

The MIT Center for



Digital Business

# “Marketing and Management for Telemedicine”



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# Telemedicine in Japan

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March 2000, Ministry of Health and Welfare, Japan

- ➡ Insurance adjustment for tele-diagnosis: because of the rapid diagnosis on the surgical operation,
- ➡ a possibility of extending to other operation's diagnosis in the future such as; the diagnosis for the rejections of transplant was remotely done between Tottori University, Hiroshima University, the Kure Kyosai Hospital, and Nara Medical University.
- ➡ Tohoku University have over 1200 cases between 5 hospitals in 2007.



# Telepathology for transplantation

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➔ As for the determination of the pathology, histological diagnosis such as the rejections of the transplant, the specialist is very few in Japan. It is very hard to diagnosis for the pathological specialist.

➔ In this case, the point whose request side is also a pathologist is different from the rapid diagnosis for the surgical operation. In the case of the surgical operation, telemedicine is between surgeon and pathologist.

➔ The average number of transmitted images was 7.1 (range 3–12)/ 37 specimens. Of the, diagnoses by telepathology agreed well with those made through direct microscopy in the 30 specimens. Insufficient or improper diagnosis was made in four specimens, in which proper and pathognomonic still images were not transmitted. Three cases were not diagnosed by telepathology because of the difficulty in making differential diagnosis.

➔ They concluded that telepathology is useful for transplantation pathology, in spite of limitations in some cases.

## Telepathology for transplantation is useful, but ....

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- ➔ The communication of the intention is easy, because both the communicator and the receiver are pathologists.
- ➔ And accuracy is high between the communicator and the receiver compared with the case of the surgical operation. On the surgical operation, the receiver is the pathologist but the communicator is not a doctor but a technician.
- ➔ Then, the telepathology is also useful for the consultation between pathological specialists (doctors). Also the facilities in which it actively uses it by the cytological diagnosis are seen.
- ➔ There are still few pathologists in hospitals. Many hospital managers in Japan want pathologist. The hospital director is requesting the full-time pathologist.
- ➔ The number of full-time pathologist is very small less than 2000. **But there are very few pathologists that they want to have a telemedicine.**

# Privacy issue

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- ➔ Telemedicine has the convenience and economic benefits, but also some issues such as leakage of privacy information.
- ➔ It is very important that protecting privacy in computerized medical information.
- ➔ All health care information systems, whether paper or computer, present confidentiality and privacy problems. **“To Err is Human.”**
- ➔ Digitization can reduce some concerns about privacy in patient data , but it raises new problems.
- ➔ Digitization increases the quantity and availability of data and enhances the ability to link the data, raising concerns about new demands for information beyond those which were originally collected.
- ➔ The potentialities for abusing privacy by trusted insiders to the digitized medical systems is of particular concern.



## In addition,

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- ➔ special policy problems are raised by digitization. Proposed use of a unique patient identifier(ID) assigned at birth and retained throughout a patient's lifetime raises concerns among privacy advocates. They claim that if the Social Security Number is used for this purpose, linkage of a wide variety of information (such as Tax,,,) resulting in dossier type files on individuals would be possible.
- ➔ Policies governing requirements for informed consent could be challenging as well, since currently patients have limited access to their health care records
- ➔ They have little choice in consenting to their disclosure for certain purposes against hospitals.



# How can we solve those issues ?

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➡ What would you do if your customers knew everything about your organization, products and services?

➡ The rise of the Internet enables your customers to find third-party information about your products, ratings of your products, people who was ever dissatisfied with your products or services, and the same full information on your competitors' offerings.

➡ Customer power is growing, and you must decide what to do about it! I will also explain how you can tell if **trust** and **advocacy** are not right for your company.

by Prof. Glen Urban “Don’t Just Relate – Advocate!”





# What is Web 2.0, According to Tim O'Reilly:

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- ➔ Web 2.0 is a term describing changing trends in the use of World Wide Web technology and web design that aims to enhance creativity, secure information sharing, collaboration and functionality of the web.
- ➔ Web 2.0 concepts have led to the development and evolution of web-based communities and its hosted services, such as social-networking sites, video sharing sites, wikis, blogs, and folksonomies.
- ➔ The term became notable after the first O'Reilly Media Web 2.0 conference in 2004
- ➔ Although the term suggests a new version of the World Wide Web, it does not refer to an update to any technical specifications, but to changes in the ways software developers and end-users utilize the Web.





# Seller Information; Amazon.com

Amazon.com: Used and New: Don't Just Relate - Advocate!: A Blueprint for Profit in the Era of Customer Power - Mozilla Firefox

ファイル(E) 編集(E) 表示(V) 履歴(S) ブックマーク(B) ツール(T) ヘルプ(H)

http://www.amazon.com/gp/offer-listing/0131913611/ref=dp\_olp\_1?ie=UTF8&qid=1226606636&sr=8-1

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## Don't Just Relate - Advocate!: A Blueprint for Profit in the Era of Customer Power (Hardcover)

by Glen Urban (Author)

[Return to product information](#)

**Price at a Glance**

List Price: \$32.99

**Used:** from **\$0.01**

**New:** from **\$1.04**

**Collectible:** from **\$30.00**

Have one to sell? [Sell yours here](#)

- All**
- New (20 from \$1.04)
- Used (18 from \$0.01)
- Collectible (1 from \$30.00)

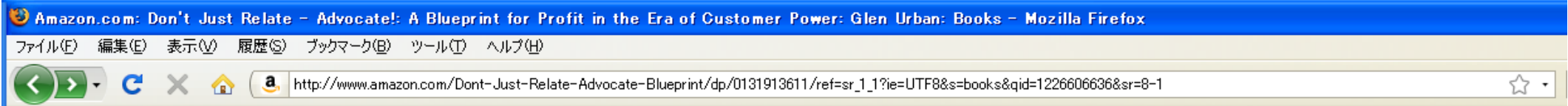
Show  All  Prime offers only Sorted by Price + Shipping

Always pay through Amazon.com's Shopping Cart or 1-Click. Learn more about [Safe Online Shopping](#) and our [safe buying guarantee](#).

**All** (1 to 25 of 39 offers sorted by : Price + Shipping)

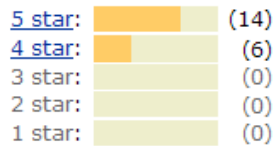
Price + Shipping	Condition	Seller Information	Ready to buy?
<b>\$0.01</b> + \$3.99 shipping LOW ITEM PRICE	Used - Good	<b>Seller:</b> BEST_BARGAIN_BOOKS3 <b>Rating:</b> ★★★★★ <b>95% positive</b> over the past 12 months (49512 ratings.) 146778 lifetime ratings. <b>Shipping:</b> In Stock. Ships from NY, United States. Expedited shipping available. See <a href="#">Shipping Rates</a> . See <a href="#">return policy</a> . <b>Comments:</b> Minimal damage to the cover, dust jacket not necessarily included minimal wear to binding, majority of pages undamaged, minim... ( >> <a href="#">more</a> )	<a href="#">Add to Cart</a> or <a href="#">Sign in</a> to turn on 1-Click ordering.
<b>\$0.02</b> + \$3.99 shipping	Used - Good	<b>Seller:</b> BARGAINBOOKSTORES- <b>Rating:</b> ★★★★★ <b>98% positive</b> over the past 12 months (49021 ratings.) 175897 lifetime ratings.	<a href="#">Add to Cart</a> or <a href="#">Sign in</a> to turn on 1-Click ordering.

# Customer Reviews; Amazon.com



## Customer Reviews

20 Reviews



**Average Customer Review**  
★★★★☆ (20 customer reviews)

Share your thoughts with other customers:

[Create your own review](#)

## Most Helpful Customer Reviews

35 of 35 people found the following review helpful:

★★★★★ **Business Blueprint for Life in a New Age**, July 5, 2005

By [Craig L. Howe "The Pointed Pundit"](#) (Darien, CT United States) - [See all my reviews](#)

[TOP 500 REVIEWER](#) [REAL NAME™](#) [VINE™ VOICE](#)

In this Internet Age, consumers know everything about your company and its products.

