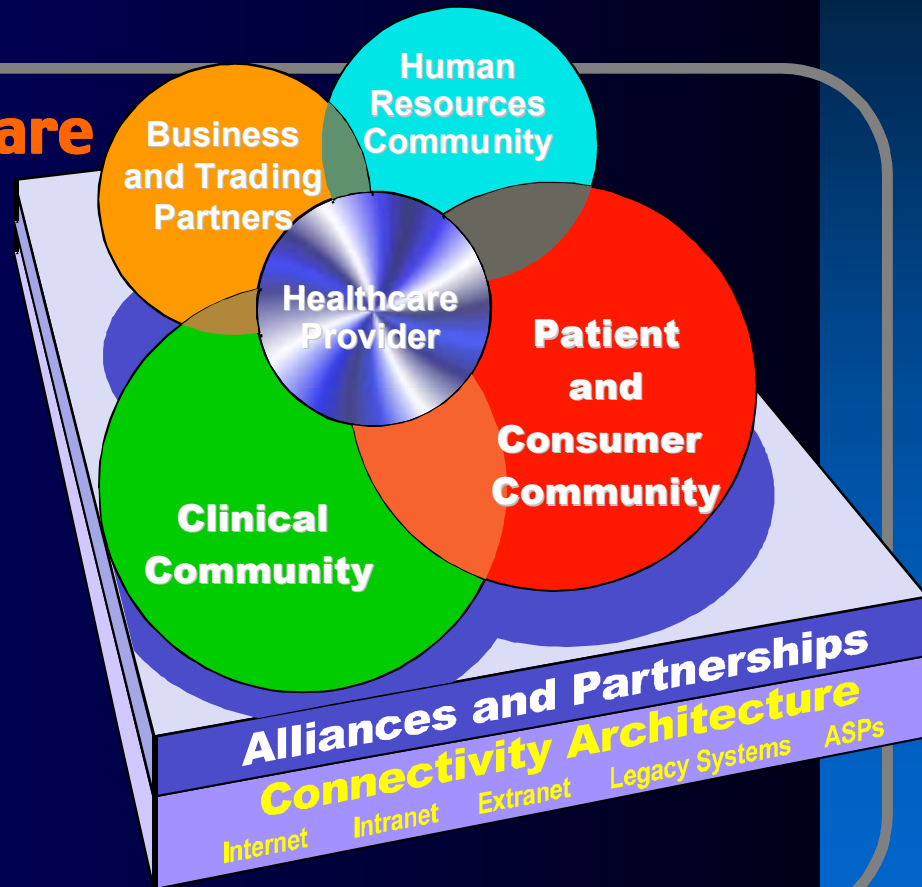
A Stakeholder-Based Business Model Creates Blurring Boundaries and Virtual Communities

- Connected web of supplier and payor relationships that supports provider and consumer portals, and internal operations seamlessly.

- Intranet that provides one stop access to internal information, processes and knowledge management

- Consumer portal that integrates into a single offering, all consumer health related needs.

- Provider portal that integrates all clinical, business and research/education needs for the clinical community.

Business and Trading Partners

Human Resources Community

Healthcare Provider

Patient and Consumer Community

Clinical Community

Alliances and Partnerships

Connectivity Architecture

Internet   Intranet   Extranet   Legacy Systems   ASPs

How Patient/Consumer Access and Patient Care Will be Transformed?

◆ *Increased emphasis on customer service*

Driven by their experiences in other industries, consumers will expect more convenient access via the Internet, telephone, fax and kiosk to select physicians, email care givers, schedule appointments, view lab results and refill prescriptions.

◆ *Changes in patient acquisition and retention*

Consumers will become more involved in selecting providers, and will make decisions based on ease of access to information, ability to conduct basic transactions 24/7 and knowledge of outcomes and perceived quality of care.

◆ *Administrative efficiency and effectiveness*

By connecting patients, payors, physicians and health care systems in an Internet and CRM enabled environment, significant savings can be achieved while driving higher customer satisfaction.

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How Patient/Consumer Access and Patient Care Will be Transformed?

◆ *Connected Care*
Patients, specialists, community physicians will be connected in an Internet enabled environment with real time access to the patientís medical record. Care management via video & audio links, remote patient monitoring and Internet based second opinions and specialty consultations will increase.

