

Lean Transformation

Better, Faster and More Affordable

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Center for Health Care Solutions
At Virginia Mason**

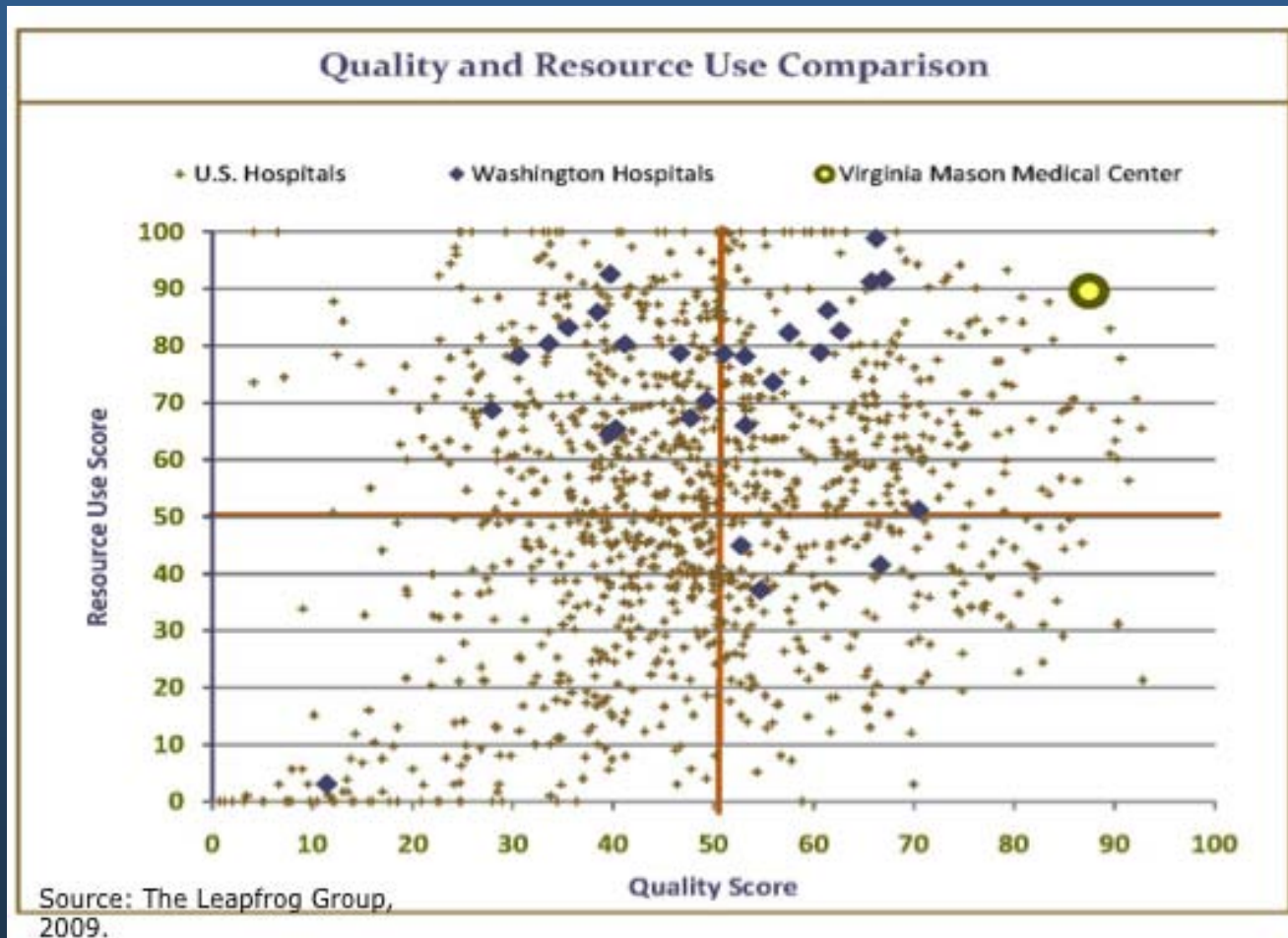
Virginia Mason Medical Center

A Study in Transformation

1. Seattle-based integrated system
2. 450 employed physicians
3. 800,000 outpatient visits ;
17,000 hospital visits
4. Graduate medical education
5. Research Center

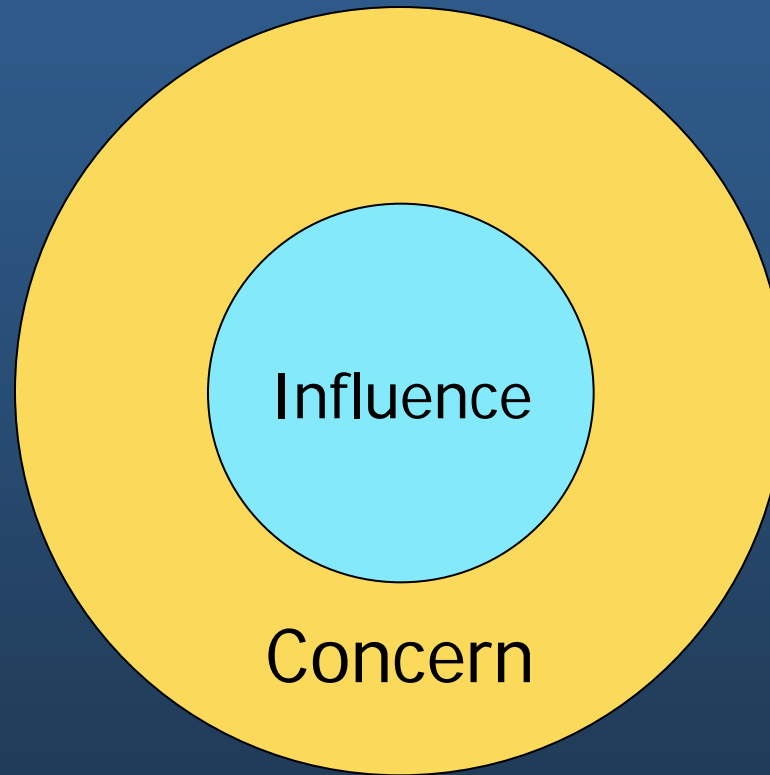
Virginia Mason Medical Center

Hospital of Decade: Efficiency and Effectiveness



The First Board Meeting

Two Circles and a Choice



Circle of Concern

For Our Organization

1. Recession and job losses
2. Reduced funding of health care benefits
3. Downward pressure on Medicare payment
4. Dysfunctional national politics
5. Fragmented health care delivery system
6. Aging, overweight population
7. Regulatory uncertainty

Circle of Influence for VM

Remove Waste From Health Care Delivery

1. Produce appropriate, quality health care
2. Eliminate needless variation
3. Eliminate waits and delays
4. Reduce cost of producing health care

A Decade of Change

The Inside Story

1. Organizational Compact
to ensure accountability
2. Strategic plan
to define ourselves and our decision rules
3. Reliable systems
to reduce variation in care
4. Marketplace Collaboratives
to redesign care with customers

1. Physician Compact

Mutual Accountability

VIRGINIA MASON MEDICAL CENTER PHYSICIAN COMPACT

Organization's Responsibilities

Foster Excellence

- Recruit and retain superior physicians and staff
- Support career development and professional satisfaction
- Acknowledge contributions to patient care and the organization
- Create opportunities to participate in or support research

Listen and Communicate

- Share information regarding strategic intent, organizational priorities and business decisions
- Offer opportunities for constructive dialogue
- Provide regular, written evaluation and feedback

Educate

- Support and facilitate teaching, GME and CME
- Provide information and tools necessary to improve practice