Glen Urban, a member of the MIT Sloan School of Management faculty since 1966, Deputy Dean at the school from 1987 to 1992, and Dean from 1993 to 1998 posits that the only way to earn their trust is to provide them with open, honest and complete information - even if that means finding the right competitor's product to meet their needs.

In the face of this increasing consumer power, your company has three options:

1. Respond with the traditional marketing push and pull. In other words, increase pull by upping your advertising budget. Increase your push by employing price and promotional policies. These have been the mainstay of marketing for more than 50 years.
2. Strengthen your customer relationships. In recent years companies have refocused on their customers by emphasizing customer satisfaction metrics, staying on message, building better products using TQM and emphasizing more personal service.
3. The final option is to advocate for your customer. This means you give your customers

## Most Recent Customer Reviews

★★★★★ **Don't Just Relate - Advocate!**

A well written text by an author with vision and insight. The material is accurate and to the point and easily understood.

[Read more](#)

Published 22 months ago by James E. Jones

★★★★☆ **Regaining Customer Trust Is Not for Greedy Sissies**

To many, the idea of "trust-based marketing" sounds like a contradiction in terms. But according to MIT Sloan School Professor and entrepreneur Glen L.

[Read more](#)

Published on July 15, 2006 by Ed Uyeshima

★★★★★ **Making an old movie idea into mainstream marketing.**

As I was reading this book the old movie 'Miracle on 34th Street' came to mind. In

[Read more](#)

Published on December 6, 2005 by John Matlock

A Web 2.0 web site that allows users to upload and share information

Although it may require a complete cultural marketing make-over, Urban says the benefits



- [HHS Home](#)
- [Questions?](#)
- [Contact HHS](#)
- [Site Map](#)

 Search

## Hospital Compare - A quality tool for adults, including people with Medicare

[Use Larger Font](#) [Help](#) [E-mail This Page](#)

**Find**

[About](#)

[Data Details](#)

[Resources](#)

[Click here](#) to learn what these tabs mean.

This tool provides you with information on how well the hospitals in your area care for all their adult patients with certain **medical** conditions. This information will help you compare the quality of care hospitals provide. Hospital Compare was created through the efforts of the Centers for Medicare and Medicaid Services (CMS) and organizations that represent hospitals, doctors, employers, accrediting organizations, other Federal agencies and the public.

Talk to your doctor about this information to help you, your family and your friends make your best hospital care decisions.

This website has:	How would you like to Find a Hospital?	
<ul style="list-style-type: none"> <li>• <b>Hospital Information</b></li> </ul> <p>Get the address, telephone number and other important information for all Medicare certified hospitals in the United</p>	<p><b>By Name</b></p>	<p>I want to find a hospital by entering all/some of its name:</p>

There are **31** hospitals available within 25 miles of ZIP Code 02109.

Your search results may show hospitals in more than one State based on the distance you chose.

- Select one or more Hospitals, up to 12 in total, then click "Next Step" at the [bottom of the page](#).

	Name and Address	Telephone	Type of Hospital	Emergency Department	Accredited by private, nationally recognized groups
<input type="checkbox"/>	<b>MASSACHUSETTS EYE AND EAR INFIRMARY</b> 243 CHARLES STREET BOSTON, MA 02114  0.7 miles / <a href="#">Mapping &amp; Directions</a>	(617) 523-7900	<a href="#">Acute Care</a>	YES	YES
<input type="checkbox"/>	<b>MASSACHUSETTS GENERAL HOSPITAL</b> 55 FRUIT STREET BOSTON, MA 02114  0.7 miles / <a href="#">Mapping &amp; Directions</a>	(617) 726-2000	<a href="#">Acute Care</a>	YES	YES
<input type="checkbox"/>	<b>TUFTS-NEW ENGLAND MEDICAL CENTER</b> 800 WASHINGTON STREET BOSTON, MA 02111  0.9 miles / <a href="#">Mapping &amp; Directions</a>	(617) 636-5000	<a href="#">Acute Care</a>	YES	YES
<input type="checkbox"/>	<b>BOSTON MEDICAL CENTER CORPORATION</b> 1 BOSTON MEDICAL CENTER PLACE BOSTON, MA 02118  1.9 miles / <a href="#">Mapping &amp; Directions</a>	(617) 638-8000	<a href="#">Acute Care</a>	YES	YES
	<b>BRIGHAM AND WOMEN'S HOSPITAL</b> 75 FRANCIS STREET				

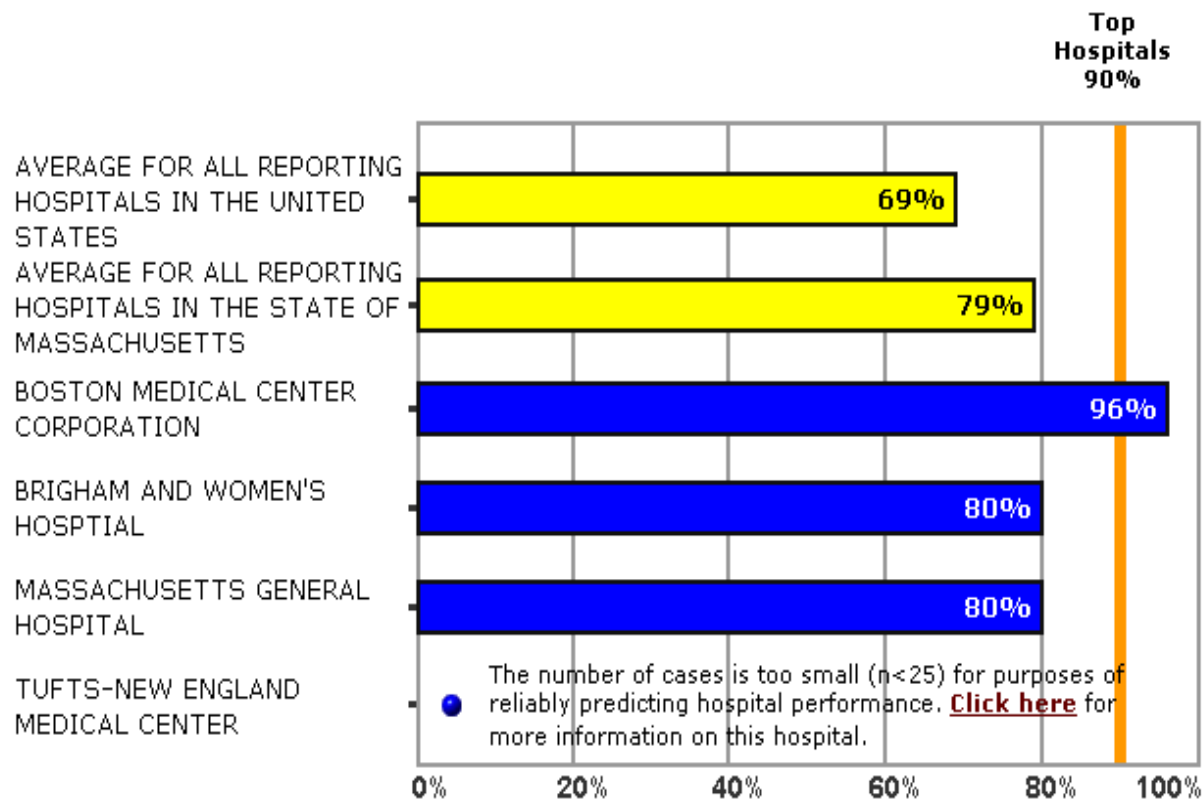
be easier to use to compare hospitals side-by-side.

more graphs below

Graph 6 of 8

**Percent of Heart Attack Patients Given PCI Within 120 Minutes Of Arrival**

The rates displayed in this graph are from data reported for discharges July 2005 through June 2006.



Top Hospitals represents the top 10% of hospitals nationwide. Top hospitals achieved a 90% rate or better.

