

20/20 Cayman Islands National Healthcare Conference  
**Healthcare Economics: The Search for Quality and Affordability**  
The Ritz-Carlton, Grand Cayman, Cayman Islands  
Saturday, 19 November 2011 -- 9:30a - 10:30a

# **The Quality Imperative: The Best Clinical Result at the Lowest Necessary Cost**

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# Disclosures

*Neither I, Brent C. James, nor any family members, have any relevant financial relationships to be discussed, directly or indirectly, referred to or illustrated with or without recognition within the presentation.*

*I have no financial relationships beyond my employment at Intermountain Healthcare.*

# Dr. Alan Morris, LDS Hospital, 1991

- ♦ **NIH-funded randomized controlled trial**  
*assessing an "artificial lung" vs. standard ventilator management for acute respiratory distress syndrome (ARDS)*
- ♦ **discovered large variations in ventilator settings**  
*across and within expert pulmonologists*
- ♦ **created a protocol** *for ventilator settings in the control arm of the trial*
- ♦ **Implemented the protocol using Lean principles**  
*Womack et al., 1990 - The Machine That Changed the World*

# Dr. Alan Morris, LDS Hospital, 1991

- ♦ **Results:**

- survival* (for ECMO entry criteria patients) *improved from 9.5% to 44%*
  - costs fell by ~25%* (from \$160k to \$120k)
  - physician time fell by ~50%*

- ♦ **we generalized the concept: *Shared Baseline***  
**protocols to standardize care** *while*  
*encouraging clinicians to vary based on individual patient needs;*  
*and feeding back variation data in a "learning system"*

# **Shared Baseline protocols** *(a form of Lean Production)*

*A multidisciplinary team of health professionals:*

- 1. Select a high priority care process**
- 2. Generate an evidence-based "best practice" guideline**
- 3. Blend the guideline into the flow of clinical work**
  - ◆ *staffing*
  - ◆ *training*
  - ◆ *supplies*
  - ◆ *physical layout*
  - ◆ *educational materials*
  - ◆ *measurement / information flow*
- 4. Use the guideline as a shared baseline, with clinicians free to vary based on individual patient needs**
- 5. Measure, learn from, and (over time) eliminate variation arising from professionals; retain variation arising from patients** *("mass customization")*

# Practical limitations on protocol use

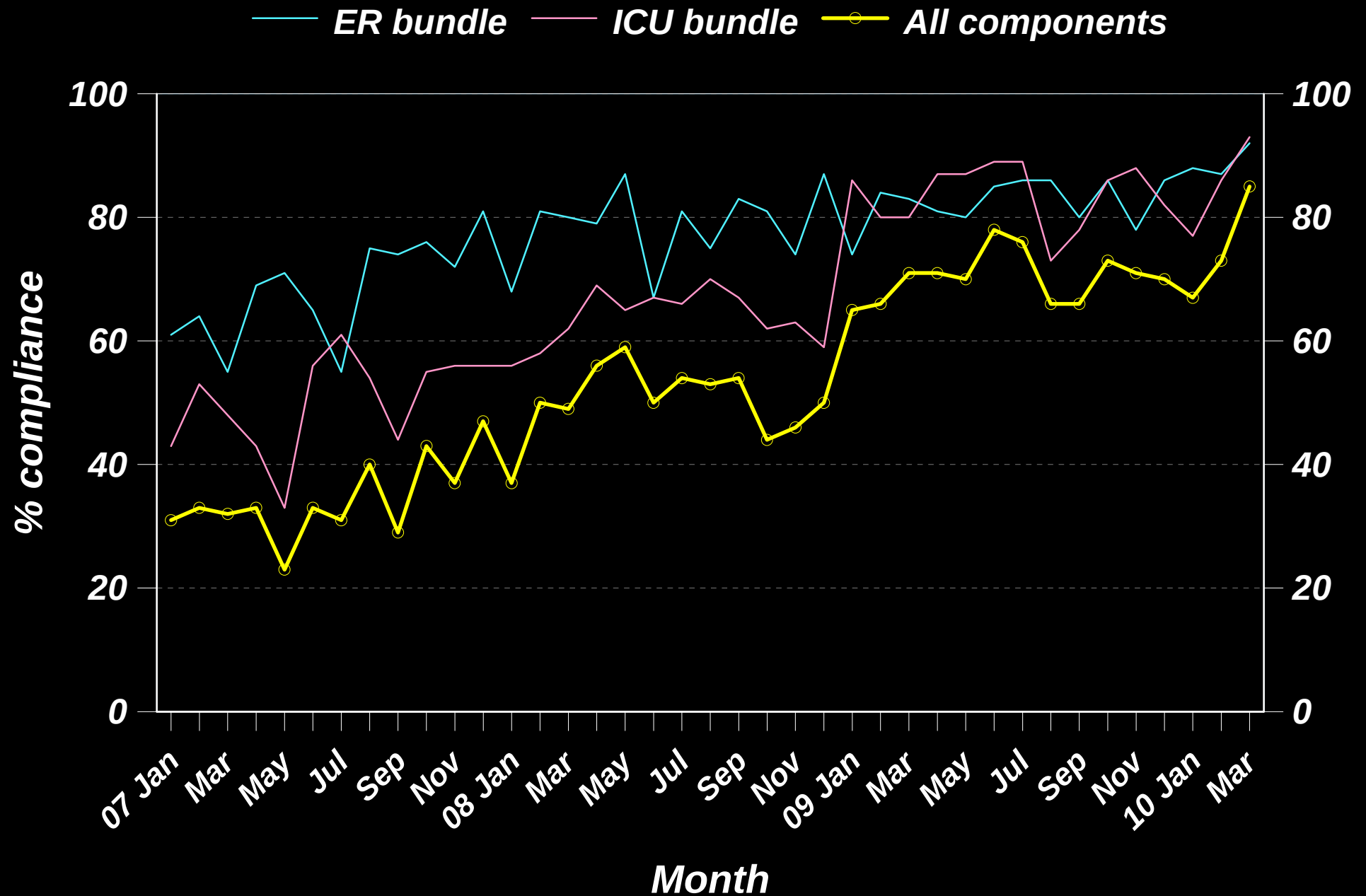
*When abstract guidelines hit real patient care,  
experience clearly shows that (with very rare exception)*

***No protocol fits every patient;***

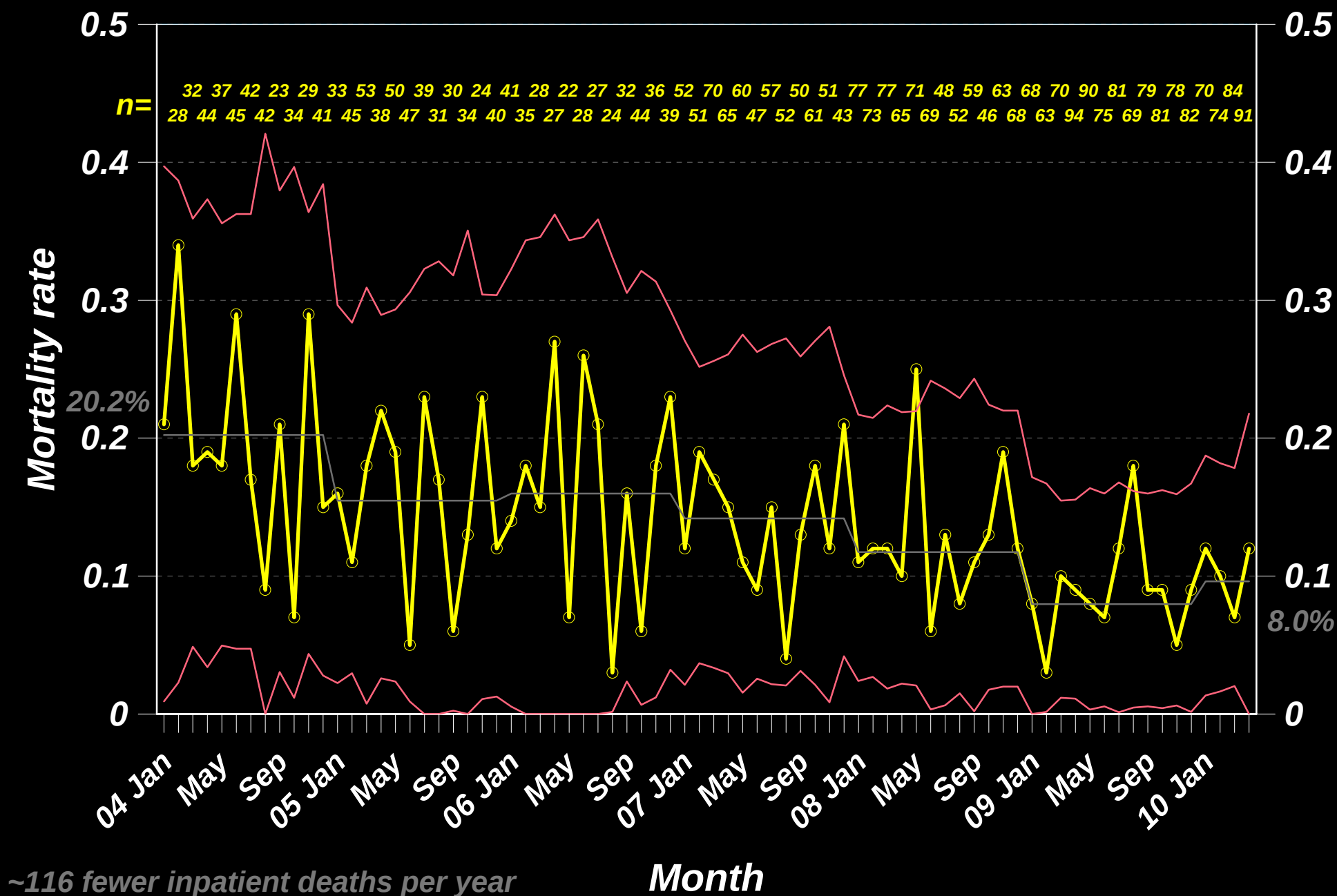
*more important,*

***No protocol (perfectly) fits any patient.***

# Sepsis bundle compliance



# Sepsis mortality - ER-ICU transfers



# Diabetes Patient Follow-Up Worksheet: All Patients

## Report Period April-01-2008 to March-31-2009



Patients that need follow-up are those whose average Blood Pressure > 130/80, last A1c value was > 8.0, last LDL > 100, and/or Triglycerides >= 400, or any of the aforementioned tests were not performed during the reporting period. Please remember "credit" can be given to improve individual scores if patients are contacted by your office but are not compliant or lab information is incorrect.