Reward

- Provide clear compensation with internal and market consistency, aligned with organizational goals
- Create an environment that supports teams and individuals

Lead

- Manage and lead organization with integrity and accountability

Physician's Responsibilities

Focus on Patients

- Practice state of the art, quality medicine
- Encourage patient involvement in care and treatment decisions
- Achieve and maintain optimal patient access
- Insist on seamless service

Collaborate on Care Delivery

- Include staff, physicians, and management on team
- Treat all members with respect
- Demonstrate the highest levels of ethical and professional conduct
- Behave in a manner consistent with group goals
- Participate in or support teaching

Listen and Communicate

- Communicate clinical information in clear, timely manner
- Request information, resources needed to provide care consistent with VM goals
- Provide and accept feedback

Take Ownership

- Implement VM-accepted clinical standards of care
- Participate in and support group decisions
- Focus on the economic aspects of our practice

Change

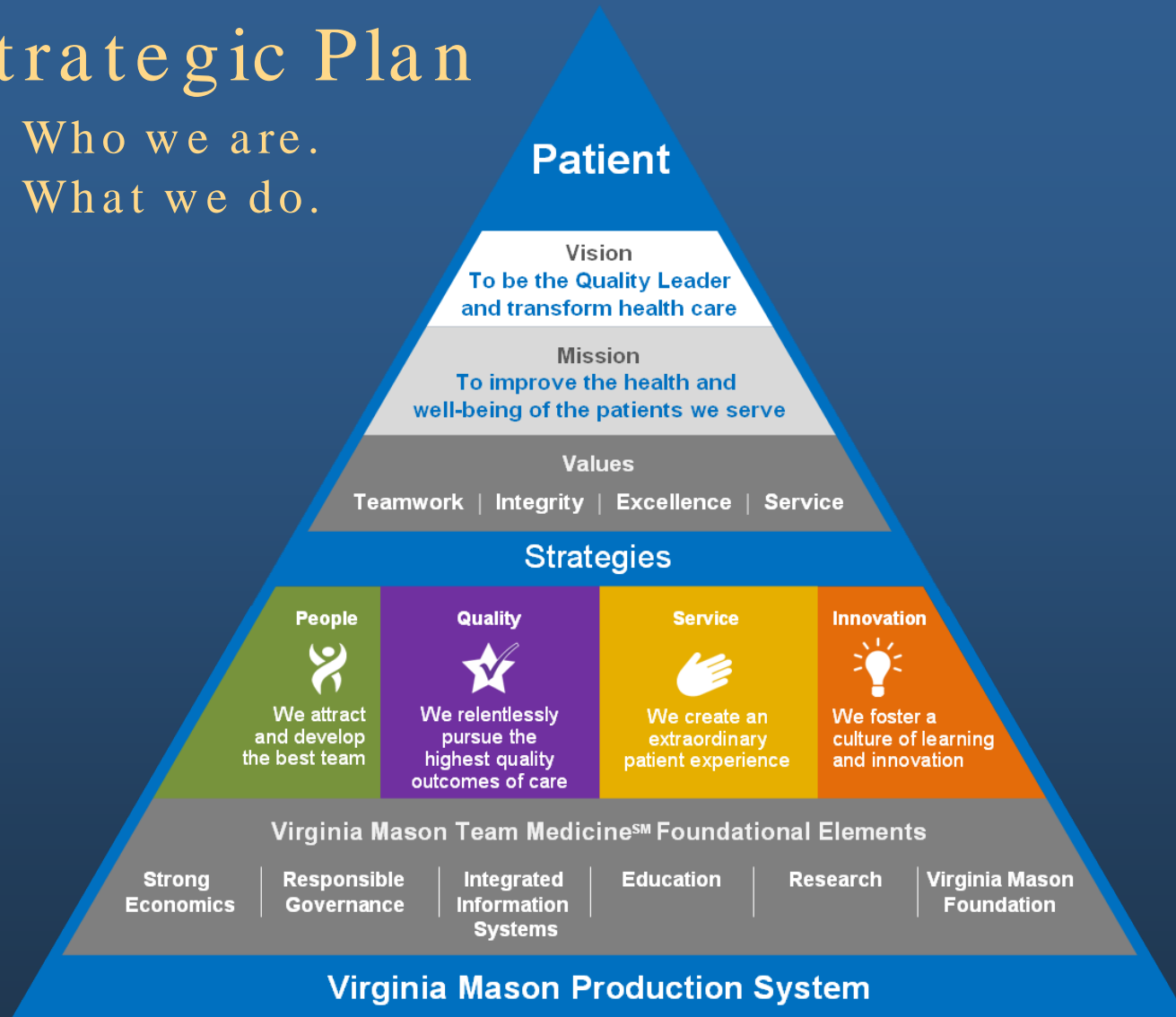
- Embrace innovation and continuous improvement
- Participate in necessary organizational change



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2. Strategic Plan

Who we are.
What we do.