**Why is this Important?**

The heart is a muscle that gets oxygen through blood vessels. Sometimes blood clots can block these blood vessels, and the heart can't get enough oxygen. This can cause a heart attack. Percutaneous Coronary Interventions (PCI) are procedures that are among the most effective ways to open blocked blood vessels and help prevent further heart muscle damage. A PCI is performed by a doctor to open the blockage and increase blood flow in blocked blood vessels. Improving blood flow to your heart as quickly as possible lessens the damage to



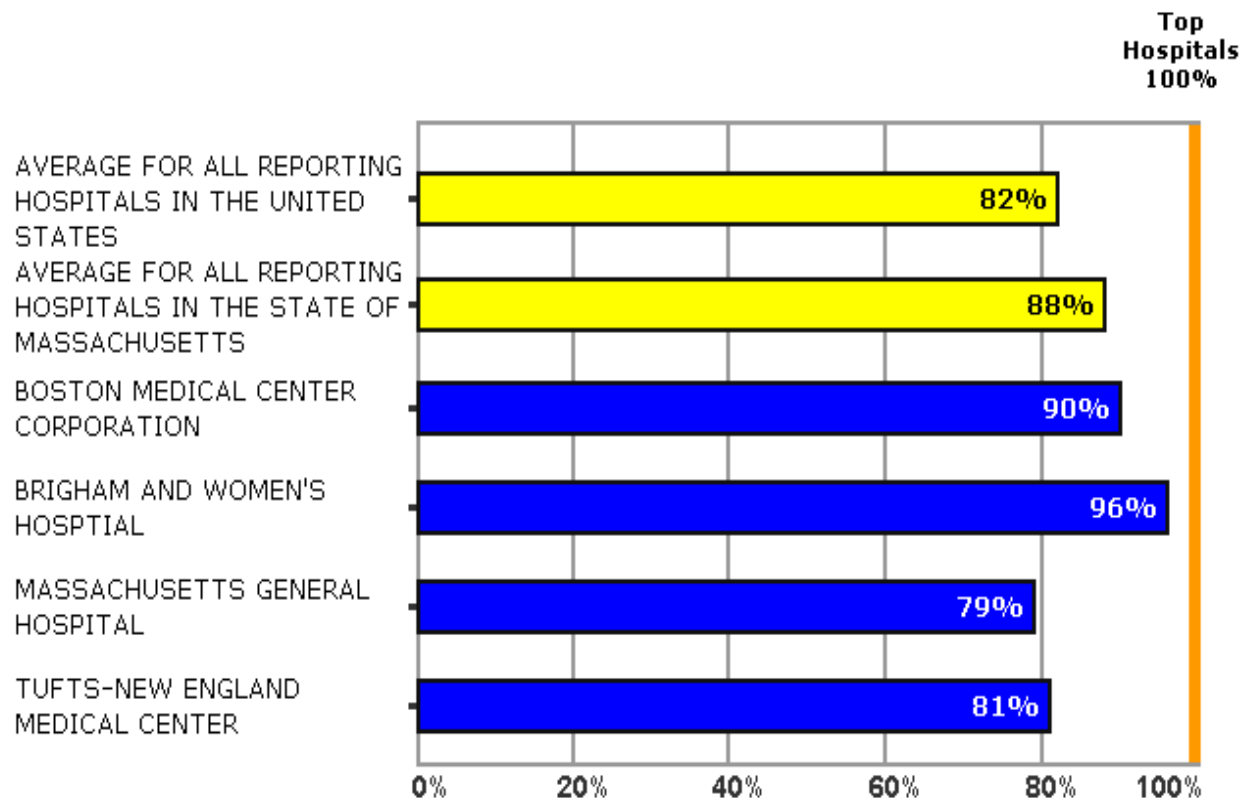
## Quality Measure Graphs

[Begin a New Find](#)

### [Heart Attack Graphs](#)

Graph 1 of 2

- Percent of Heart Attack Patients Given ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction (LVSD)**  
The rates displayed in this graph are from data reported for discharges July 2005 through June 2006.



Top Hospitals represents the top 10% of hospitals nationwide. Top Hospitals achieved a 100% rate on bottom.





## Web 2.0 had caused paradigm shift

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- ➡ “ Web 2.0 is the business revolution in computer industry caused by the move to the Internet as platform, and an attempt to understand the rules for success on that new platform. ”
- ➡ Information technology including the internet can improve their needs.
- ➡ We can learn how digital technology can improve marketing strategy formulation and execution.





# Web 2.0 and marketing

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➡ Dr. Glen L. Urban (MIT Sloan) reported that we can have an approach to marketing that uses the following four principles.

- ➡ It is four-step flow approach;
- Understanding customer needs and behavior;
  - Formulate a strategy to fill needs;
  - Implement effectively and efficiently;
  - Build trusting relationship with customers.



# Trust in telemedicine

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- ➔ For telemedicine, everybody knows that the trust between clients and providers is most important.
- ➔ Trust is a process. Issues such as fulfillment of the core value proposition are critical.
- ➔ To build a trusting relationship with customers does not require perfection, but it does require honesty.

Ex.) If your organization makes a mistake on quality or service, the action to take is to admit the mistake and explain to the customer what you are doing to fix the problem. Trying to cover up the problem will breed distrust.



## The issue of trust and of creating trust is distinctly different

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- ➔ between the two main phases of the customer-company relationship: the initial acquisition of a new customer and the long-term retention of an existing customer.
- ➔ Creating trust that creates new customers is all about creating expectations that resonate with the potential customer.
- ➔ Branding, brochure ware, and trusted advisor systems tell prospective customers what they are going to get and why it is right for them. If what the company promises meshes with what the customer wants, then the customer will more seriously consider the products and services of that company.



## Trust in telemedicine referring to advocacy marketing

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- ➔ But prospective customers will also want some assurance that the company will deliver on its promises.
- ➔ Guarantees, product return policies, and legal contracts all help the company ensure that some level of satisfaction is guaranteed to the customer.
- ➔ Third-party ratings, trade magazine articles on the company, product reviews, and customer testimonials provide semi-independent evidence that the company deliver on its promises.
- ➔ “trust” in telemedicine referring to advocacy marketing of the business using the Internet.



# What type of hospital do the patients want?

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- ➔ has many doctors with good skill
- ➔ notifies honestly if they cannot cure a patient
- ➔ doesn't cheat
- ➔ understands a human soreness
- ➔ communicates gently
- ➔ offers proper price, 24 hours 7days open, no wait
- ➔ hears patient's requests thoroughly
- ➔ is easily accessible using public transport

.....➔ the patient as a human being

**Advocacy Marketing**



# Push/pull strategy vs Advocacy strategy in Marketing

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## PUSH/PULL STRATEGY

1. Customers avoid decision-making responsibility
2. Customers are passive and must be coerced
3. Customers have difficulty learning and prefer to be influenced
4. Customers have little imagination

*Old strategy*

## ADVOCACY

1. Customer 's **decision-making** is natural
2. Customers are active and want to control the buying process
3. Customers prefer to learn and **make an informed decision**
4. Customers have imagination, ingenuity, and creativity

*New strategy*



# Advocacy Marketing Introduction

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To determine the **trust** ratings

## Eight Dimension

1. Transparency
2. Products / Service Quality
3. Incentive
4. Partnering with Customers
5. Cooperating Design
6. Product Comparison and Advice
7. Supply Chain
8. Pervasive Advocacy