◆ *Personalized health offerings*
New offerings will emerge which are tailored to lifestyle, with more emphasis on quality of life and wellness. Services and products that encourage patients to participate in the planning, preventative care, life style adjustment and general management of their health will become more prevalent.
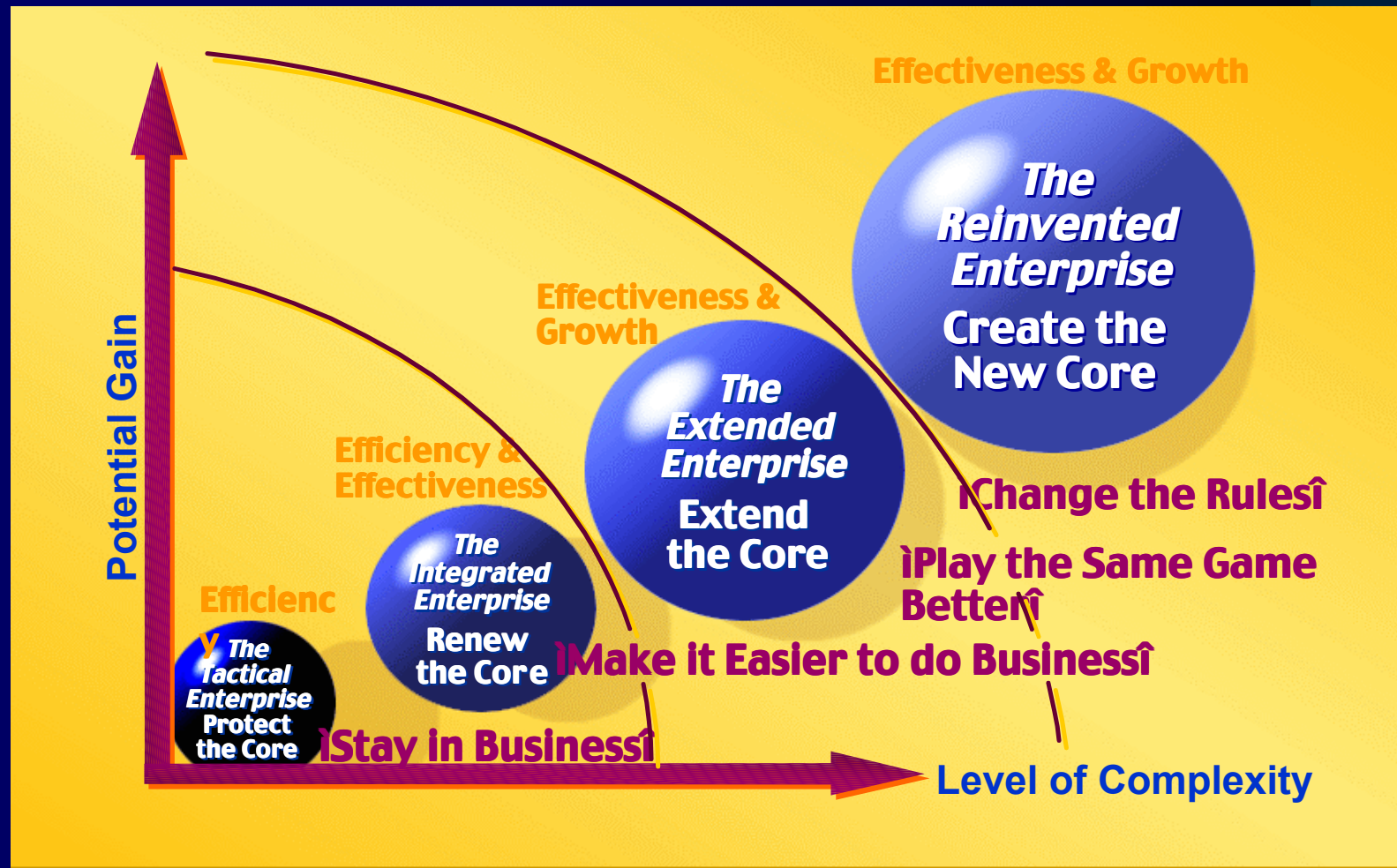
◆ *Emergence of Regional Disease Portals*
Single points of contact for consumers/patients will be created around major disease categories, which will offer access to leading specialists via connected care, eCommerce connections to related products and services, detailed information, etc.

◆ *Offerings extended into retail health care*
Offerings will be extended to include additional products and services that consumers pay for out-of-pocket. For example, a new mother could be offered a convenient package of support services and products related to supporting the babyís first year of life.

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Internet enabled capabilities have the ability to enhance current processes, or transform the health care delivery model

Protect the Core

ï Enhanced customer service

  ï Single view of customer

  ï Self service for scheduling, referrals etc

  ï Physician Directory

ï Trusted Health Information

Extend the Core

ï Provider-Patient Communication

ï Provider based Connected Care

  ï Remote Monitoring

  ï Results Reporting

  ï On-line disease management

  ï Prescription fill / refill

ï eConsults and on-line 2nd opinions

Create the New Core

ï Regional or Disease Oriented Portals

ï Development of new, consumer oriented health offerings

ï Channel Development

ï Patient based connected care