3. The Path Toward a Management System that Works



New Attitudes and New Tools

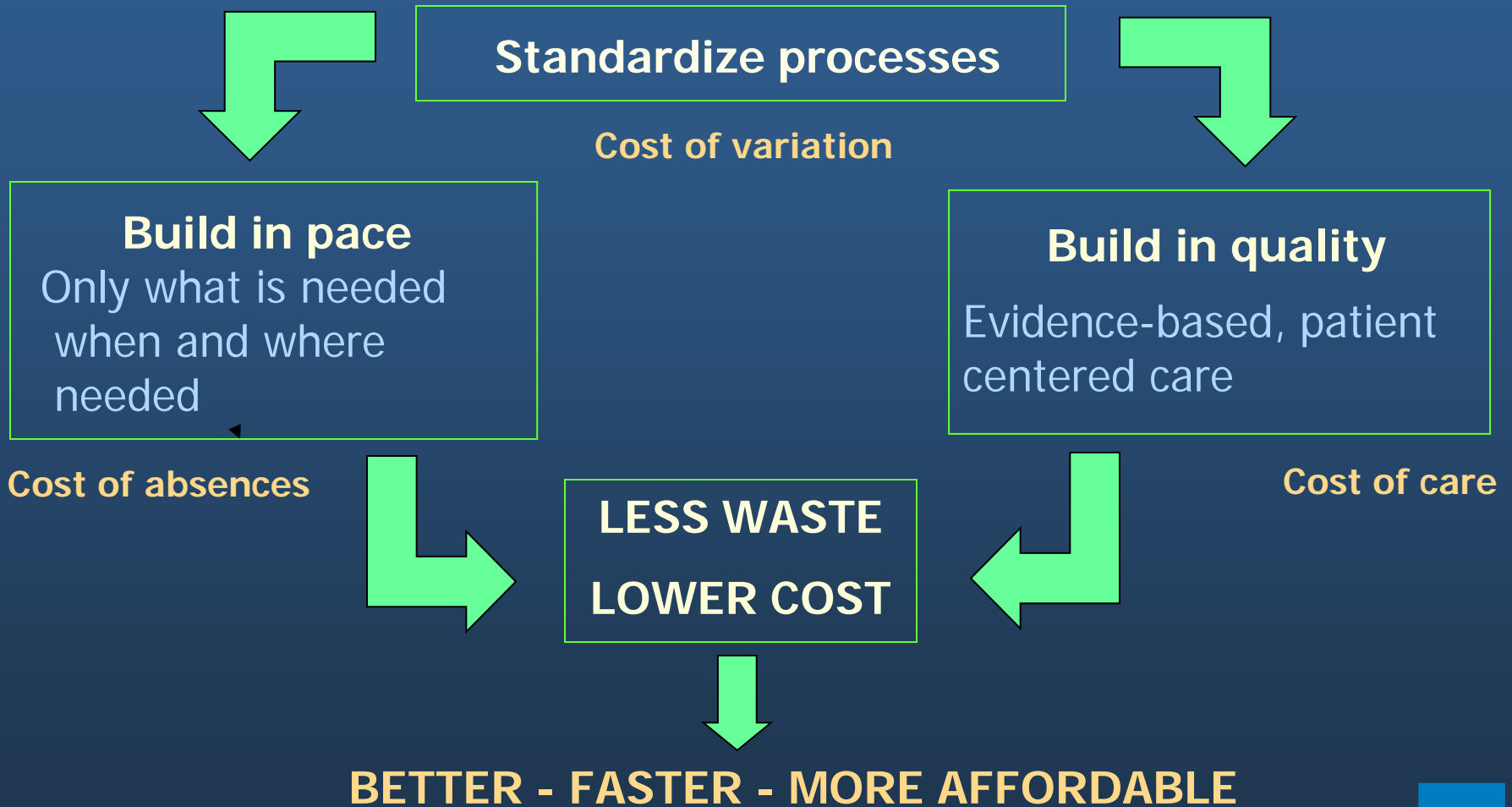


VM Board Member at Hitachi

The Sensei and The Waiting Room

Reliable Systems

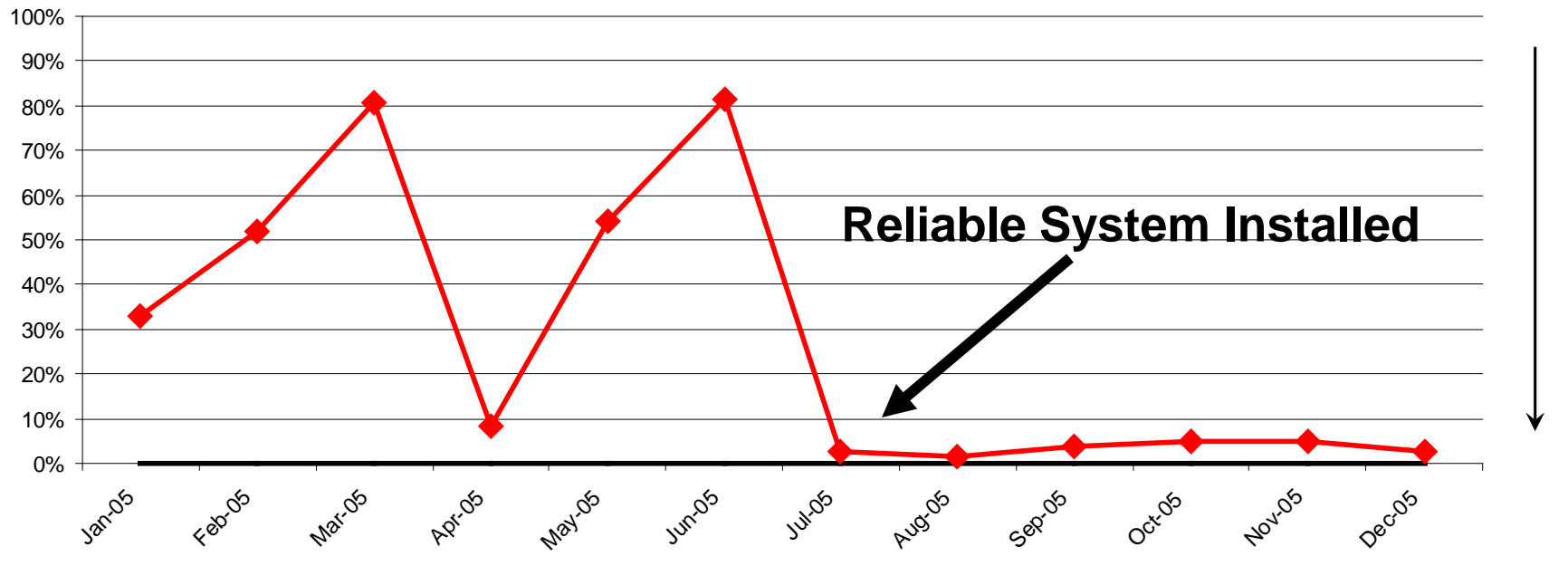
Eliminating Wasted Time and Content



Reliable Systems

"Best Doctors" Not Sufficient

Safe Medication Ordering

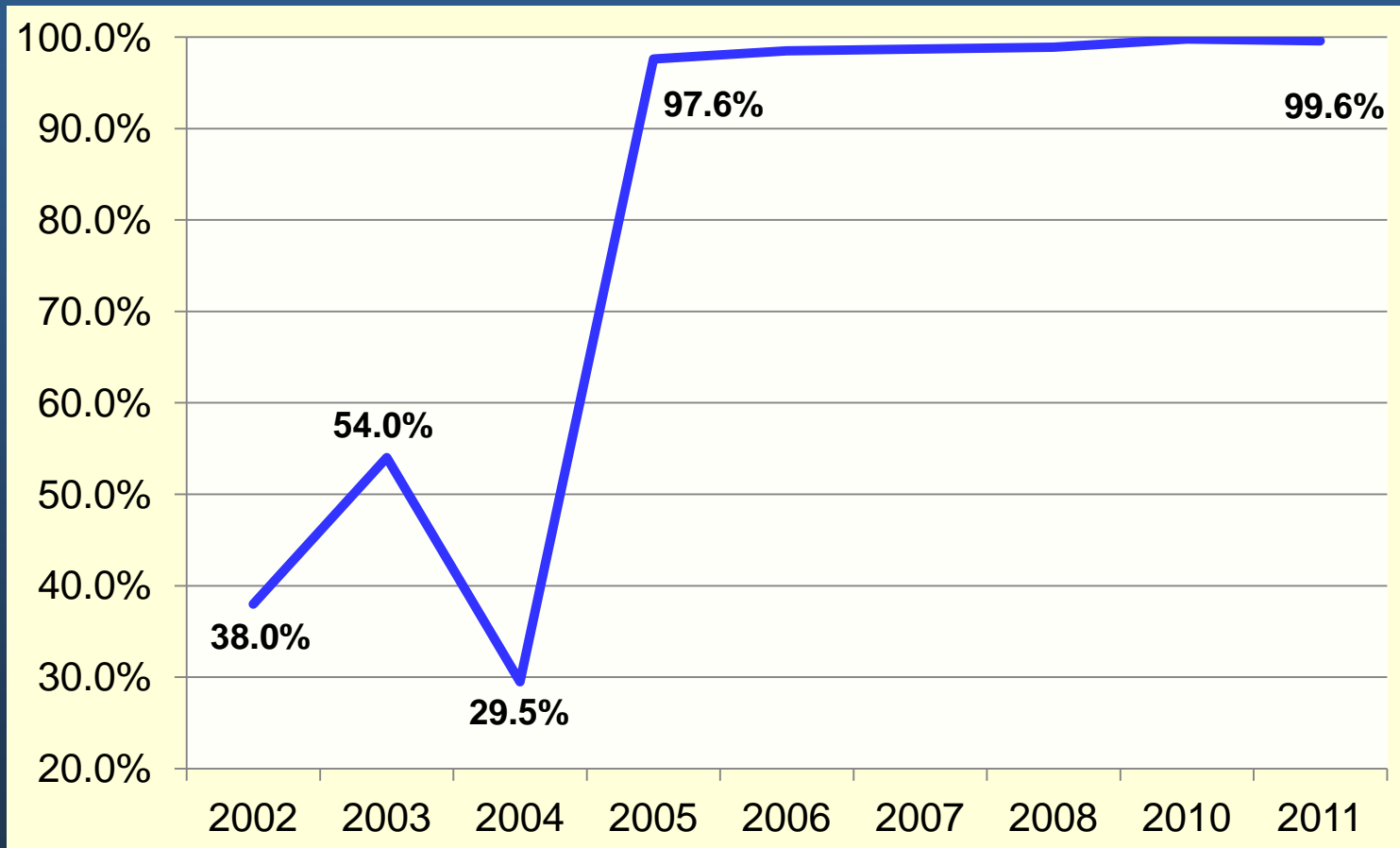


Percent Defects in Med Orders at VMH

The Medical Assistant's Question

Reliable Systems

Influenza Immunization Rates at VM



A Decade of Change at VM

The Outside Story

1. Physician compact and reorganization
to ensure accountability
2. Strategic plan
to define ourselves and our decision rules
3. Reliable systems
to reduce variation in care
4. Marketplace Collaboratives
to redesign care with customers

The Customer

Affordability: Three Challenges

1. Failed process for delivering quality



3. Failed process for purchasing quality

2. Failed process for paying for quality

Affordability requires correcting all three.