| Provider Name (Provider ID) - Clinic Name  |         |           |       |                   |                |        |          |                  |            | 14 Patients That Need Follow-up |      |            |            |                  |                |
|--------------------------------------------|---------|-----------|-------|-------------------|----------------|--------|----------|------------------|------------|---------------------------------|------|------------|------------|------------------|----------------|
| SelectHealth Incentive Benchmark Goals:    |         |           |       |                   | 50% to 90%     |        |          | 76% to 81%       |            |                                 |      | 85% to 90% |            | 54% to 59%       |                |
| Total SelectHealth Patients - 21           |         |           |       |                   | 100%           |        |          | 77%              |            |                                 |      | 92%        |            | 62%              |                |
| SelectHealth Current Diabetes Performance: |         |           |       |                   |                |        |          |                  |            |                                 |      |            |            |                  |                |
| SelectHealth Patient Name                  | IDX MRN | Birthdate | Phone | Last Office Visit | Blood Pressure |        |          | Lipid Management |            |                                 |      | HGA1c      |            | MicroAlbuminuria |                |
|                                            |         |           |       |                   | Date           | BP     | <=130/80 | Date             | LDL †      | HDL                             | Trig | Date       | HGA1c      | Date             | MicroAlb ‡     |
|                                            |         |           |       | 12/18/2006        | 12/18/2006     | 130/80 | Yes      | 2/26/2007        | 105        | 50                              | 227  |            | Not Tested |                  | Not Tested     |
| Corrections                                |         |           |       |                   |                |        |          |                  |            |                                 |      |            |            |                  |                |
|                                            |         |           |       | 5/31/2007         | 5/31/2007      | 131/79 | No       | 1/13/2007        | 99         | 30                              | 230  | 5/31/2007  | 4.9        |                  | Not Tested     |
| Corrections                                |         |           |       |                   |                |        |          |                  |            |                                 |      |            |            |                  |                |
|                                            |         |           |       | 5/11/2007         | 6/18/2007      | 108/59 | Yes      |                  | 74         |                                 | 236  | 1/16/2007  | 6.9        |                  | Not Tested     |
| Corrections                                |         |           |       |                   |                |        |          |                  |            |                                 |      |            |            |                  |                |
|                                            |         |           |       | 5/3/2007          | 5/3/2007       | 131/73 | No       | 12/13/2006       | 99         | 39                              | 232  | 3/8/2007   | NA         |                  | Not Tested     |
| Corrections                                |         |           |       |                   |                |        |          |                  |            |                                 |      |            |            |                  |                |
|                                            |         |           |       | 3/15/2007         | 3/15/2007      | 131/83 | No       |                  | Not Tested |                                 |      | 12/14/2006 | 6.2        |                  | Not Tested     |
| Corrections                                |         |           |       |                   |                |        |          |                  |            |                                 |      |            |            |                  |                |
|                                            |         |           |       | 10/2/2006         | 10/23/2006     | 131/80 | No       | 10/2/2006        | 92         | 53                              | 282  | 11/13/2006 | 6.8        | 10/2/2006        | NEG            |
| Corrections                                |         |           |       |                   |                |        |          |                  |            |                                 |      |            |            |                  |                |
|                                            |         |           |       | 6/4/2007          | 6/4/2007       | 111/63 | Yes      |                  | 23         |                                 | 115  | 6/4/2007   | 10.8       |                  | Nephropathy Tx |
| Corrections                                |         |           |       |                   |                |        |          |                  |            |                                 |      |            |            |                  |                |
|                                            |         |           |       | 2/16/2007         | 2/16/2007      | 144/74 | No       | 8/23/2006        | 92         | 29                              | 339  | 2/16/2007  | 5.9        | 8/23/2006        | POS            |
| Corrections                                |         |           |       |                   |                |        |          |                  |            |                                 |      |            |            |                  |                |

Administrative (HEDIS) criteria for diabetes (at least 2 face-to-face contacts in an outpatient facility and an ICD-9-CM code 250.xx; or at least 1 inpatient stay and an ICD-9-CM code 250.xx; or at least 1 prescription for insulin or an oral hypoglycemic agent) in the current measurement period or prior measurement periods.

\* Indicates a new patient on the list from last reporting period.

\*\* Avg B/P measure is an average of the last three EMR recorded blood pressure results from home or clinic. Blood pressure data only available for physicians with access to Intermountain EMR.

□ Indicates a patient that has been noted in the EMR as having an in-control blood pressure within the last six months.

† Indicates a SelectHealth patient who has a pharmacy benefit, is over 40 years old with an LDL test above 100, and is not on a lipid lowering medication.

‡ Indicates a SelectHealth patient who has a pharmacy benefit, a positive microalbuminuria test and is not on ACEI or ARB medication.

CONFIDENTIAL: This material is prepared pursuant to Utah Code Ann. 26-25-1 et. seq., Idaho Code Ann. 39-1392 et seq., for improvement of the quality of hospital and medical care rendered by hospitals or physicians.



|                                  |                 |                          |                          |                          |
|----------------------------------|-----------------|--------------------------|--------------------------|--------------------------|
| PATIENT NAME<br><b>TEST, A A</b> | SEX<br><b>F</b> | DOB<br><b>09/01/1964</b> | MMI#<br><b>545073664</b> | MRN#<br><b>545073664</b> |
|----------------------------------|-----------------|--------------------------|--------------------------|--------------------------|

**Problems**

Hypothyroidism  
status postapixectomy  
Diabetes mellitus type 2, insulin treated

Hypertension  
status postmedication  
Colon/varyery disease

**Active Medications**

1. - Digitoxin, 0.1mg, Tablet; 3 TABLET
2. - Entex LA (Guaifenesin/PPA 400/400mg, Tablet SA 1 TABLET BID)

**Preventive Care****CV Risk**

5%\*(1.4x)\*\*

**Pap Smear**

No Data

**Clinical Laboratory Data**

| HgbA1c (<=7.0) |     | UA Protein                             |                                  | uAlb/Cr (<30) |          | 24 Urine Albumin (<30) |           |
|----------------|-----|----------------------------------------|----------------------------------|---------------|----------|------------------------|-----------|
| No Data        | -   | 06/01/2001<br>12/18/2000<br>11/06/2000 | Negative<br>Positive<br>Negative | No Data       | -        | No Data                | -         |
| Serum Cr       |     | Serum K                                |                                  | Lipid Profile |          | LDL (<100)             |           |
| 04/26/2003     | 1.1 | 04/26/2003                             | 3.2                              | 04/26/2003    | 10       | 63                     | 50        |
| 10/25/2002     | 2.0 | 02/05/2003                             | 6.0                              | 04/06/2003    | 154      | 85                     | 41        |
| 02/27/2002     | 1.6 | 10/25/2002                             | 4.5                              | 02/24/2003    | 149      | 151                    | 41        |
| 10/03/2001     | 2.3 | 01/29/2002                             | 6.1                              | 02/06/2003    | 168      | 189                    | 33        |
| TC/HDL Ratio   |     | HCT                                    |                                  | hsCRP         |          | Homocysteine           |           |
| 04/26/2003     | 3.5 | 02/05/2003                             | 35.9 %                           | 04/06/2003    | 0.6 mg/l | 04/06/2003             | 6 mcmol/l |
| 04/06/2003     | 5.2 | 10/02/2002                             | 37.7 %                           | 02/24/2003    | 1.2 mg/l |                        |           |
| 02/24/2003     | 5.4 | 08/23/2002                             | 45.0 %                           |               |          |                        |           |
| 02/06/2003     | 7.2 | 07/19/2002                             | 29.9 %                           |               |          |                        |           |
|                |     |                                        |                                  |               |          | Fasting Glucose        |           |
|                |     |                                        |                                  |               |          | 02/25/2003             | 127       |
|                |     |                                        |                                  |               |          | 12/19/2002             | 127       |
|                |     |                                        |                                  |               |          | 01/02/2002             | 127       |
|                |     |                                        |                                  |               |          | 12/20/2001             | 127       |

**Clinic Data**

| Date                       | Weight | BMI (<25) | Weight Class | Blood Pressure (<130/80) | Heart Rate    |
|----------------------------|--------|-----------|--------------|--------------------------|---------------|
| No Data                    | -      | -         | -            | 01/25/2001 145/74 mmHg   | 01/25/2001 86 |
| Last foot exam:            |        | No Data   |              |                          |               |
| Last dilated retinal exam: |        | No Data   | -            |                          |               |

**Reminders****Preventive**

\* Predicted % Risk over 10 years of a cardiovascular event (MI, revascularization, CVA, death).  
 \*\* Relative Risk over 10 years of a cardiovascular event compared to lowest risk category.  
 Pap and pelvic suggested every 3 years after three consecutive Pap tests.  
 For Patients with known Cardiovascular Disease, target LDL <100.  
 Blood Pressure measurement is suggested for adults every two years.  
 Suggested follow-up for missing data: - Pap Smear  
 Pneumovax suggested for all patients age 65 and above, and all patients over age 2 with systemic chronic disease.

**Diabetes**

Suggest repeat Urine Albumin Test more than (>) 1 year since last test.  
 Last ALT = 28 on 4/26/2003 & AST = 66 on 4/26/2003  
 Suggested follow-up for missing data: - HgbA1c - Dilated Retinal Exam - Foot Exam - Weight

**Hypertension**

ACE Inhibitors (ACEI) or if ACEI intolerant, Angiotensin II Receptor Blockers (ARBs) or the combination of ACEI or ARBS and Diuretics are the recommended initial drug therapy for patients who are diagnosed with hypertension in conjunction with Diabetes.

Problems and chronic conditions

Medication profile

Preventive care summary

Pertinent labs

Pertinent exams

Passive reminders  
organized by illnessGeneral  
patient  
status  
informationDisease  
specific  
information

# Diabetes Summary Report

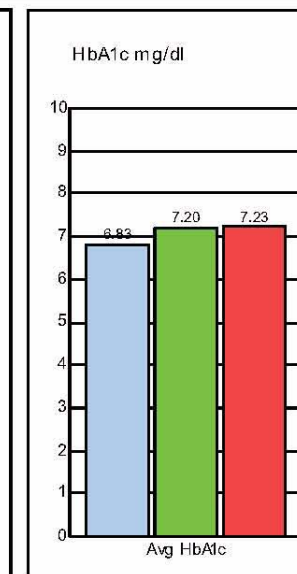
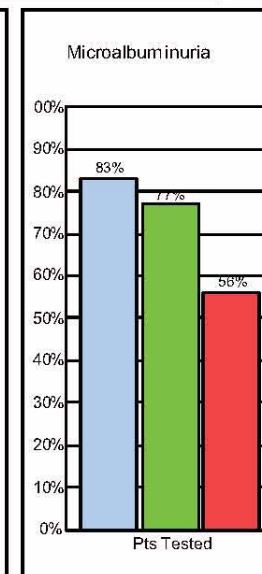
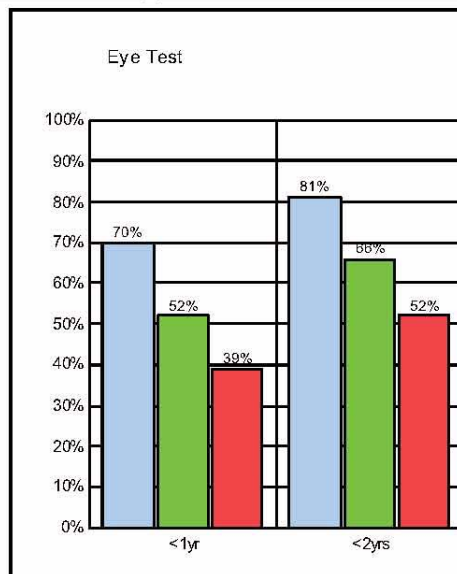
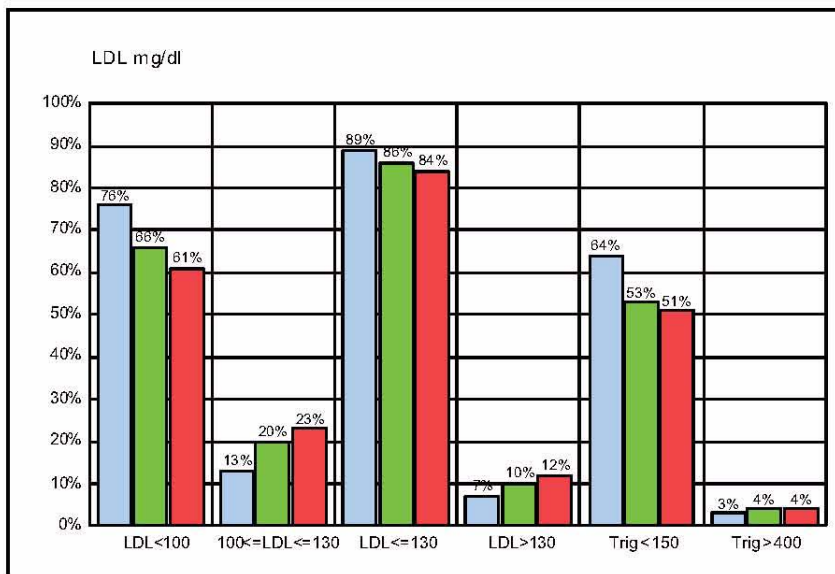
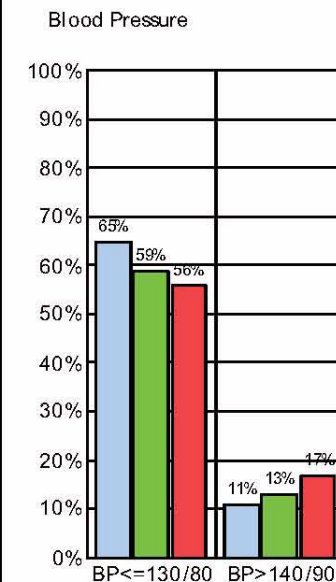
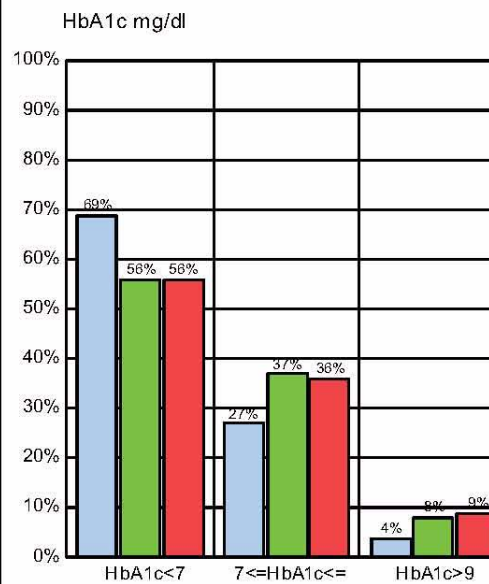
Provider: Towner, Steven (168)