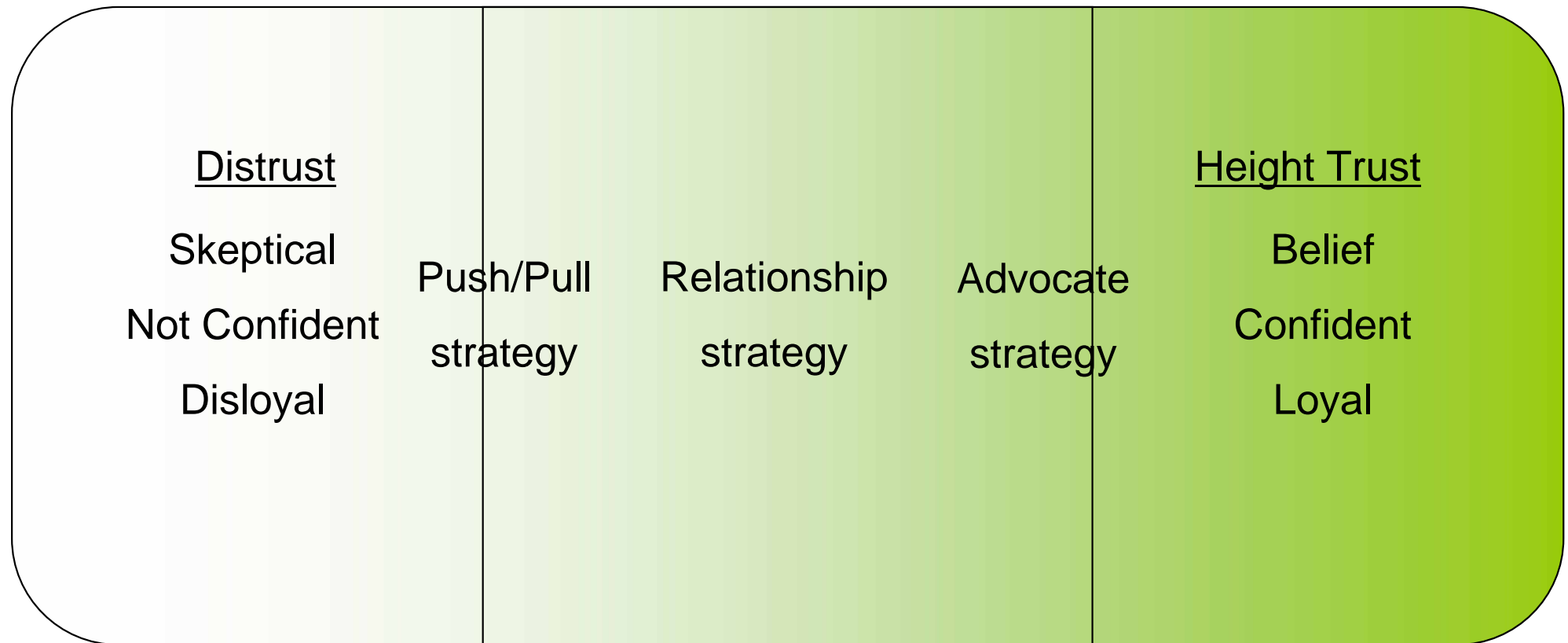


Figure 6-1 Overall Trust Rating for Three Markets

Glen Urban. *DON'T JUST RELATE-ADVOCATE! A Blueprint for Profit in the Era of Customer Power*. Wharton School Publishing, 2005



1	<b>Transparency</b> Distorted, Hidden Information	P		R		A	Full, Honest Information
2	<b>Product Service Quality</b> Low product service quality fail to meet promises		P		R	A	Quality best product and service to fulfill expectations
3	<b>Incentive</b> Incentives aligned for company, not customer gains	P		R		A	Incentives aligned so employees trust and meet customer need
4	<b>Partnering with Customers</b> Leave customers to work out their own problems	P		R		A	Help customers learn and help themselves
5	<b>Cooperating Design</b> Customers are sold company solutions	P		R		A	Customers help design products individually and through communities
6	<b>Product Comparison and Advice</b> no or biased comparisons and no advice	P			R	A	Compare to competitive products honestly and comprehensive communities
7	<b>Supply Chain</b> Customer trust conflict in channel	P		R		A	All supply chain partners aligned to build trust
8	<b>Pervasive Advocacy</b> Marketing pushes services and products	P	R			A	All functions work to build trust

Figure 6-2 Ratings of Three Strategies on Component Dimensions

P Push/pull strategy    
 R Relationship strategy    
 A Advocacy strategy

# What is the advocacy measure for patients?

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➔ Books Price! Rating! Comments!

➔ Healthcare

- Medical charge?
- High Benefit / Low Risk?
- Life Extension?
- No pain / Less pain?
- Good Quality of Life?

Do patients know what is the best for themselves?

# Transparency for patients

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- ➔ 1 . clarify it is possible to do or not
- ➔ 2 . If not possible, refer other hospitals
- ➔ 3 . disclose correct up-to-date information
- ➔ 4 . disclose information that patients can understand
- ➔ 5 . disclose information that are useful for judging

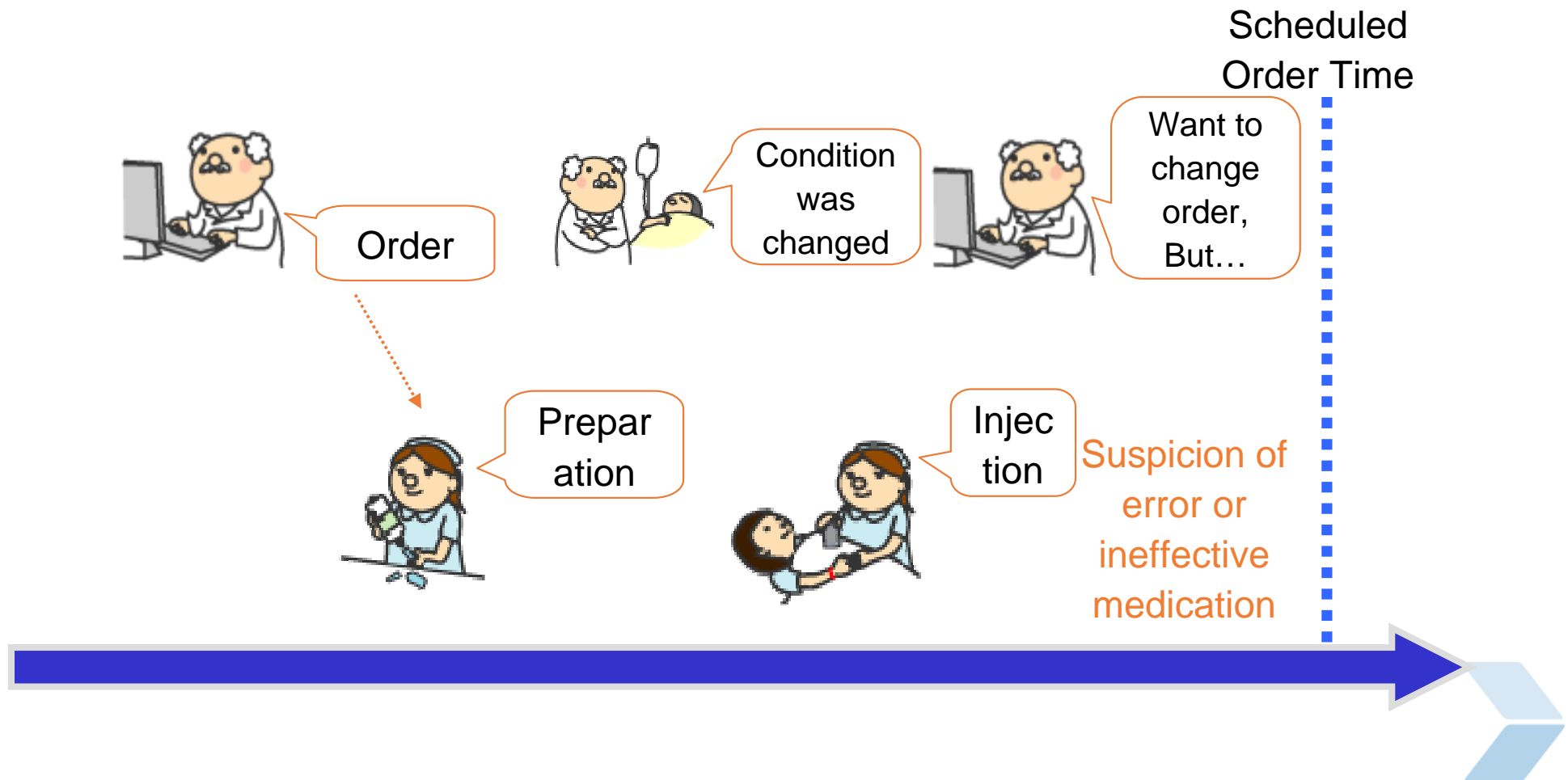
To disclose hospital information on web page is highly necessary.