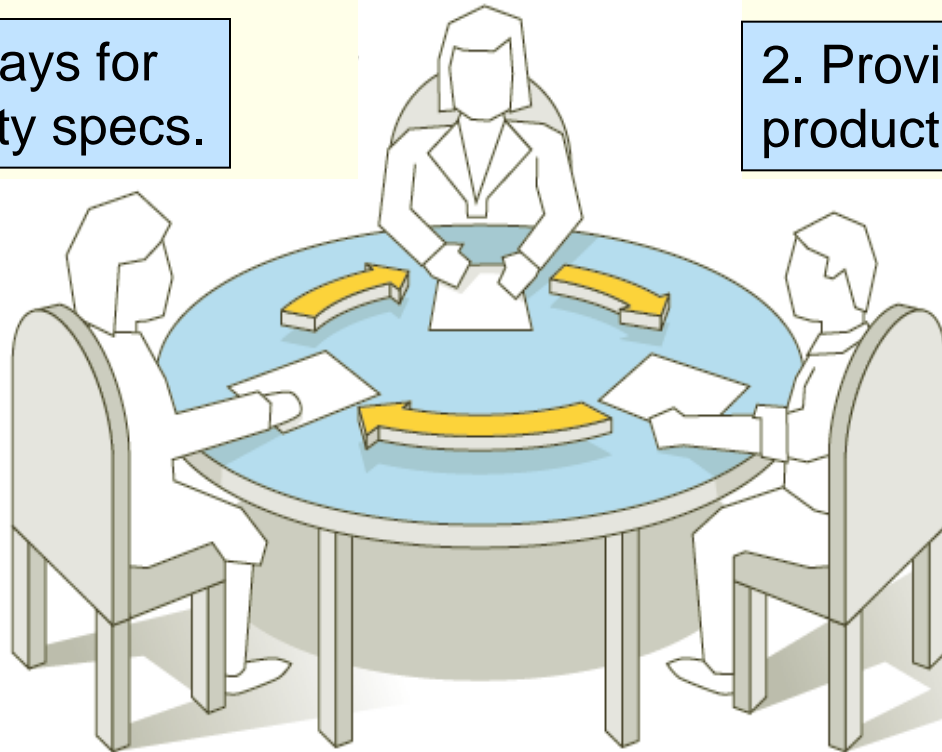
A Marketplace Collaborative

1. Employer uses purchasing power to define products and quality specifications.

4. Employer purchases product.

3. Health plan pays for delivery of quality specs.

2. Provider produces product to quality specs.



Customer Defines Products

Doing the Right Thing: High Cost Conditions

1. Screening and prevention
2. Back pain
3. Shoulder, knee and hip pain
4. Headache
5. Respiratory symptoms
6. Breast symptoms
7. Depression/anxiety
8. Diabetes
9. Abdominal pain
10. Chest pain

**High volume, low per-capita
cost conditions**

Customer Defines Quality Specs

Doing Things Right

Better

1. Evidence-based care: what works
2. 100% patient satisfaction

Faster

3. Same-day access
4. Rapid return to function

More Affordable

5. Affordable price for employer and provider

Customer on Design Team

TEAM VIRGINIA MEDICINE

although your actual risk differs.

Breast Clinic
at Virginia Mason Medical Center

Women With a High Risk of Breast Cancer

Many women ~~who~~ are concerned about developing breast cancer. ~~They underestimate or overestimate their risk.~~ *85*

Some risk factors, such as your family background, biological gender or age, can't be changed. The two highest risks for developing breast cancer are being a woman and getting older. It is important to have an accurate assessment of your risk, since this will help guide screening recommendations and options for risk reduction.

Some other individual factors that may put you at higher risk include:

- Strong family history of breast or ovarian cancer
- Breast cancer gene mutations or other syndromes known to be associated with a higher risk of breast cancer
- Personal history of breast tissue such as atypical hyperplasia or lobular carcinoma in situ. These are not cancerous, but can be "markers" of an increased risk
- Previous radiation to the chest wall

Women at high risk may need more intensive and earlier screening, with a yearly mammogram, clinical breast exam once or twice a year, and in some cases, yearly breast MRI (magnetic resonance imaging). Some women may be candidates for genetic testing for gene mutations.

You may be referred to a specialist to help put your individual risk into perspective. At that time, you can discuss your family history, genetic background, and health habits. You can also use a breast cancer risk assessment tool ~~at~~ *well* www.cancer.gov/bcrisktool.

Women over the age of 35 use found out

How you can reduce your risk

If you are at high risk, there are some things you can do to reduce your risk of the disease. These include:

- **Lifestyle modifications:** A low fat diet, maintaining healthy body weight, exercising, and reduction in alcohol intake may help decrease your breast cancer risk.
- **Chemoprevention:** Tamoxifen or Raloxifene are anti-estrogen medications. These have been shown in clinical trials to decrease the risk of developing breast cancer up to 49%.
- **Surgery:** Preventative bilateral mastectomy (removal of both breasts) and/or oophorectomy (removal of ovaries) may be an option for ~~some~~ *high risk* women.

Don't just worry about your breast cancer risk.

Questions?

If you have questions about these topics or would like more information, please talk with your healthcare provider.

Genetic testing

Breast Clinic at Virginia Mason Medical Center
Lindeman Pavilion, Level 11 • 1201 Terry Avenue • Seattle, Washington 98101 • (206) 625-7256 • VirginiaMason.org/breast