Period: Oct 2008 - Sep 2009

## Patients Tested (Prop of Tot Pts%) - All Patients

|                       | Provider   | Region       | System        |
|-----------------------|------------|--------------|---------------|
| HbA1c                 | 234(96%)   | 1,787(94%)   | 38,127(85%)   |
| LDL                   | 215(88%)   | 1,642(87%)   | 31,764(71%)   |
| Eye Exam              | 37(70%)    | 182(52%)     | 5,448(39%)    |
| Microalbuminuria      | 203(83%)   | 1,468(77%)   | 25,157(56%)   |
| Blood Pressure        | 243(100%)  | 1,870(99%)   | 29,655(94%)   |
| <b>Total Patients</b> | <b>244</b> | <b>1,897</b> | <b>44,705</b> |

1. LDL measures represent two years ending in the chosen period. 2. Eye exam % calculated using SelectHealth patients only. 3. Includes spot microalbumin, 24 hour urine for protein and microalbumin/creatinine ratio within the reporting period, or any history of treatment for nephropathy. 4. Measure is an average of the last three EMR recorded blood pressure results from home or clinic. Blood pressure data only available for physicians with access to Intermountain EMR.



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# Intermountain Primary Care Clinical Programs: Adult Diabetes Medical Director Summary Report

Reporting Period: 01-Jul-08 To 30-Jun-09

Medical Director:



**Intermountain<sup>SM</sup>  
Healthcare**

Intermountain Medical Group

| Family Medicine          |                        | Hemoglobin A1c Summary: 12 Months |                   |                                                            |               |          | LDL Summary: 12 Months |                   |                                                            |              |          | Blood Pressure:         |               | MA:       |
|--------------------------|------------------------|-----------------------------------|-------------------|------------------------------------------------------------|---------------|----------|------------------------|-------------------|------------------------------------------------------------|--------------|----------|-------------------------|---------------|-----------|
| Clinic Location          | Diabetes Patient Count | Tested                            | Tested, result NA | Percentages based on only those with available A1c results |               |          | Tested                 | Tested, result NA | Percentages based on only those with available LDL results |              |          | BP Results If Available | BP In Control | MA Tested |
|                          |                        |                                   |                   | A1c<7.0                                                    | 7.0<=A1c<=8.0 | A1c>8.0  |                        |                   | LDL<100                                                    | 100<LDL<=130 | LDL>130  |                         |               |           |
| Clinic Name              |                        |                                   |                   | Tain Taylorsville Clinic                                   |               |          |                        |                   |                                                            |              |          |                         |               |           |
| Provider Name            |                        |                                   |                   |                                                            |               |          |                        |                   |                                                            |              |          |                         |               |           |
| SelectHealth             | 98                     | 88 (90%)                          | 1 (1%)            | 40 (46%)                                                   | 26 (30%)      | 21 (24%) | 92 (94%)               | 0 (0%)            | 60 (65%)                                                   | 17 (18%)     | 14 (15%) | 97 (99%)                | 44 (45%)      | 67 (68%)  |
| All Other Payers         | 209                    | 184 (88%)                         | 4 (2%)            | 94 (52%)                                                   | 29 (16%)      | 57 (32%) | 178 (85%)              | 0 (0%)            | 86 (48%)                                                   | 50 (28%)     | 31 (17%) | 201 (96%)               | 74 (37%)      | 110 (53%) |
| Combined                 | 307                    | 272 (89%)                         | 5 (2%)            | 134 (50%)                                                  | 55 (21%)      | 78 (29%) | 270 (88%)              | 0 (0%)            | 146 (54%)                                                  | 67 (25%)     | 45 (17%) | 298 (97%)               | 118 (40%)     | 177 (58%) |
| Family Medicine Summary: |                        |                                   |                   |                                                            |               |          |                        |                   |                                                            |              |          |                         |               |           |
| SelectHealth             | 98                     | 88 (90%)                          | 1 (1%)            | 40 (46%)                                                   | 26 (30%)      | 21 (24%) | 92 (94%)               | 0 (0%)            | 60 (65%)                                                   | 17 (18%)     | 14 (15%) | 97 (99%)                | 44 (45%)      | 67 (68%)  |
| All Other Payers         | 209                    | --                                | --                | --                                                         | --            | --       | --                     | --                | 86 (48%)                                                   | 50 (28%)     | 31 (17%) | --                      | 74 (37%)      | --        |
| Combined                 | 307                    | 272(89%)                          | 5 (2%)            | 134 (50%)                                                  | 55 (21%)      | 78 (29%) | 270 (88%)              | 0 (0%)            | 146 (54%)                                                  | 67 (25%)     | 45 (17%) | 298 (97%)               | 118 (40%)     | 177(58%)  |

Intermountain Medical Group

| Internal Medicine          |                        | Hemoglobin A1c Summary: 12 Months |                   |                                                            |               |           | LDL Summary: 12 Months |                   |                                                            |              |          | Blood Pressure:         |               | MA:       |
|----------------------------|------------------------|-----------------------------------|-------------------|------------------------------------------------------------|---------------|-----------|------------------------|-------------------|------------------------------------------------------------|--------------|----------|-------------------------|---------------|-----------|
| Clinic Location            | Diabetes Patient Count | Tested                            | Tested, result NA | Percentages based on only those with available A1c results |               |           | Tested                 | Tested, result NA | Percentages based on only those with available LDL results |              |          | BP Results If Available | BP In Control | MA Tested |
|                            |                        |                                   |                   | A1c<7.0                                                    | 7.0<=A1c<=8.0 | A1c>8.0   |                        |                   | LDL<100                                                    | 100<LDL<=130 | LDL>130  |                         |               |           |
| Clinic Name                |                        |                                   |                   |                                                            |               |           |                        |                   |                                                            |              |          |                         |               |           |
| Provider Name              |                        |                                   |                   |                                                            |               |           |                        |                   |                                                            |              |          |                         |               |           |
| SelectHealth               | 48                     | 48 (100%)                         | 0 (0%)            | 31 (65%)                                                   | 6 (13%)       | 11 (23%)  | 47 (98%)               | 1 (2%)            | 26 (57%)                                                   | 13 (28%)     | 6 (13%)  | 48 (100%)               | 31 (65%)      | 31 (65%)  |
| All Other Payers           | 247                    | 240 (97%)                         | 0 (0%)            | 161 (67%)                                                  | 49 (20%)      | 30 (13%)  | 237 (96%)              | 0 (0%)            | 162 (68%)                                                  | 50 (21%)     | 21 (9%)  | 247 (100%)              | 163 (66%)     | 165 (67%) |
| Combined                   | 295                    | 288 (98%)                         | 0 (0%)            | 192 (67%)                                                  | 55 (19%)      | 41 (14%)  | 284 (96%)              | 1 (0%)            | 188 (66%)                                                  | 63 (22%)     | 27 (10%) | 295 (100%)              | 194 (66%)     | 196 (66%) |
| Internal Medicine Summary: |                        |                                   |                   |                                                            |               |           |                        |                   |                                                            |              |          |                         |               |           |
| SelectHealth               | 48                     | 48 (100%)                         | 0 (0%)            | 31 (65%)                                                   | 6 (13%)       | 11 (23%)  | 47 (98%)               | 1 (2%)            | 26 (57%)                                                   | 13 (28%)     | 6 (13%)  | 48 (100%)               | 31 (65%)      | 31 (65%)  |
| All Other Payers           | 247                    | --                                | --                | --                                                         | --            | --        | --                     | --                | 162 (68%)                                                  | 50 (21%)     | 21 (9%)  | --                      | 163 (66%)     | --        |
| Combined                   | 295                    | 288(98%)                          | 0 (0%)            | 192 (67%)                                                  | 55 (19%)      | 41 (14%)  | 284 (96%)              | 1 (0%)            | 188 (66%)                                                  | 63 (22%)     | 27 (10%) | 295 (100%)              | 194 (66%)     | 196(66%)  |
| Medical Director Summary:  |                        |                                   |                   |                                                            |               |           |                        |                   |                                                            |              |          |                         |               |           |
| SelectHealth               | 146                    | 136(93%)                          | 1 (1%)            | 71 (53%)                                                   | 32 (24%)      | 32 (24%)  | 139 (95%)              | 1 (1%)            | 86 (62%)                                                   | 30 (22%)     | 20 (14%) | 145 (99%)               | 75 (52%)      | 98(67%)   |
| All Other Payers           | 456                    | 424(93%)                          | 4 (1%)            | 255 (61%)                                                  | 78 (19%)      | 87 (21%)  | 415 (91%)              | 4 (1%)            | 248 (60%)                                                  | 100 (24%)    | 52 (13%) | 448 (98%)               | 237 (53%)     | 275(60%)  |
| Combined                   | 602                    | 560(93%)                          | 5 (1%)            | 326 (59%)                                                  | 110 (20%)     | 119 (21%) | 554 (92%)              | 1 (0%)            | 334 (60%)                                                  | 130 (24%)    | 72 (13%) | 593 (99%)               | 237 (53%)     | 373(62%)  |

## IHC Primary Care System Goals and Managed Care Incentive

### Achievement Summary: Internal Medicine

Reporting Period: 01-Jan-04 To 31-Dec-04



Medical Director: Towner

#### 1.) Diabetes, HbA1c Testing

The percent of patients with diabetes who had a HbA1c test within the last 12 months.