# Right time medication is important?

➔ Example)

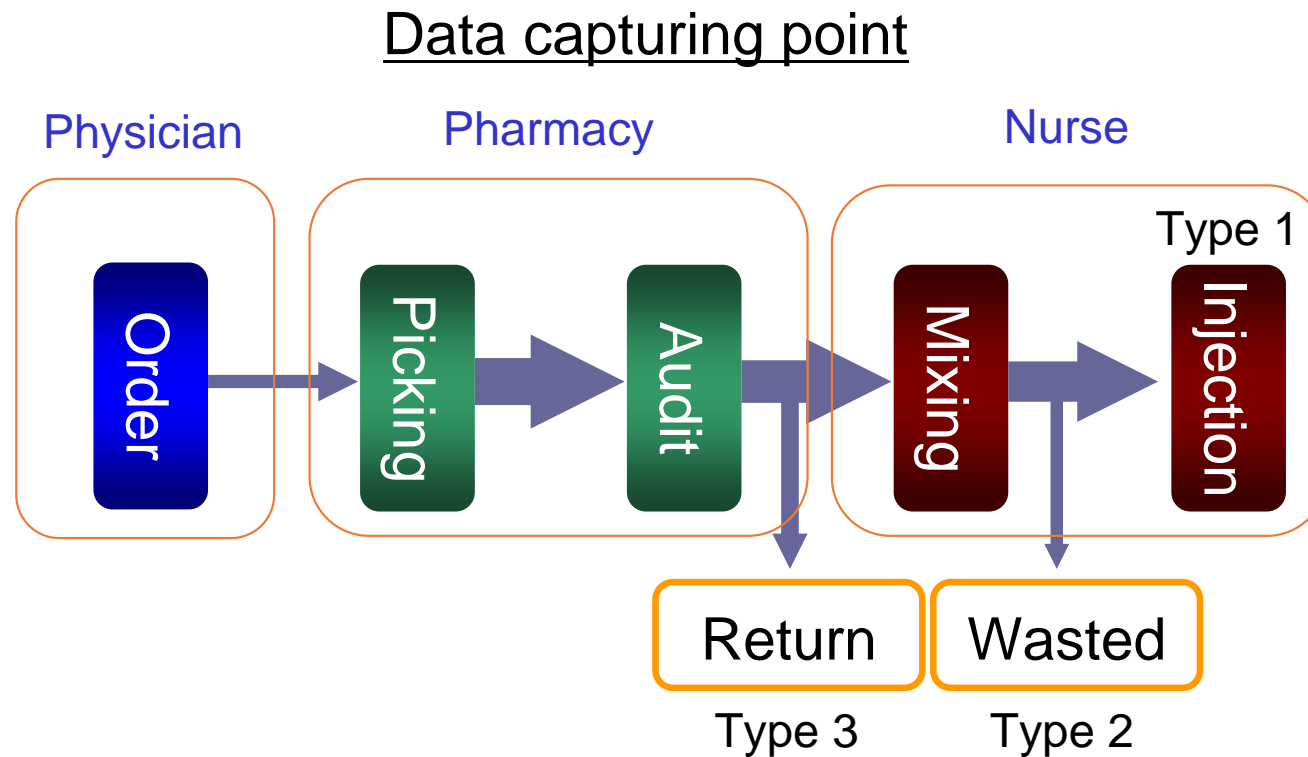
Early Injection would be a cause of error or ineffective medication



# Data

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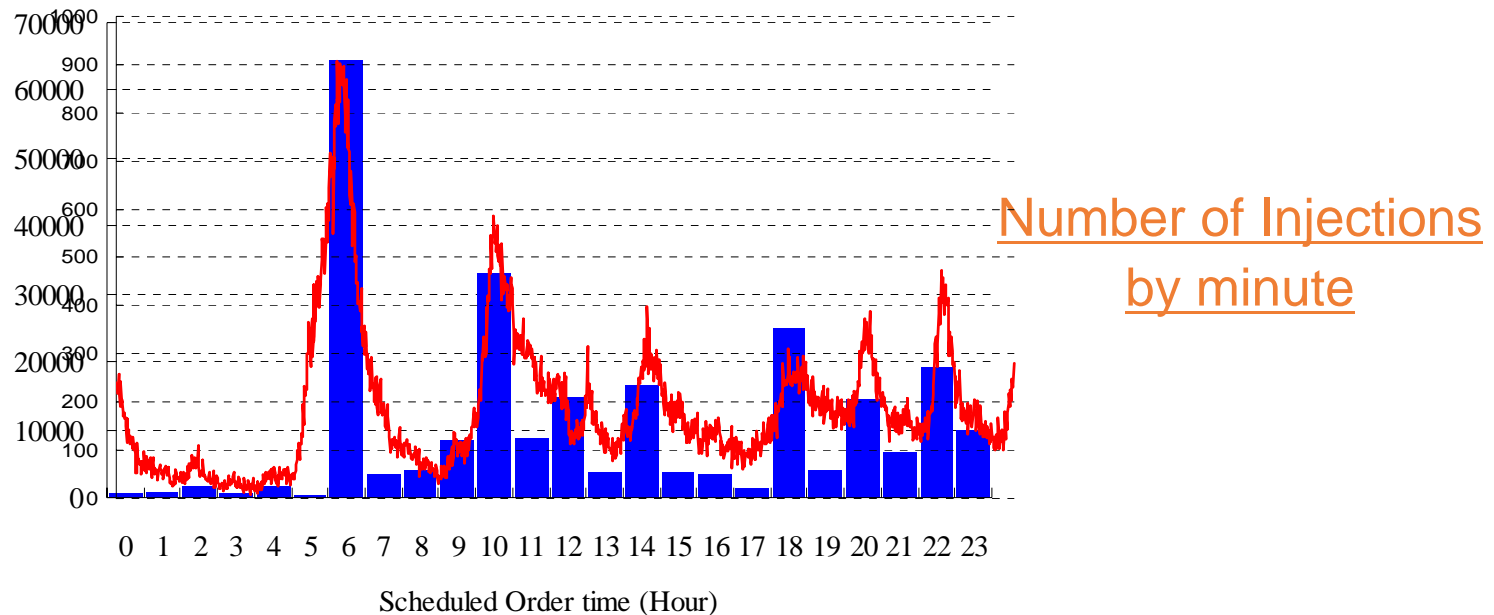
- ➔ From July to September 2007
- ➔ Data is including 306768 drugs taken in all injections during the term at every ward in IMCJ



## Result

# Records of all orders and Injections

### Distribution of Scheduled Order Time



- ➔ Deviation of distribution of Order time is high
- ➔ To complete these orders, Nurses adjust injection time.