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Redesigning Health Care

Tools to Create Reliable Systems

1. Value-stream mapping

Care from the customer's perspective

2. Evidence-based medicine

Care that works

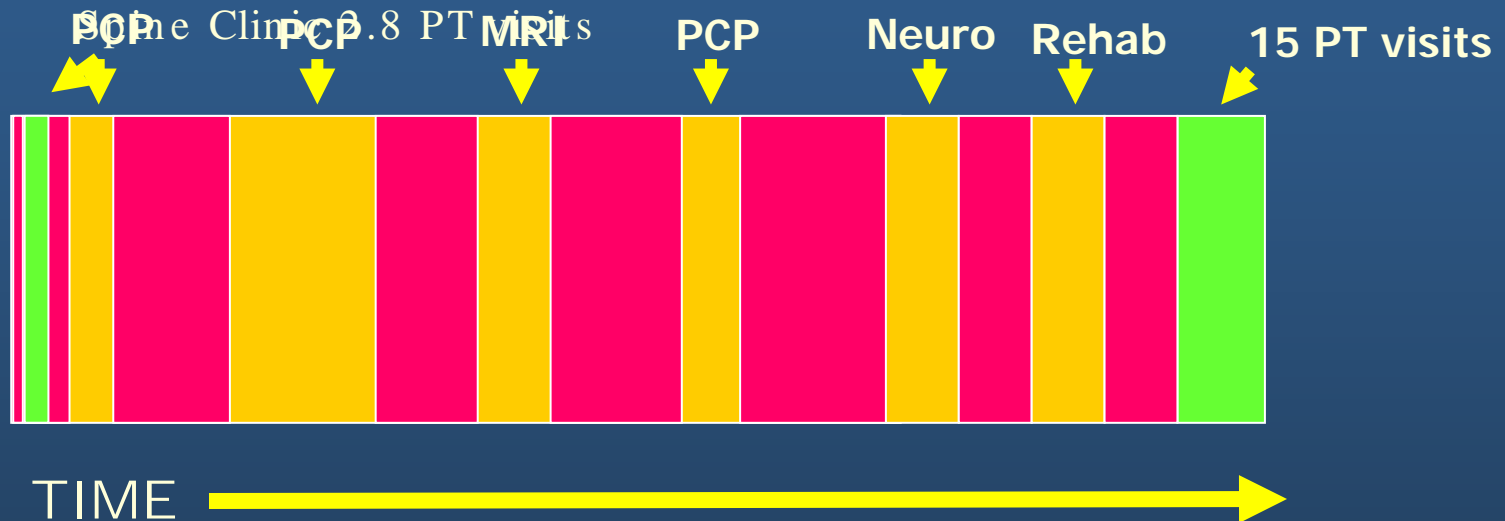
3. Skill-task alignment

The right provider for the clinical task

4. Lead time reduction

No waits or delays

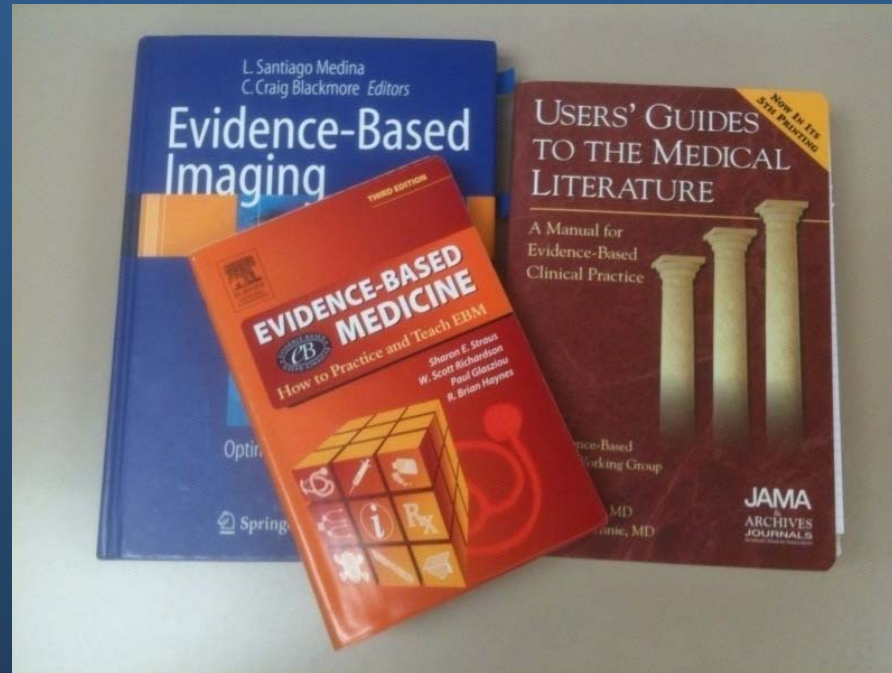
1. Value Stream Map of Back Pain Before System Re-engineering



- Waits and delays
- Non value-added
- Evidence-based value

2. Evidence-Based Medicine

Just What Works



Doing just what works can reduce health care costs by 30%.

Building Quality Into the System

Mistake-Proofing

MRI Back Exam

Exam Requested*

- | | | |
|--|--|--|
| <input type="checkbox"/> mr cspine | <input type="checkbox"/> mr tspine | <input type="checkbox"/> mr lspine |
| <input type="checkbox"/> mr cspine w/ w/o contrast | <input type="checkbox"/> mr tspine w/ w/o contrast | <input type="checkbox"/> mr lspine w/ w/o contrast |

Current Weight*

lbs kg Max Table Weight 200 kg/441 lbs

ICD9 Code(s)

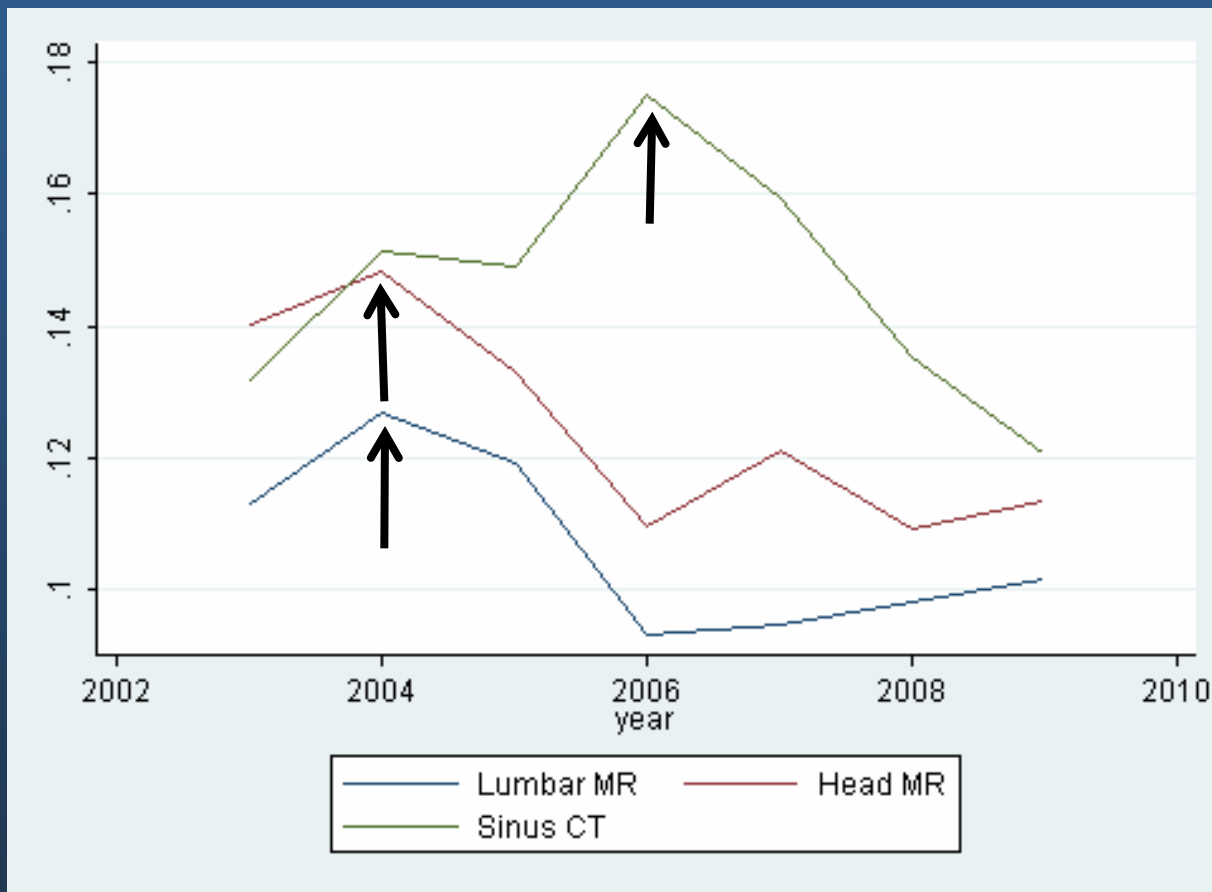
Indications (select all that apply):*

- Motor deficit (781.99)
- Unremitting pain despite 6 weeks of appropriate therapy
(appropriate therapy is defined as 2 weeks of NSAIDs AND advice to stay active AND documentation of lack of improvement)
Document in relevant history field and apply appropriate ICD 9 code
- Strong suspicion of systemic disease
Document in relevant history field and apply appropriate ICD 9 code
- Neurogenic Claudication(435.9)
- Cauda Equina(344.60)
- Upper motor neuron findings: use myelopathy codes
 - Unspecified Region (722.70)
 - Cervical (722.71)
 - Thoracic (722.72)
 - Lumbar (722.73)
- Significant trauma or fall
Document in relevant history field and apply appropriate ICD 9 code
- Consult has been performed by physical medicine.