Your Achievement: 76%  
System Goal: 80%  
Managed Care Incentive Goal: 85%  
Your Score in this area is: 0%

#### 2.) Diabetes, LDL Testing

The percent of patients with diabetes who had a LDL test within the last 24 months.

Your Achievement: 94%  
System Goal: 80%  
Managed Care Incentive Goal: 85%  
Your Score in this area is: 100%

#### 3.) Urine Microalbuminuria Screen

Number of patients with diagnosis of diabetes who had appropriate urine screen in last 12 months.

Your Achievement: 72%  
Goal: 45%  
Managed Care Incentive Goal: 55%

Your Score in this area is: 100%

#### 4.) Asthma Care

Percent of patients in your Internal Medicine Group with "higher risk asthma" who filled at least one prescription for a controller in the last year.

Your Group Achievement: 94%  
Goal: 82%  
Managed Care Incentive Goal: 87%

Your Score in this area is: 100%

#### 5.) Clinical Learning Day

Your Score in this area is: 100%

Attended a Clinical Learning Day Program in 2003 or 2004

Your Score for each of the above measures is computed as follows:  
-100% if you exceed the Managed Care Incentive (MCI) goal  
-0% if you are below the System Goal  
-50%-100% sliding scale if you are between the System and MCI goals

#### Managed Care Incentive Summary

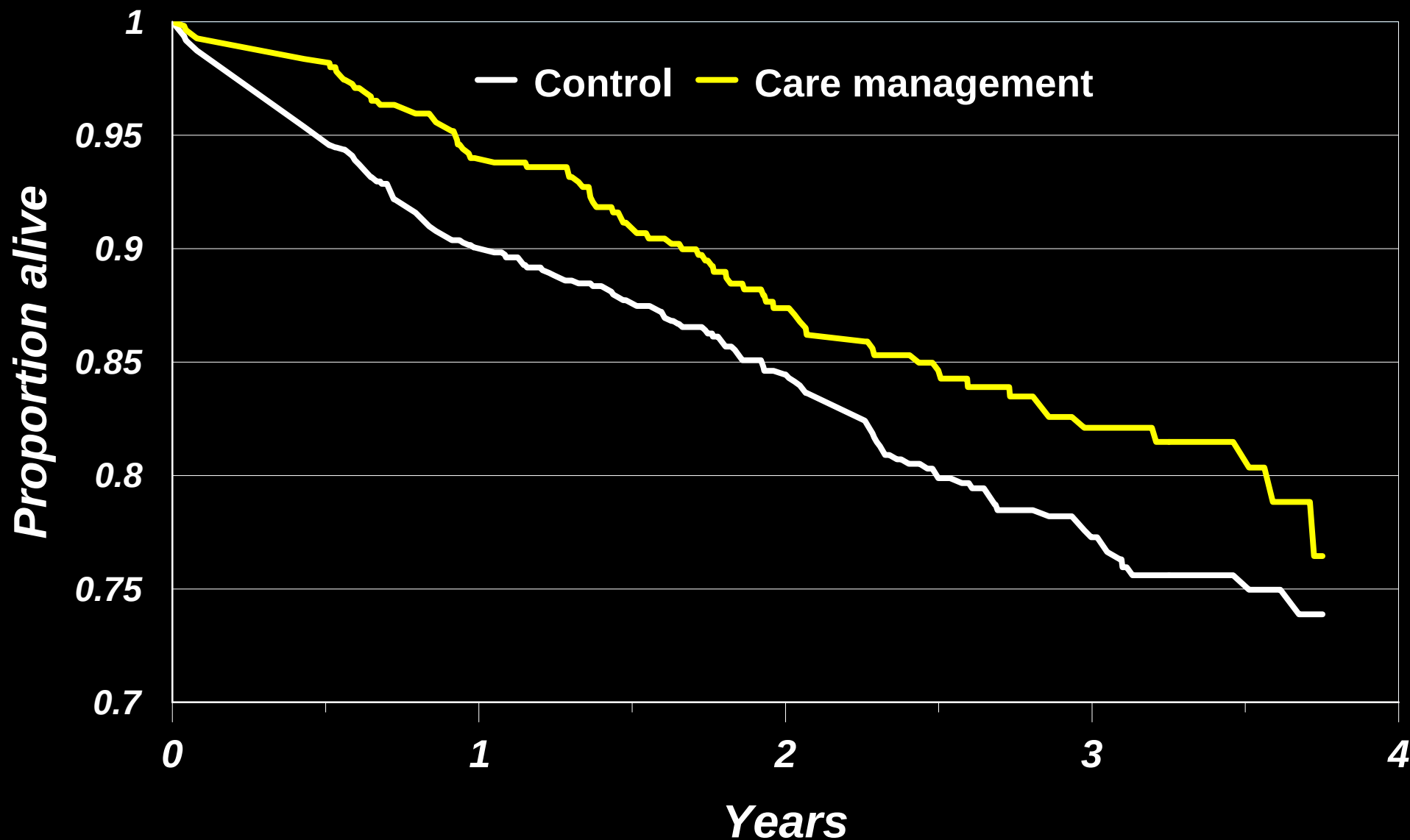
Your total score is computed using the following weighting:

25% from Item 1 Diabetes (HbA1c Testing)  
25% from Item 2 Diabetes (LDL Testing)  
10% from Item 3 Urine Microalbuminuria Screen  
15% from Item 4 Asthma Care  
25% from Item 5 Attend Clinical Learning Day