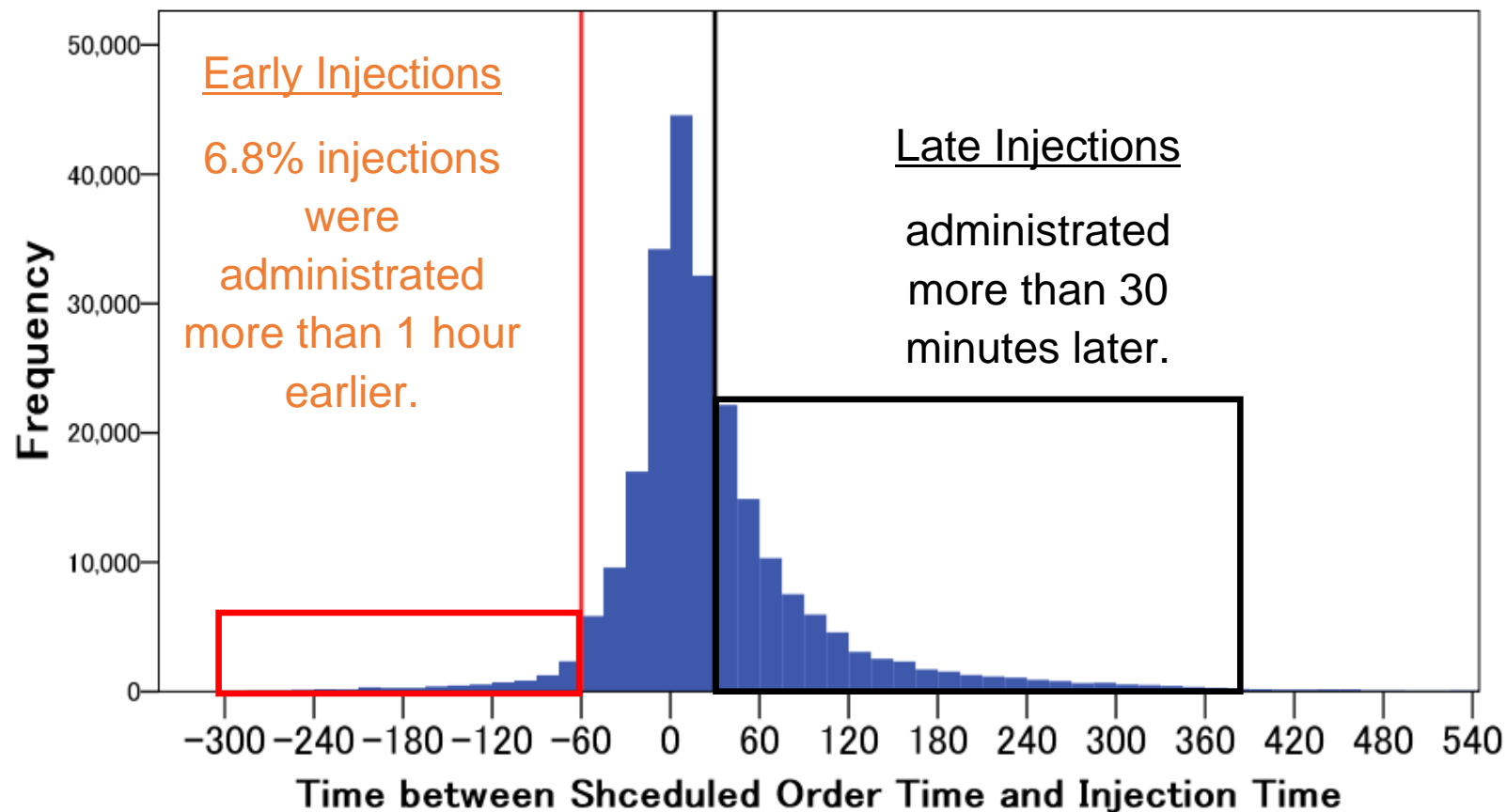




## Result

# Time rightness of injection

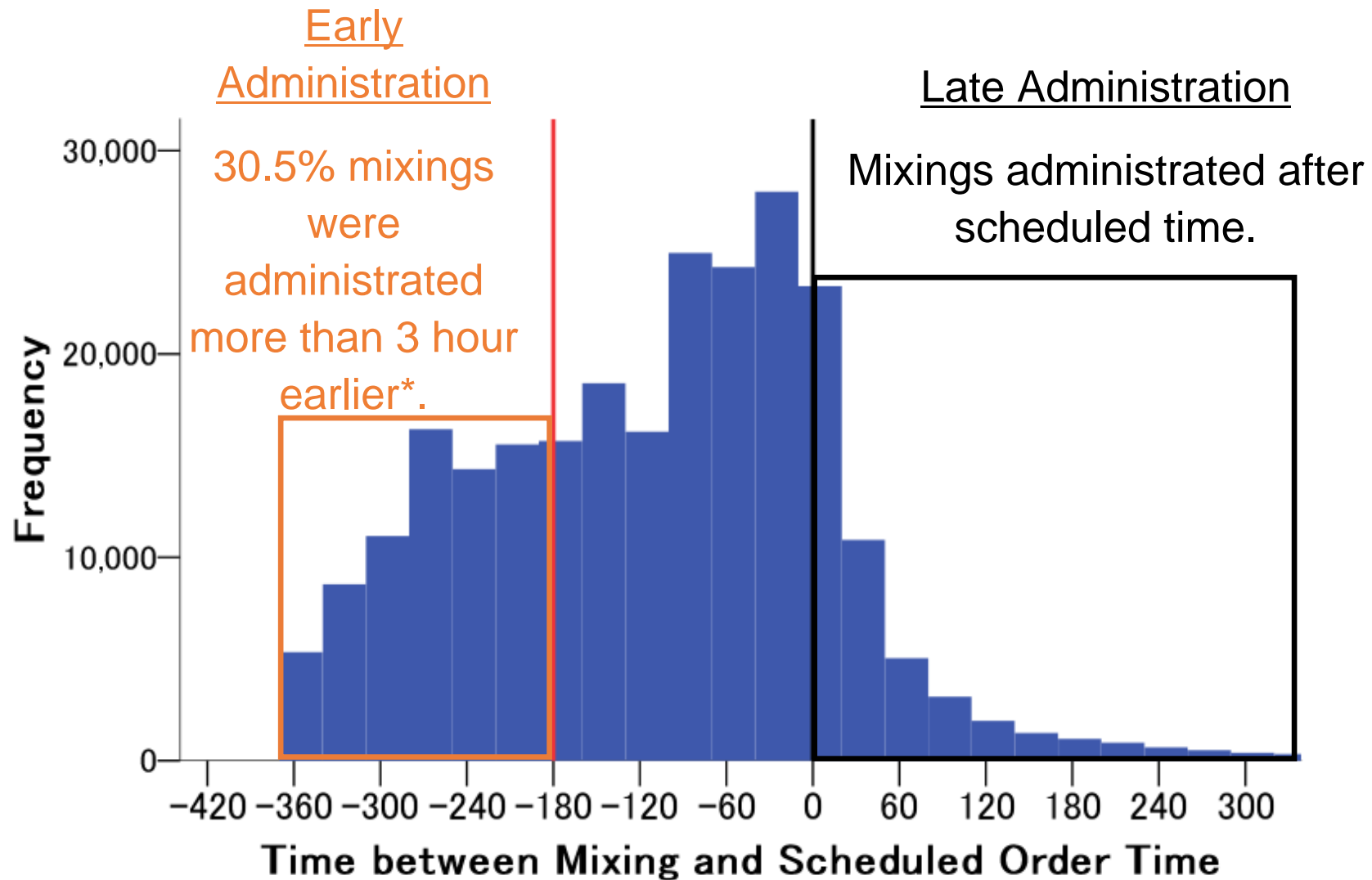
➡ (Time between scheduled order time and injection) =  
(Injection Time) - (Scheduled Order Time)



## Result

# Time rightness of Mixing

➔ (Time between mixing and scheduled order time) =  
(Scheduled Order time) - (Mixing time)