NOTE: A spine MRI will likely not be helpful for the patient with back or neck pain if none of these indications are present. The Spine Clinic physician on call will provide help by phone and offer a same day visit to assist in care of the patient. Text page (spine clinic page number) on V-Net and enter the following message: " Dr. --- wishes to speak with you about a patient with neck/back pain in whom an MRI is not indicated. Please call (pager number of ordering provider).

A Reliable System

Bringing Out Best Individual Performance



Mistake-proofing
Implemented ↑

Reduction in imaging

Headache: -23%

Low back pain: -23%

Sinusitis: -27%

J Am Coll Radiol 2011;8: 19-25.

3. Skill-Task Alignment

Right Provider for the Task

1. 65% of cost of production at VM is labor
2. Labor cost and skill/task alignment
 - a. Proceduralist MD \$4/minute
 - b. Non-proceduralist MD \$2/minute
 - c. Nurse practitioner \$1/minute

4. Lead Time Reduction

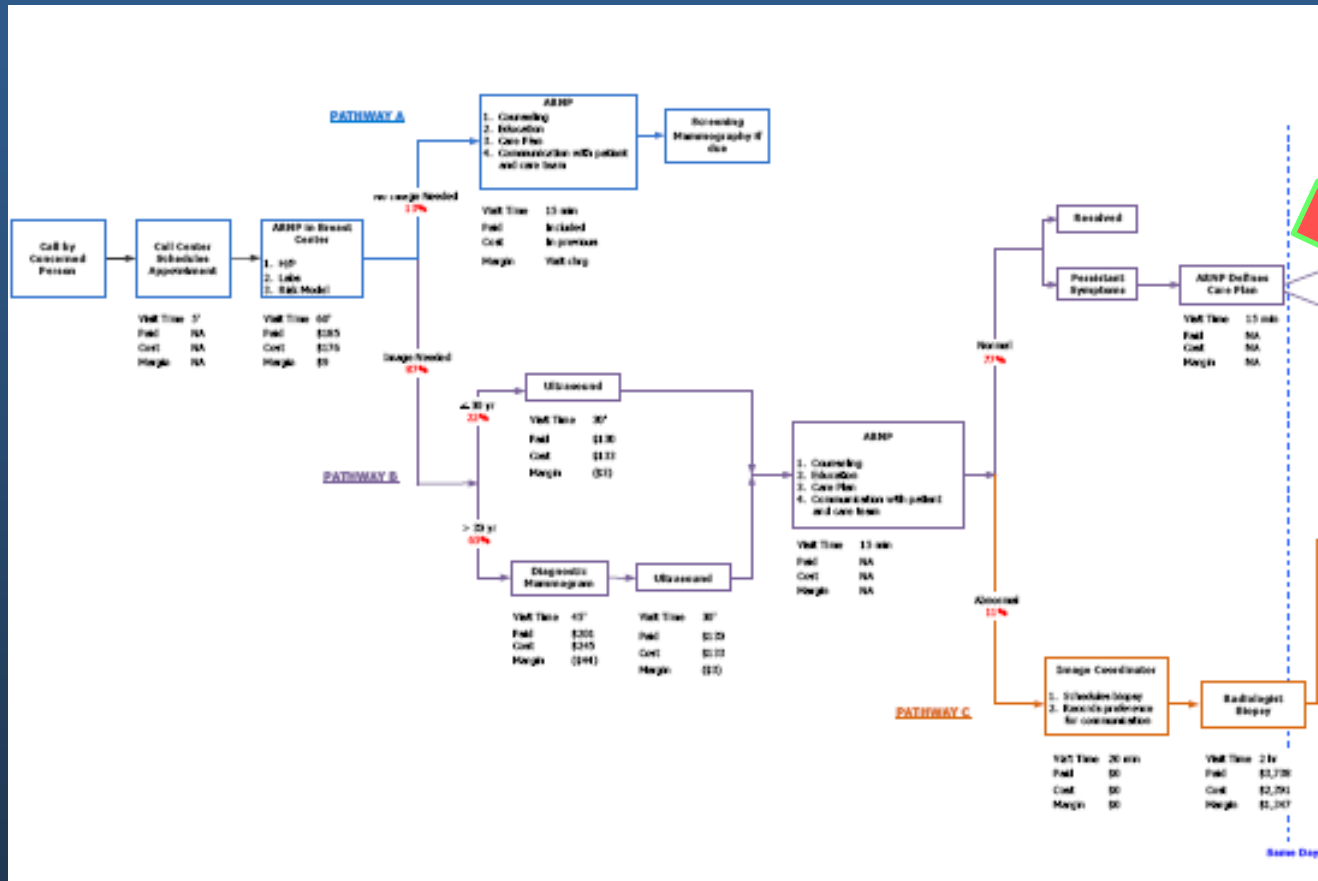
The Cost of Waits and Delays

Example: VM as an employer
15% of FTEs are nurses

Daily replacement cost of a nurse	\$400
Cost of 3-day wait for appointment	\$1200

Breast Clinic

The Value of Time

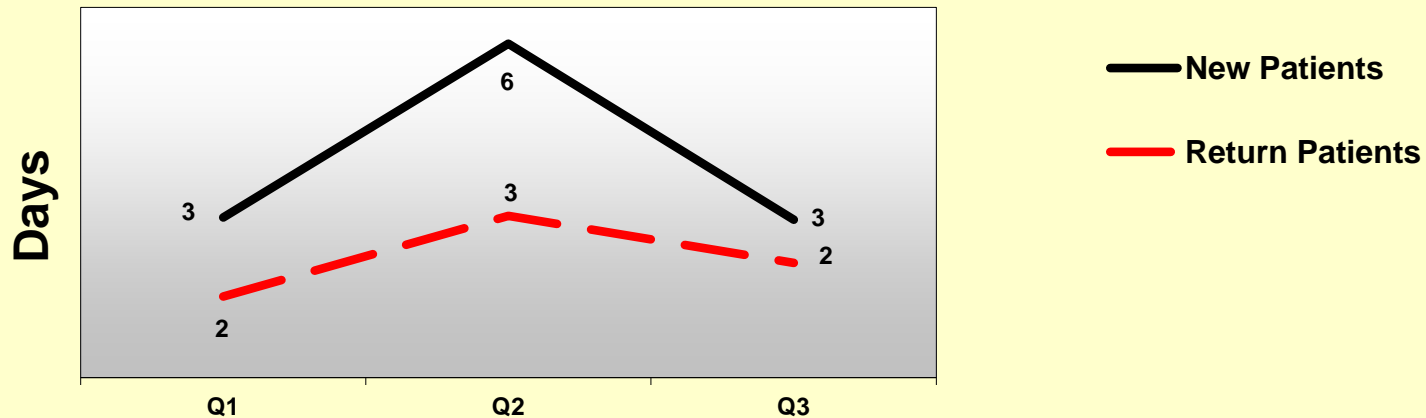


Evaluation complete in hours for 90% of patients.