Your Total Managed Care Incentive Score is: 75%

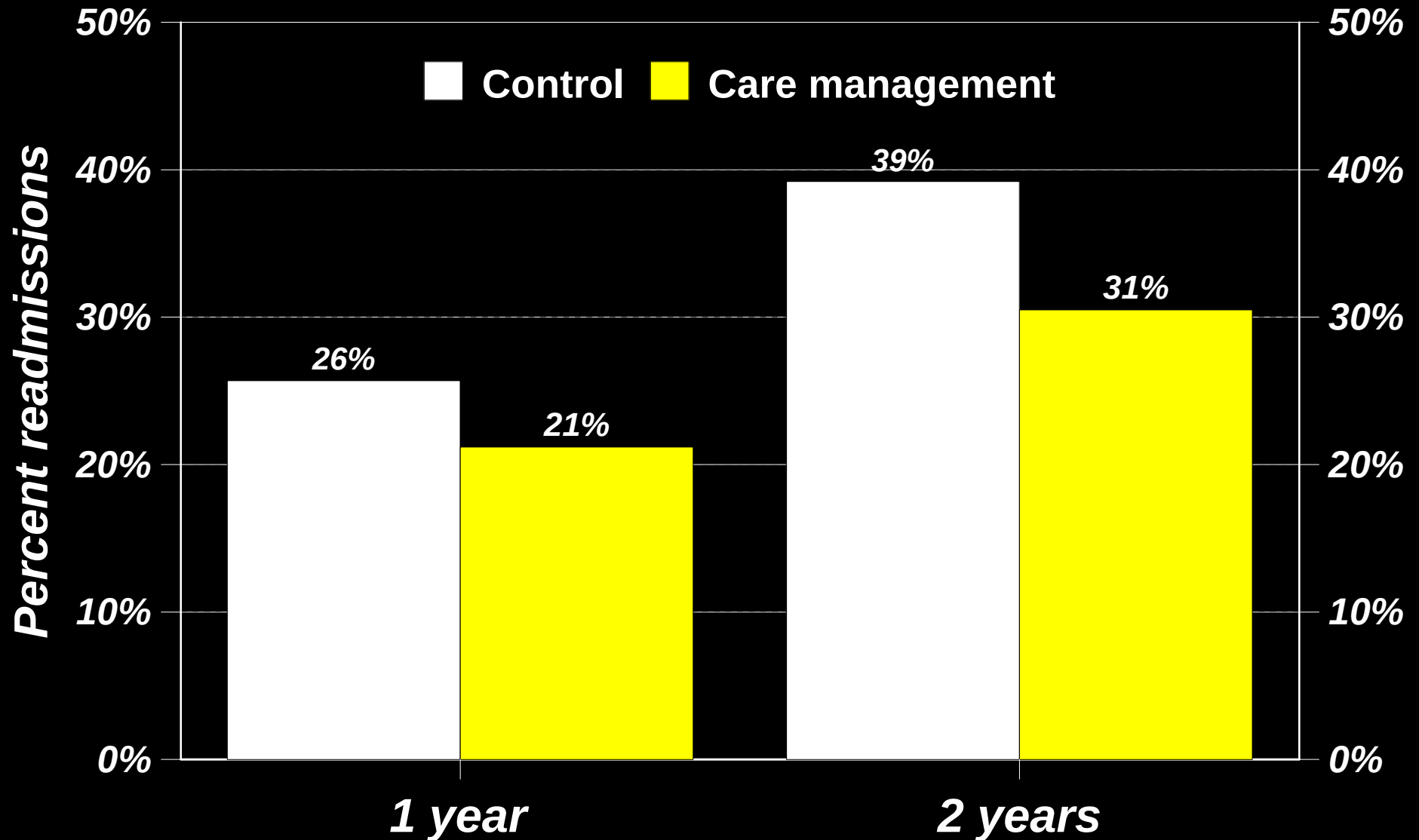
# CPM with clinic care managers

## *Complex diabetes patients - mortality rates*

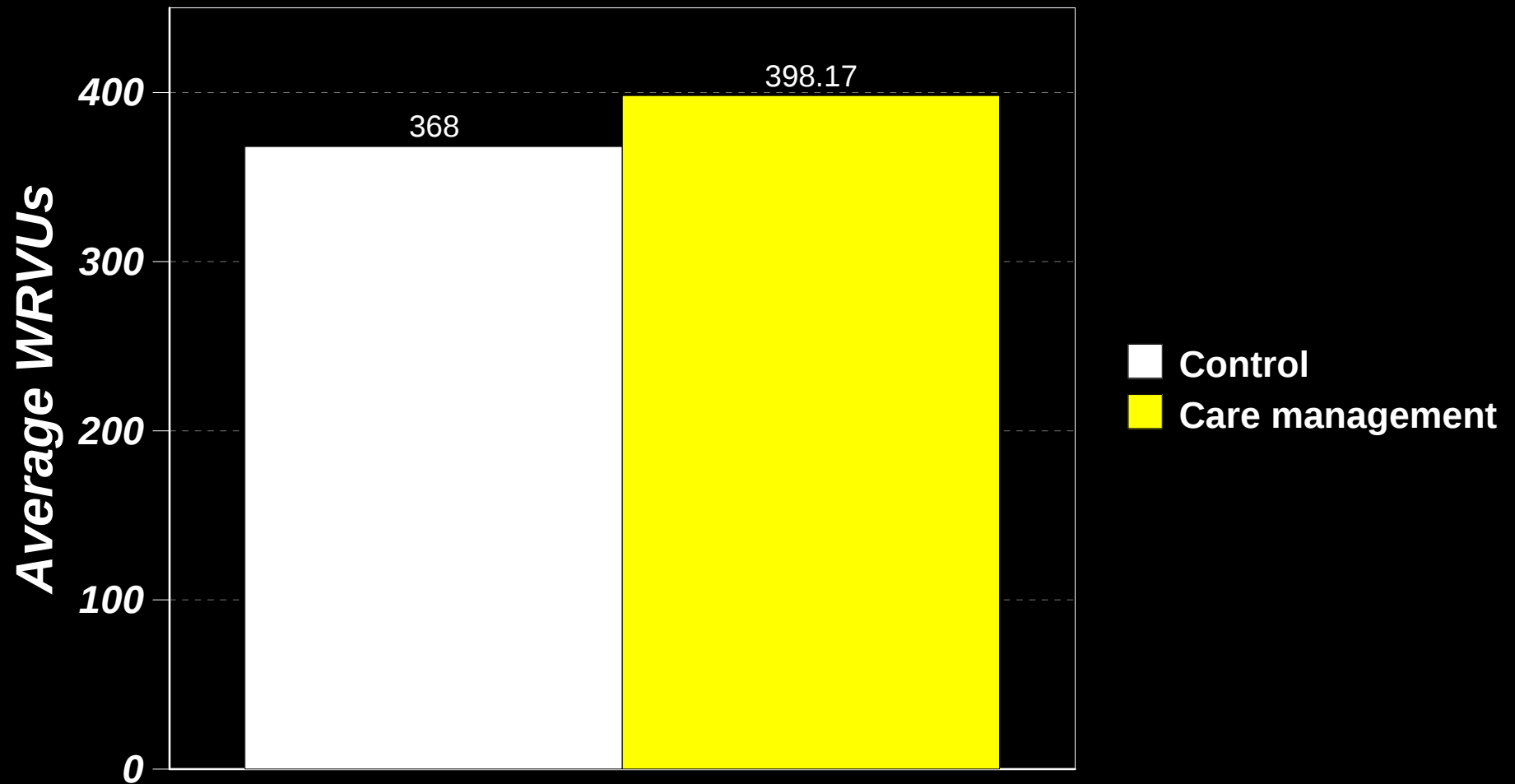


# CPM with clinic care managers

## *Complex diabetes patients - hospitalization rates*



# Physician productivity (WRVUs - work relative value units)



***Physicians with embedded care management support were significantly (8%) more productive than controls***

# Of the 4 measurement tools shown, *which was most effective in driving change?*

1. **Action lists** *(tools to move from episodic to continuous care)*
2. **Patient worksheets** *(targets of opportunity - embedded, evidence based reminders at every point of contact)*
3. **Comparative outcomes** *(what is possible, who to ask)*
4. **Financial incentives** *(see: Drive by Daniel Pink; intrinsic vs extrinsic motivators)*

# Only one pertinent question:

*Assume that front-line clinicians are*

- *as smart you are*
- *as dedicated to patients as you are*
- *as hard-working as you are*
- *as motivated as you are*
- *are the only ones with fundamental knowledge of how the front-line process actually works;*

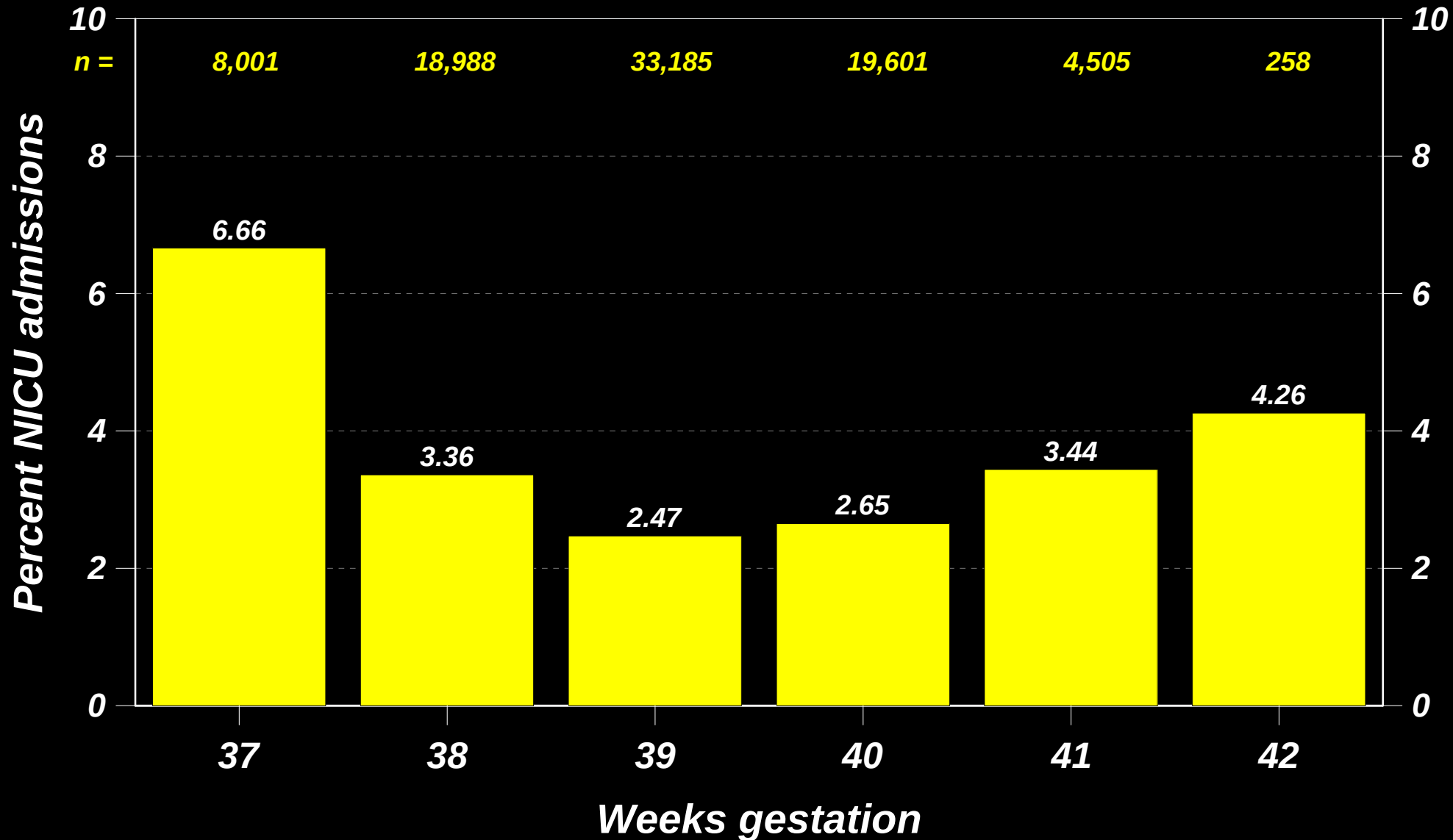
*But they usually don't control the systems that set the context within which they work ...*

*How will your proposed intervention*

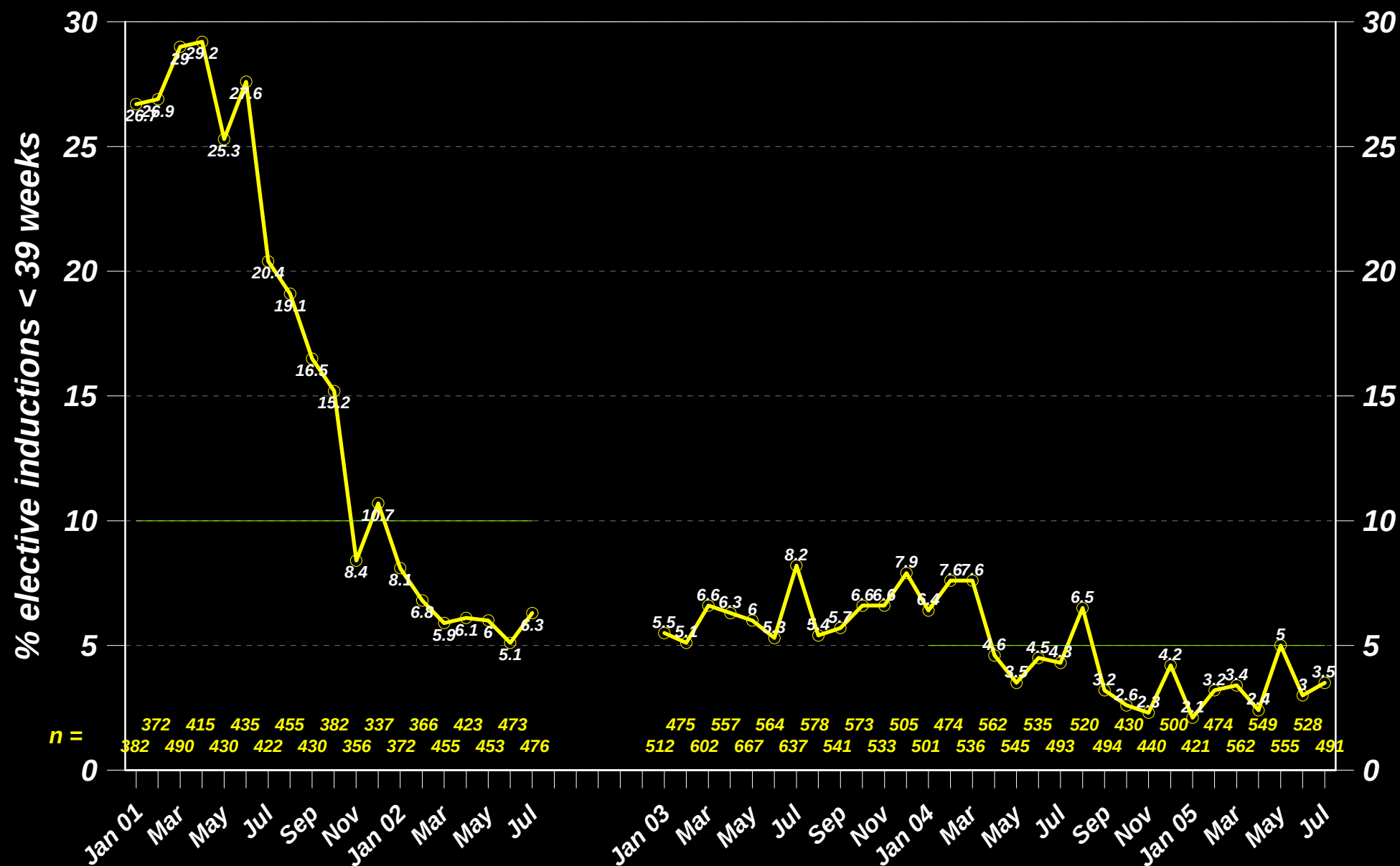
*make it easier for them to do it right?*