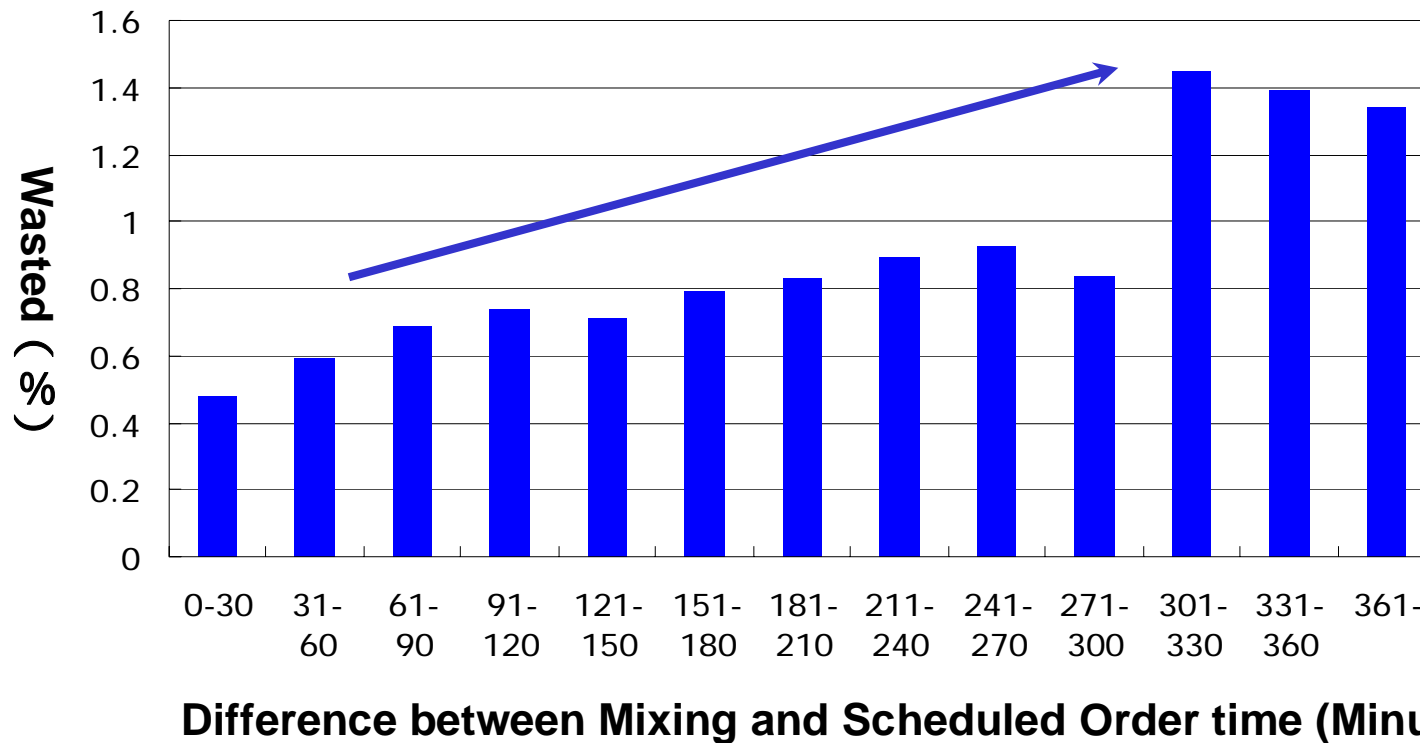


# Discussion

## Implications for hospital management

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### Wasted rate and time between mixing and scheduled order



➡ Right time mixing is also good for reducing drugs waste.

# Existing Web Site Criteria for hospitals

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1. Transparency and Honesty
2. Authority
3. Privacy and Data Protection
4. Updating of information
5. Accountability
6. Accessibility

Are they enough for “Healthcare Consumer Advocacy”?

Commission of the European Communities, Brussels. *eEurope 2002: Quality Criteria for Health Related Websites*.

J Med Internet Res. 2002 Dec;4(3):E15



# We need Advocacy marketing for Telemedicine.

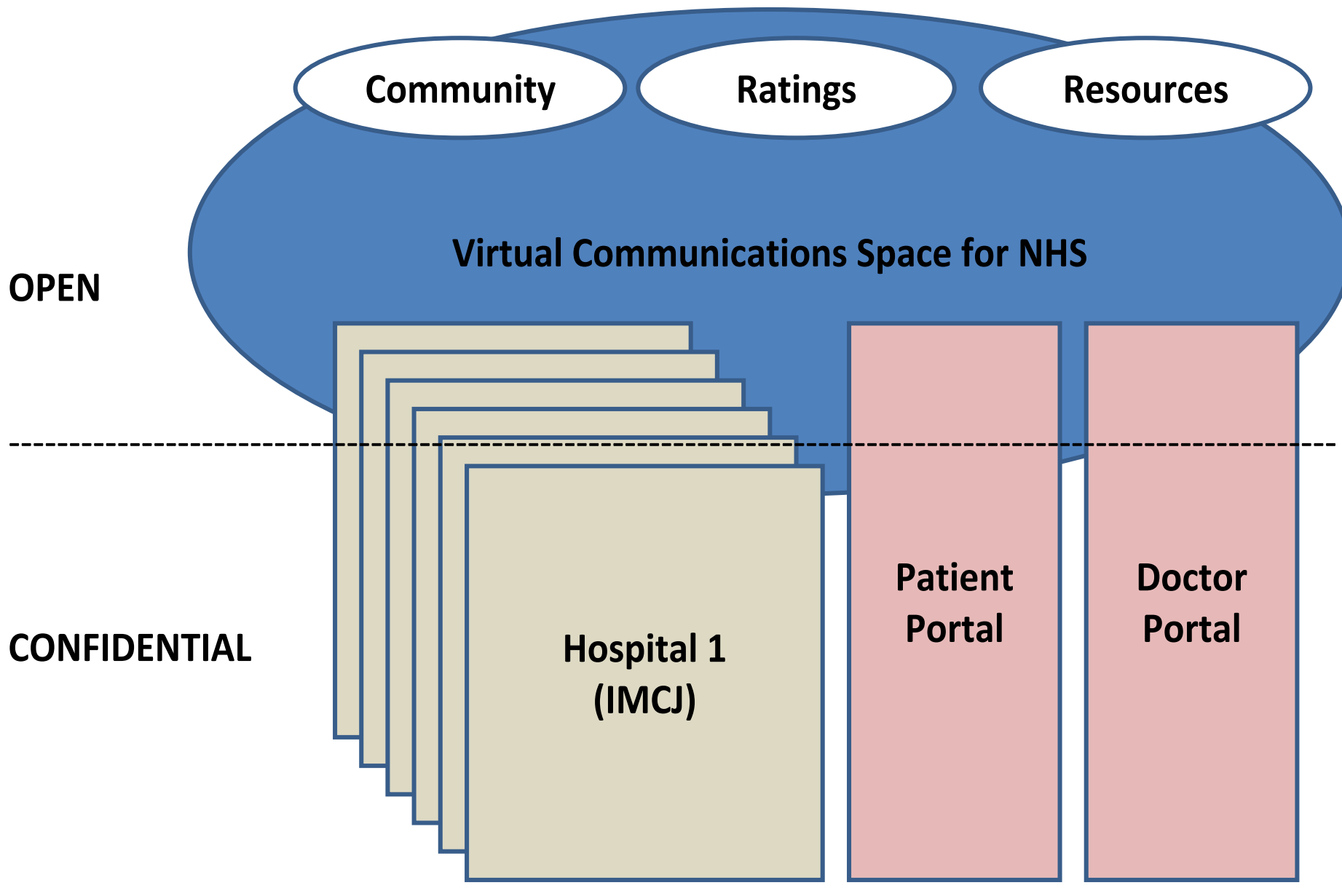
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- ➔ “Trust” in telemedicine referring to the advocacy marketing in the business in the Internet.
- ➔ Transparency for patients is important.
- ➔ Advocacy marketing is useful for “trust” in telemedicine.



# Trust in Healthcare

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# Morphing

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- ➡ Morphing is a special effect in motion pictures and animations that changes (or morphs) one image into another through a seamless transition.
- ➡ Most often it is used to depict one person turning into another through some magical or technological means or as part of a fantasy or surreal sequence.
- ➡ Traditionally such a depiction would be achieved through cross-fading techniques on film.
- ➡ Since the early 1990s, this has been replaced by computer software to create more realistic transitions.
  - By Wikipedia





# Welcome

## Welcome to Card Loan Guide.

This site include useful information to make a decision to choose card loan best fit for you.  
This site was made based on the idea called "morphing". It learns your cognitive style and cultural belief from your clicks, and change its style to fit for you.

[Click here to learn more about morphing.](#)

Click one of the following two pictures  
to enter the Card Loan Guide



# Card Loan Guide

2017 2018 2019 2020 2021

Welcome page  
Home

Data  
Advisor  
Fast solution  
Learn & Info  
Forum  
Personal

Stop morphing

**Fixed Morphs**

000000

111111

## Personal

### Your history of site visit

You can check your history of site visit here.