Headache Clinic

The Value of Time

Self-reported loss of productive time: 115 patients



Q1: How many days in the last month did you miss work or school because of your headaches?

Q2: How many days in the last month was your productivity at work or school reduced by half or more because of your headaches?

Q3: How many days in the last month did you miss family, social, or leisure activities because of your headaches?

A Cost Reduction Model

1. Patients
 - a. **50% less work loss**
 - b. **Better functional improvement**
 - c. **Satisfaction: would you recommend? 4.9/5.0**
2. Employers and other purchasers
 - a. **23% less imaging**
 - b. **50% less Physical Therapy**
 - c. **50% less absenteeism**
3. Health plans: savings for clients

Spine Clinic

A More Complex Challenge

“Boeing Project”

A challenge to VM and two other provider groups:

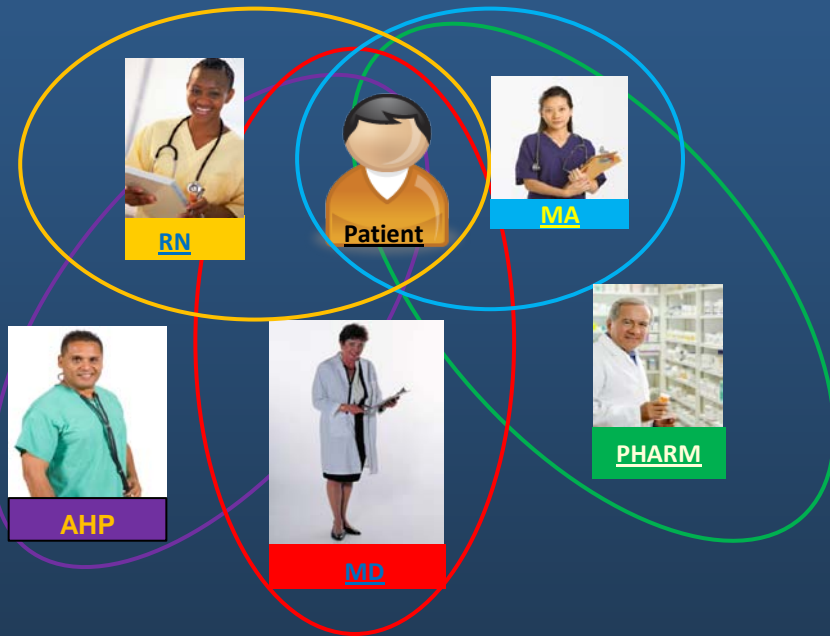
1. Improve health status of most costly patients
2. Decrease per capita spend for costly patients by 15%



**Low volume,
high per capita cost
patients**

A Multidisciplinary Team

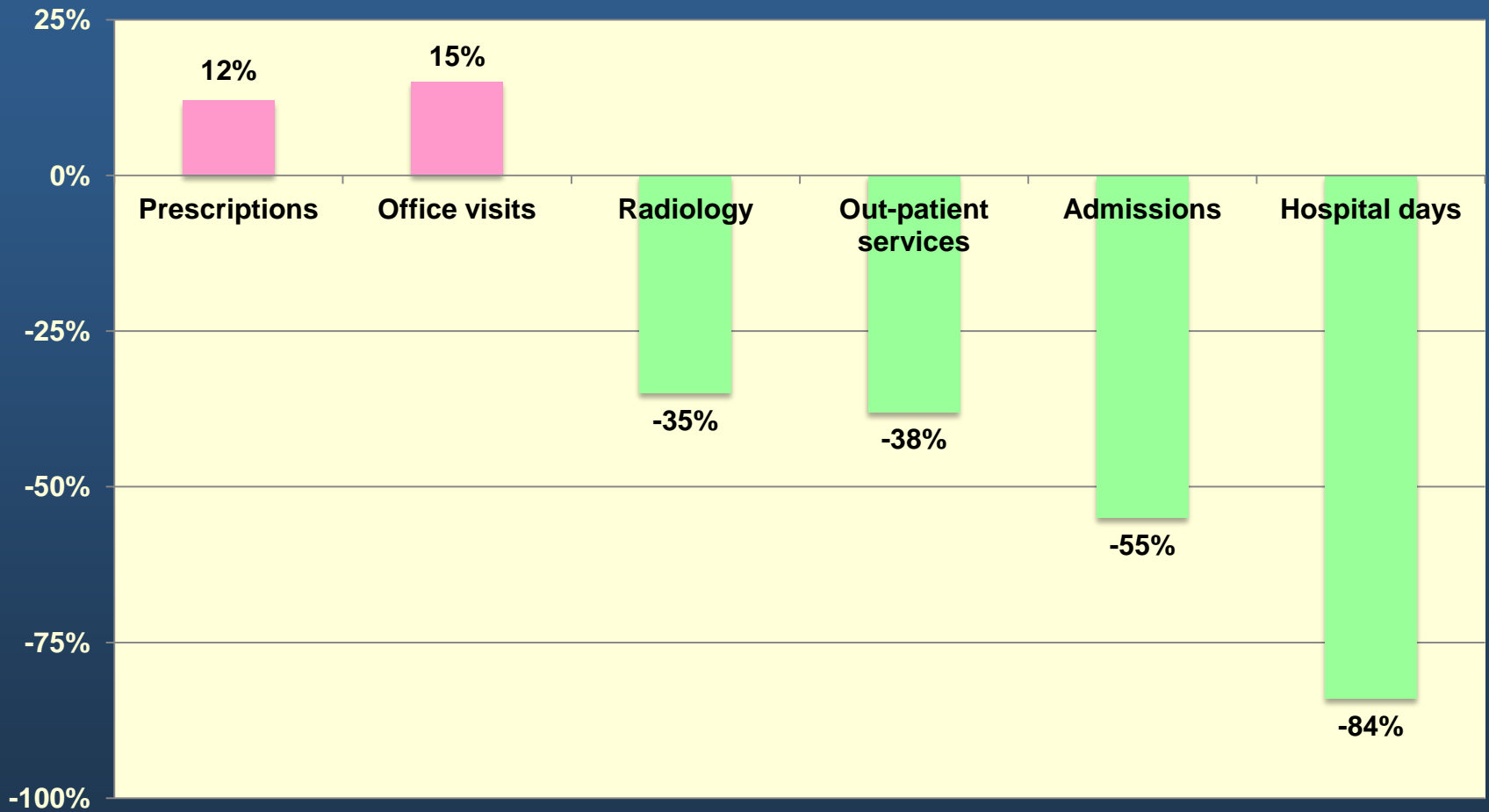
Intensive Primary Care



- Providers: team with skill/task alignment
- Process: evidence-based, immediate, individualized, anticipatory, coordinated care