# NICU admits by weeks gestation

*Deliveries w/o Complications, 2002 - 2003*

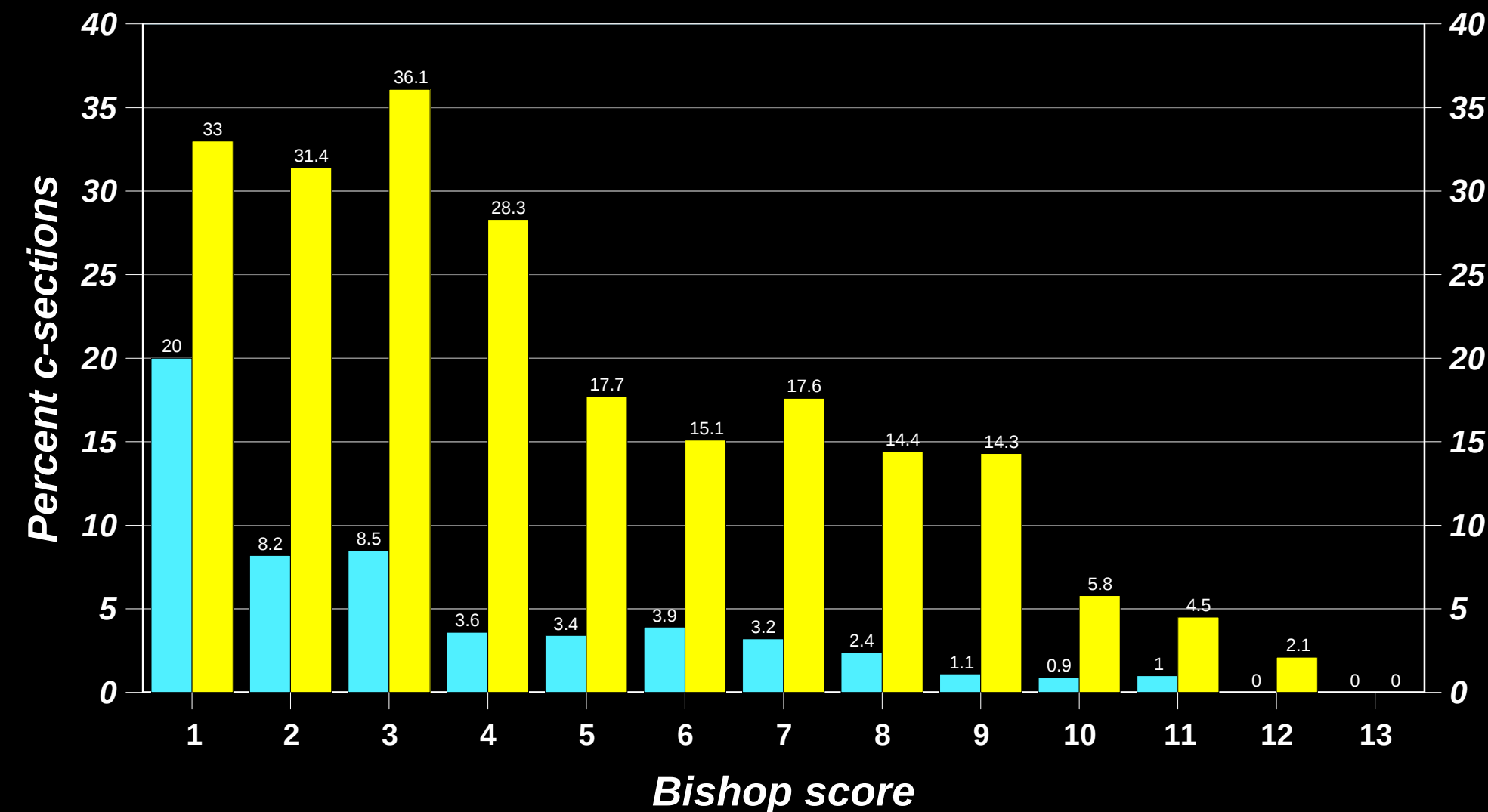


# Elective inductions < 39 weeks



# Unplanned c-section rates

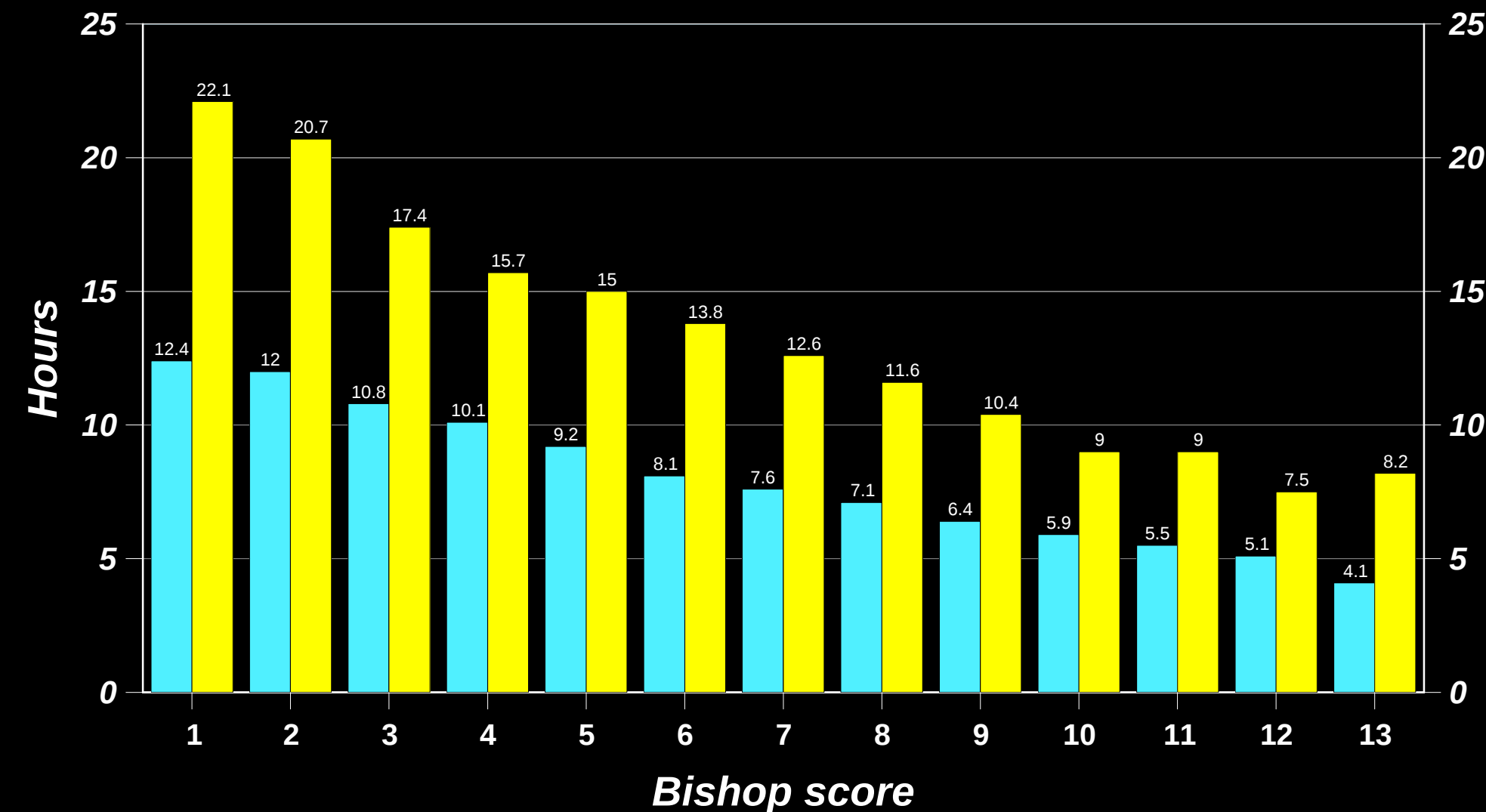
*Electively induced patients by Bishop score, Jan 2002 - Aug 2003*



| <u>n</u>       |    |    |     |     |     |     |      |      |      |     |     |    |    |
|----------------|----|----|-----|-----|-----|-----|------|------|------|-----|-----|----|----|
| <i>Multips</i> | 10 | 49 | 130 | 274 | 567 | 856 | 1114 | 1266 | 1062 | 737 | 415 | 86 | 19 |
| <i>Primips</i> | 18 | 35 | 61  | 99  | 164 | 278 | 375  | 487  | 453  | 346 | 179 | 47 | 7  |