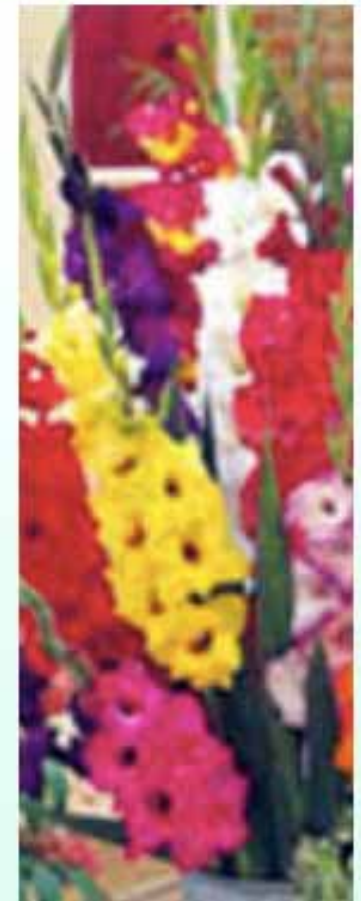


### Tell us more about you

If you answer some question, you can get the best morphing just fit for you.



What is morphing? [Click here!](#)



# Your history of site visit



Welcome page  
Home

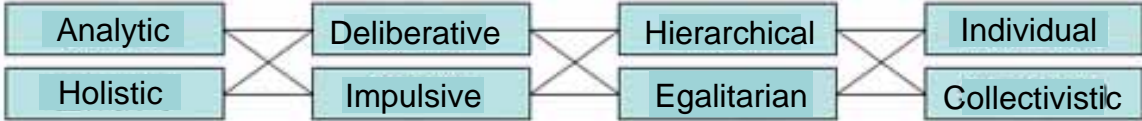
Data  
Advisor  
Fast solution  
Learn & Info  
Forum  
Personal

Stop morphing

## Home > Personal > Your history of site visit **Your history of site visit**

You can find what kind of morph did you browse for each page. Morphing has two patterns for each four dimensions as follows, and each page has 16 morphing patterns in total.

### Combinations for each morphing patterns



<u>Home</u>
Holistic, impulsive, Hierarchical, Collectivistic
<u>Personal</u>
Holistic, Deliberative, Hierarchical, Individual



### **Fixed Morphs**

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111111

# Tell us more about you



Welcome page  
Home

Data  
Advisor  
Fast solution  
Learn & Info  
Forum  
Personal

Stop morphing

---

## Fixed Morphs

000000  
111111

Home > Personal > Tell us more about you

## Tell us more about you

In this section, you will be able to learn about your morph and your cognitive style by taking a short survey.

15 morph questions





# Tell us more about you (result)

Data  
Advisor  
Fast solution  
Learn & Info  
Forum  
Personal

Stop morphing

**Fixed Morphs**  
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111111

## Analytic vs. Holistic

Your Dimension: Holistic

The ANALYTIC cognitive style refers to an individual who tends to process information in parts and likes detail, as opposed to HOLISTIC where an individual processes information in wholes.

## Deliberative vs. Impulsive

Your Dimension: Deliberative

The DELIBERATIVE style individual prefers to plan, research and consider multiple options carefully before reaching a decision. The IMPULSIVE style individual tends to act in a driver mode and makes decisions on impulse, quickly without a lot of detail.

## Hierarchical vs. Egalitarian

Your Dimension: Egalitarian

The HIERARCHIAL cultural style refers to an individual who accepts power relations that are more autocratic and acknowledge the power of others simply based on where they are situated in certain formal, hierarchical positions. The EGALITARIAN style refers to an individual who accepts power that is more consultative or democratic and relate to others more as equals regardless of formal positions.

## Individualistic vs. Collectivistic

Your Dimension: Collectivistic

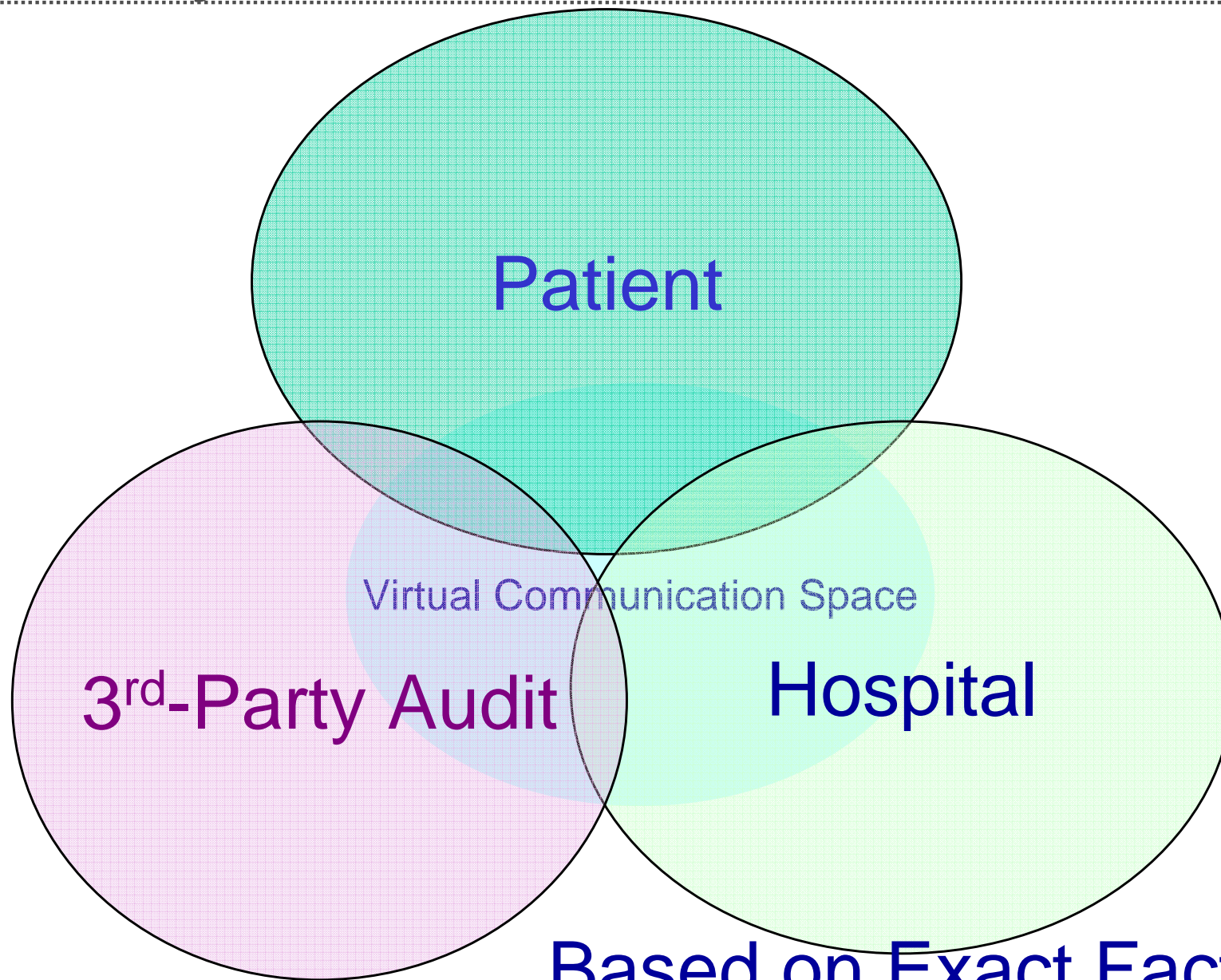
The INDIVIDUALISTIC cultural style is contrasted with COLLECTIVISTIC, and refers to the extent an individual is concerned with personal achievement and individual success, or alternatively act predominately as a member of a group and place emphasis in community achievement and social agenda.

If you think we've made mistake in determining your morph, please feel free to take the test again. You may complete the questionnaire again below:



# Advocacy is ...

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**Based on Exact Facts**



# Thank you for your attention.

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➔ Any Questions?

➔ Think !

➔ What kind of system do you want, if your son or daughter were a patient?



**E-mail: [poas@mit.edu](mailto:poas@mit.edu)**