Change in Direct Costs

Aggregate Direct Costs Decreased 33%



Improved Productivity

Reduced Work Loss

Absenteeism ↓ 57%

Physical and mental function ↑ 15%

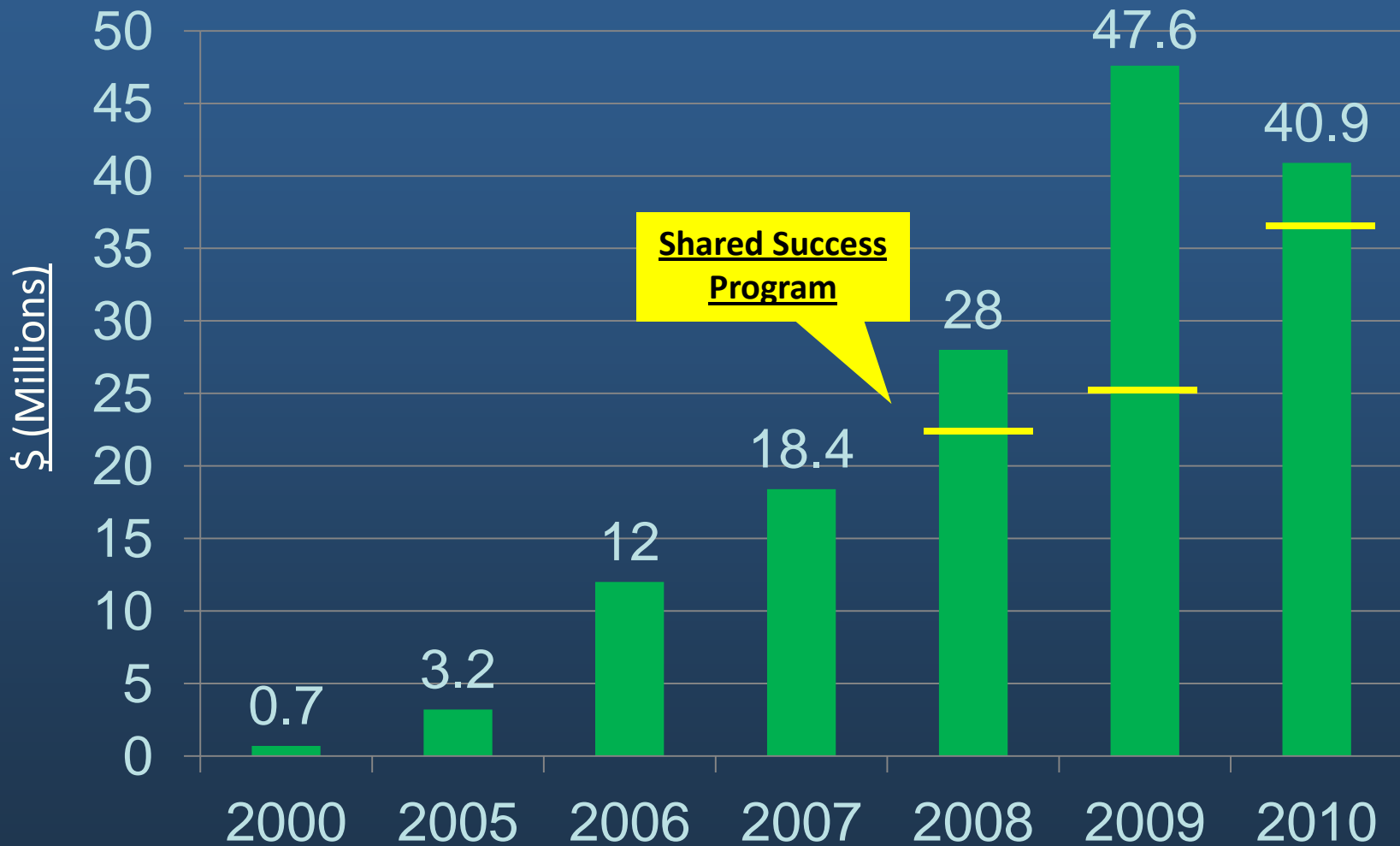
The Last Board Meeting

The Business Case for Quality Spine Clinic

	Efficient Spine Clinic
1. Lower cost FTE Area, ft ²	↓29% ↓78%
2. Greater revenue RVU/MD/day New patients /yr	↑76% ↑64%
3. Greater margin/year Estimated from VM BSR & direct costs	↑56%

The Business Case for Quality

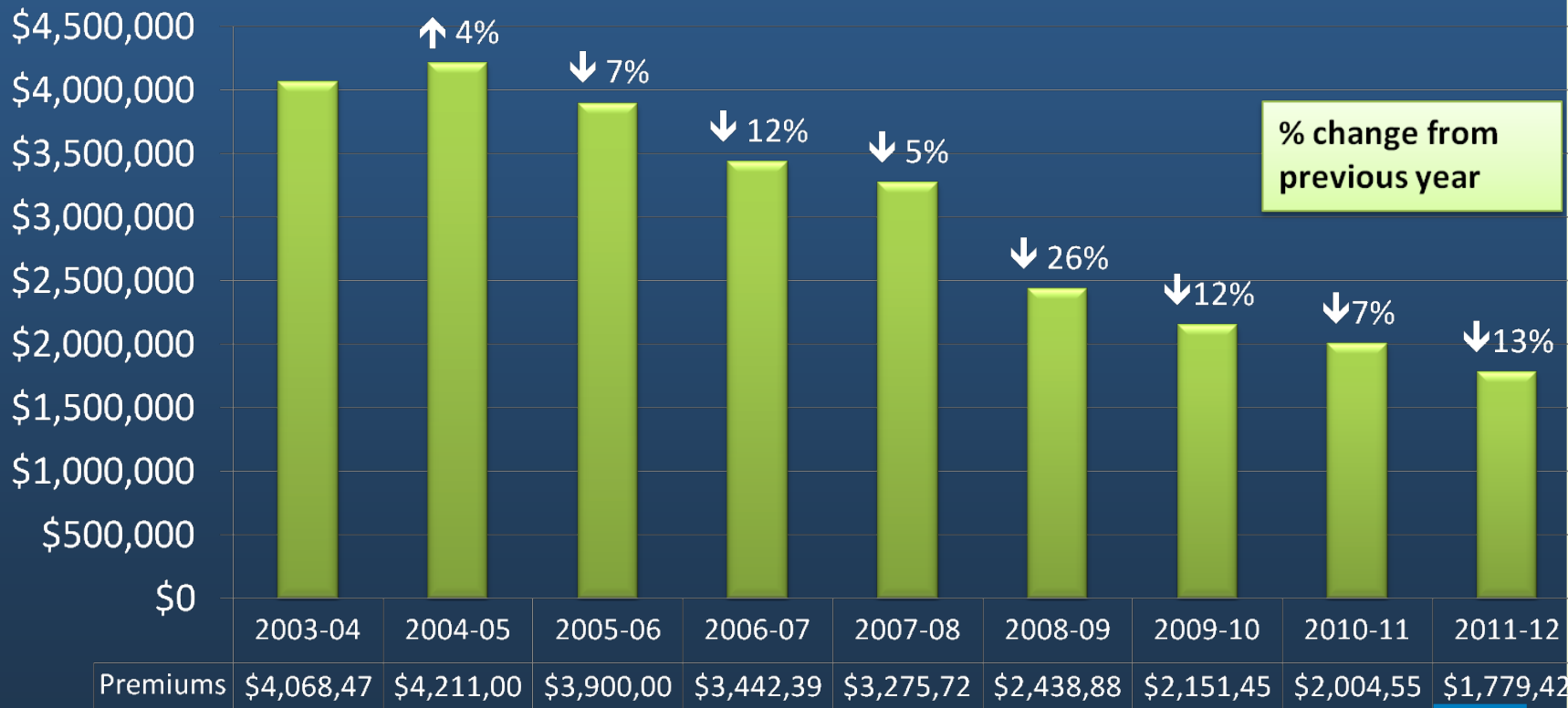
VMMC Net Margin



The Business Case for Quality

VM Professional Liability Premiums

Hospital Professional Liability Premiums



Scalability and Transportability

Intel's Healthcare Marketplace Collaborative



Quality...

is not what the supplier puts in.

It is what the customer gets out.

-Peter Drucker