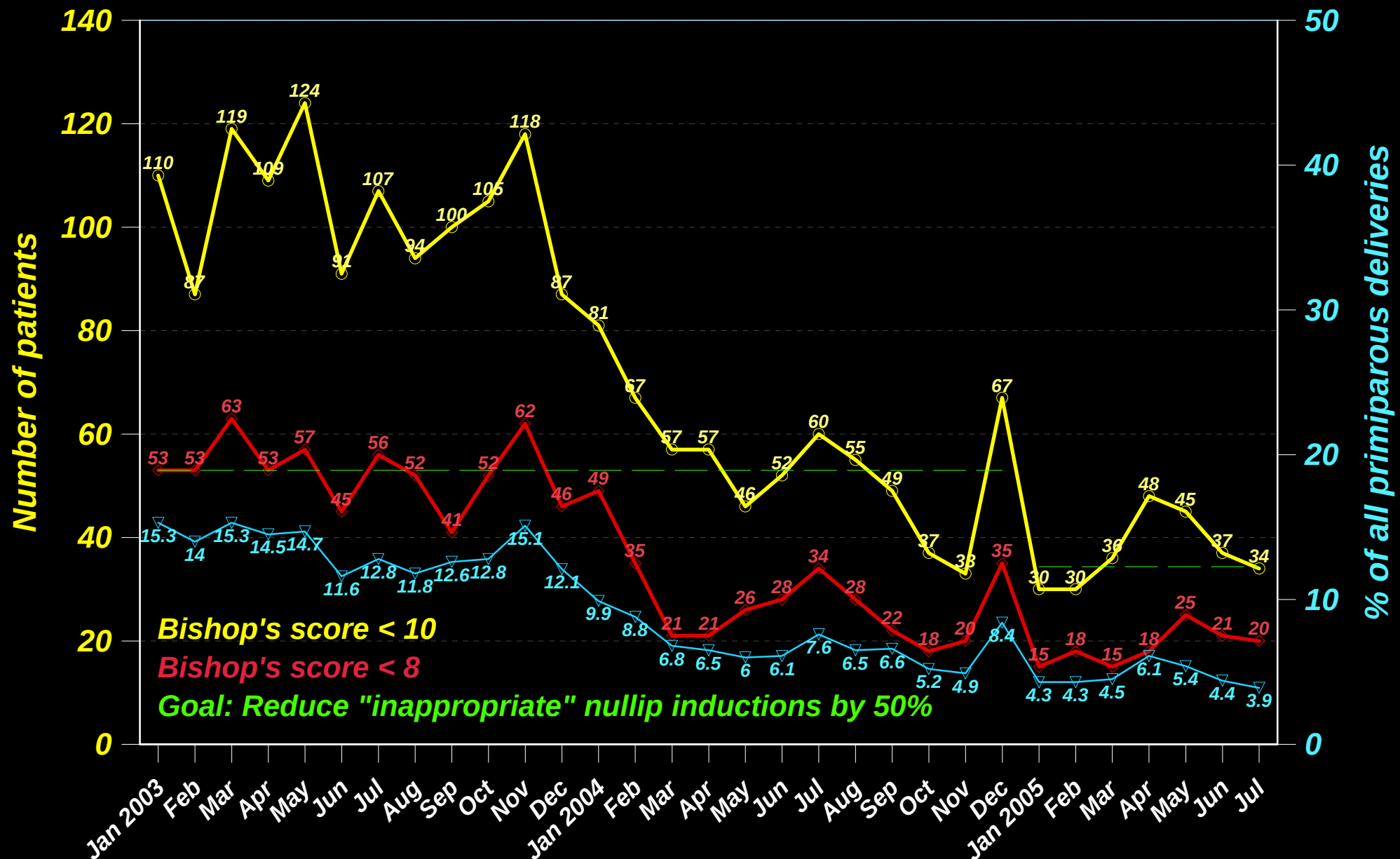
# Average hours in labor & delivery

*Electively induced patients by Bishop score, Jan 2002 - Aug 2003*

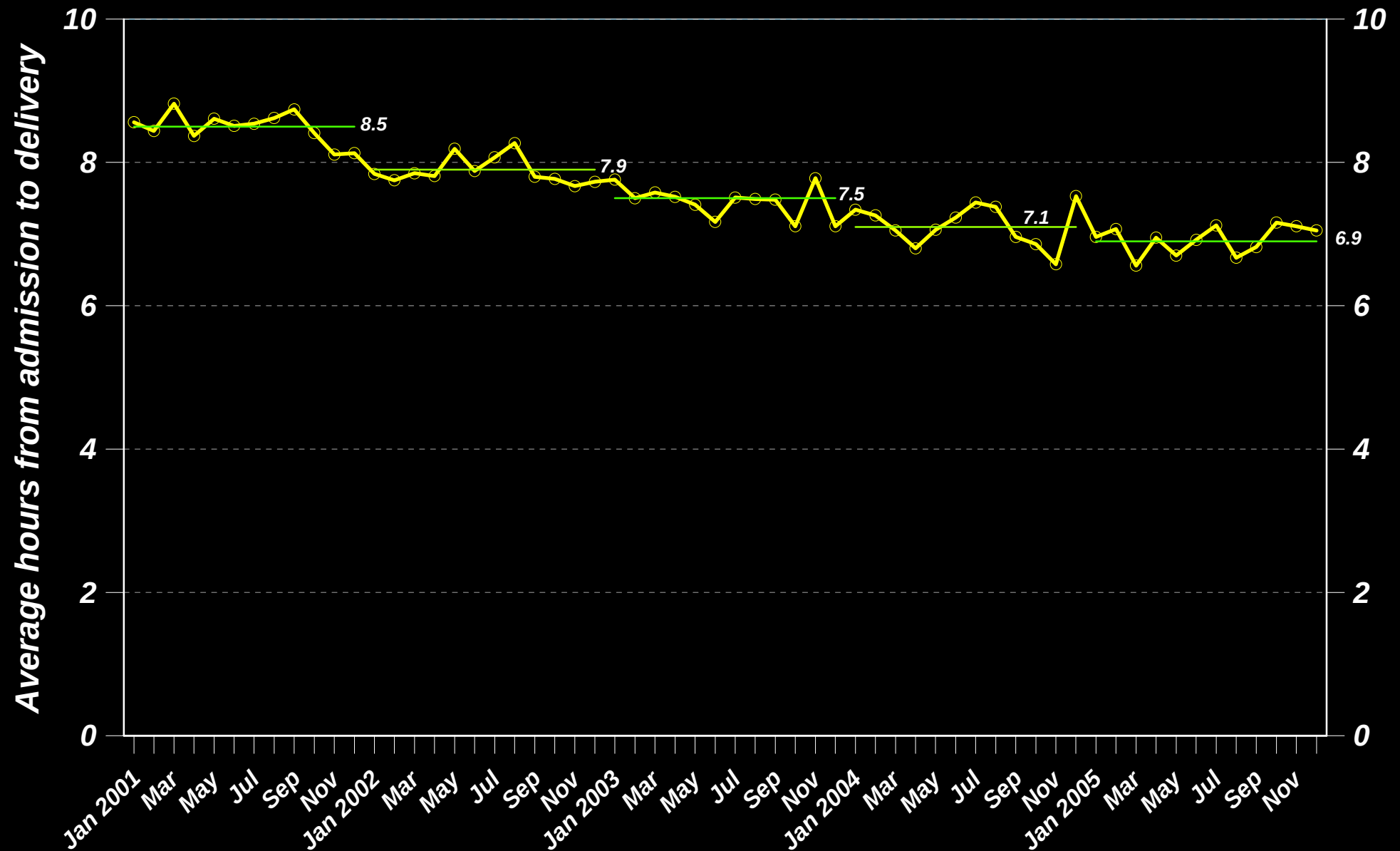


| <u>n</u> |    |    |     |     |     |     |      |      |      |     |     |    |    |
|----------|----|----|-----|-----|-----|-----|------|------|------|-----|-----|----|----|
| Multips  | 10 | 49 | 130 | 274 | 567 | 856 | 1114 | 1266 | 1062 | 737 | 415 | 86 | 19 |
| Primips  | 18 | 35 | 61  | 99  | 164 | 278 | 375  | 487  | 453  | 346 | 179 | 47 | 7  |

# Primiparous elective inductions

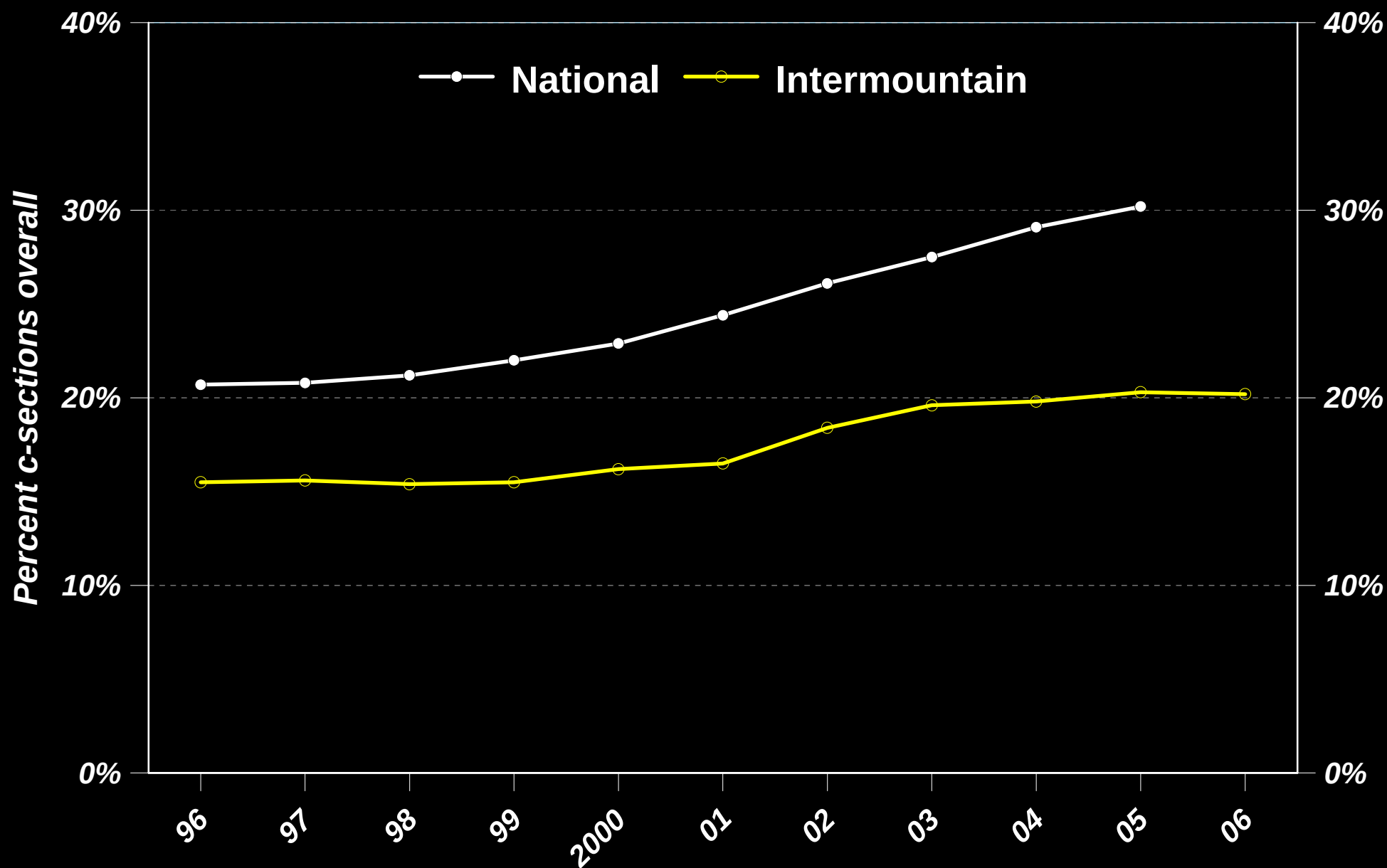


# Elective induction: length of labor



(note: includes all elective inductions)

# Overall c-section rate

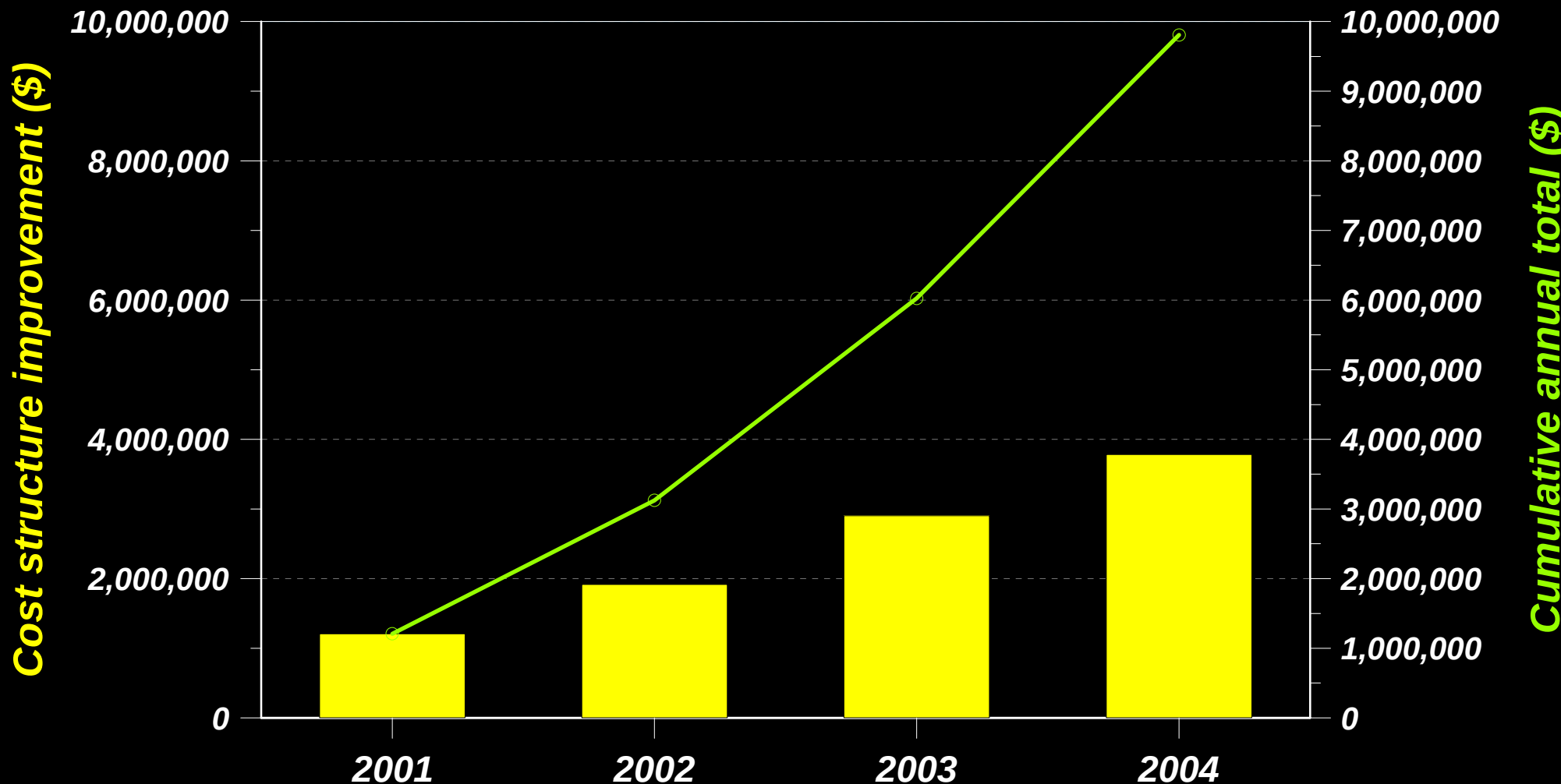


# Quality-based cost improvement

## Combined maternal and neonatal variable cost

Deliveries without complications resulting in normal newborns

Actual - expected cost, based on year-end 2000 with PPI inflation



# Deming: Quality controls costs

|                           | <u>Quality</u> | <u>Cost</u> | <u>Forum</u>    | <u>Potential Savings</u> |
|---------------------------|----------------|-------------|-----------------|--------------------------|
| <b>Waste:</b>             |                |             |                 |                          |
| <i>Quality waste</i>      | ↑              | ↓           | <i>internal</i> | <i>25-40%</i>            |
| <i>Inefficiency waste</i> | -              | ↓           | <i>internal</i> | <i>&gt; 50%</i>          |
| <b>Cost-benefit</b>       | ↑              | ↑           | <i>society</i>  | <i>(none)</i>            |

**50+% of all resource expenditures in hospitals is quality-associated waste:**

- ♦ *recovering from preventable foul-ups*
- ♦ *building unusable products*
- ♦ *providing unnecessary treatments*
- ♦ *simple inefficiency*

Andersen, C. 1991  
James BC et al., 2006

**Rough estimate: more than 80% of all cost saving opportunities lie on the clinical side of the line**

# Nested waste analysis

## 1. Population Level

- (a) Supply-induced overuse - *no benefit to patient; should never have been done* **14%**
- (b) Preference-induced overuse - *if given a fair choice, patients opt out* (left out)

## 2. Episode / Microsystem (process) Level

- (a) Preventable patient safety events (left out)
- (b) Evidence-based best process implementation (left out)

## 3. Patient Level

- (a) Non-value adding front-line work **35%**
- (b) Administrative efficiencies - *including regulatory mandates* (left out)

### Effective, efficient care

- *everything that works, but only what works;*
- *at the lowest necessary cost; with*
- *no unnecessary delays;*
- *no unnecessary risk or pain;*
- *under the patient's full understanding and control;*
- *to all in need;*
- *good this time, but better next time.*

# Shared savings? (2008 data)

|                             | <u>Per Case</u> |            |
|-----------------------------|-----------------|------------|
|                             | <u>Cost</u>     | <u>NOI</u> |
| <b>Normal delivery:</b>     | <1.00>          | 303        |
| <b>Unplanned c-section:</b> | <2.05>          | 648        |

**Aim:** *reduce unplanned c-sections by 2 percentage points  
(6.25% to 4.25%; more than 670 fewer c-sections per year)*

|                                                             |                  |
|-------------------------------------------------------------|------------------|
| <b>Reduced cost:</b>                                        | <b>1,991,860</b> |
| <b>Reduced revenue</b> <small>(insurance payments):</small> | <b>2,216,800</b> |
| <b>Reduced NOI:</b>                                         | <b>224,940</b>   |
| <b>Reduced contribution to margin:</b>                      | <b>1,370,222</b> |

(2008 data)

# Current payment mechanisms

- ♦ ***Actively incent overutilization:*** *do more, get paid more - even when there is no health benefit*
- ♦ ***I am paid to harm my patients*** *(paid more for complications)*
- ♦ ***Actively disincent innovation that reduces costs through better quality*** *(a key success factor for the rest of the U.S. economy)*
- ♦ ***Very strong, deep, wide evidence showing exactly this effect throughout U.S. healthcare***

# Bending the cost curve

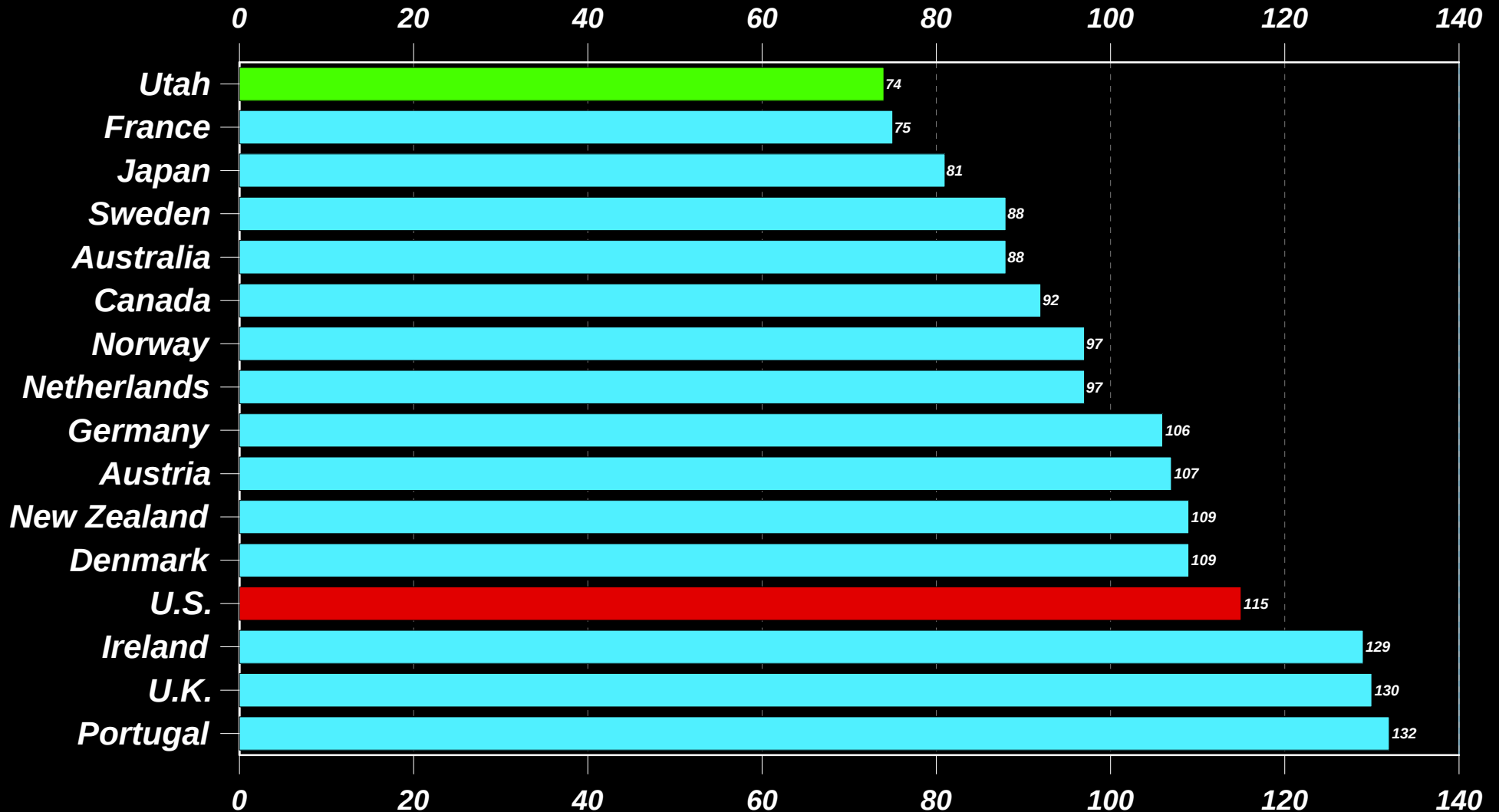


# Capitation makes a comeback

- 1. ACOs, AMHs: sophisticated forms of capitation**
  - *provider at (financial) risk: bundled payment, chronic disease capitation, etc. ... but with*
  - *better data systems (quality measurement) and better risk adjustment*
- 2. Represent "managed care at the bedside"**
  - *managed care the only method that has "bent the cost curve"*
  - *shifts control / accountability from insurers to care delivery groups*
- 3. More than 80% of cost saving opportunities live on the clinical side**

# Mortality amenable to health care

## Deaths per 100,000 population



Source: World Health Organization, Nolte and McKee, Rutgers Center for State Health Policy Standardized for age (1998)  
Utah from 2003, normalized for general US change from 1998

# The Wall Street Journal

## Perverse Incentives in Health Care

April 5, 2007

John C. Goodman, President, National Center for Policy Analysis

Research at Dartmouth Medical School suggests that if everyone in America went to the Mayo Clinic, our annual health-care bill would be 25% lower (more than \$500 billion!), and the average quality of care would improve. If everyone got care at Intermountain Healthcare in Salt Lake City, our healthcare costs would be lowered by one-third.

Of course, not everyone can get treatment at Mayo or Intermountain. But why are these examples of efficient, high-quality care not being replicated all across the country? The answer is that high-quality, low-cost care is not financially rewarding. Indeed, the opposite is true. Hospitals and doctors can make more money providing inefficient, mediocre care.

# Wells Fargo inflation summary, 1988-2006

December 2006

**WELLS  
FARGO**

## COST OF LIVING INDEX

|                       | Wasatch Front          |                     |                                 | National               |                     |                                 |                             |
|-----------------------|------------------------|---------------------|---------------------------------|------------------------|---------------------|---------------------------------|-----------------------------|
|                       | Index<br>Mar. 1988=100 | % Change<br>6 Mos.* | (Non-Seas. Adj.)<br>1 Mo. Prior | Index<br>Mar. 1988=100 | % Change<br>6 Mos.* | (Non-Seas. Adj.)<br>1 Mo. Prior | (Seas. Adj.)<br>1 Mo. Prior |
| <b>All Categories</b> | <b>154.6</b>           | <b>-0.1%</b>        | <b>0.2%</b>                     | <b>173.4</b>           | <b>2.7%</b>         | <b>0.1%</b>                     | <b>0.5%</b>                 |
| Housing               | 182.8                  | 2.7                 | 0.1                             | 175.6                  | 3.8                 | 0.1                             | 0.4                         |
| Transportation        | 120.2                  | -11.4               | -1.4                            | 163.9                  | 0.8                 | 0.9                             | 1.8                         |
| Health Care           | 157.4                  | 0.1                 | -0.1                            | 249.5                  | 3.9                 | 0.0                             | 0.1                         |
| Food at Home          | 201.2                  | 3.3                 | 3.1                             | 170.6                  | 1.8                 | 0.0                             | -0.3                        |
| Clothing              | 113.2                  | -1.6                | 0.6                             | 102.9                  | 0.2                 | -2.5                            | 0.6                         |
| Food Away             | 162.2                  | 0.0                 | 0.0                             | 168.7                  | 3.2                 | 0.3                             | 0.3                         |
| Utilities             | 128.7                  | -1.0                | 0.0                             | 175.4                  | 3.1                 | 1.1                             | 1.2                         |
| Recreation            | 139.1**                | 5.8                 | 0.0                             | 109.8 <sup>†</sup>     | 1.3                 | -0.4                            | -0.3                        |
| Education & Comm.     | 124.6**                | 5.6                 | 0.0                             | 116.2 <sup>†</sup>     | 2.5                 | -0.1                            | 0.2                         |
| Other Goods & Svcs.   | 104.3**                | 0.0                 | 0.0                             | 243.3                  | 2.6                 | 0.7                             | 0.8                         |

\*Last six-month percentage change compared with same period one year ago.  
 \*\*\*(Feb. 1998=100 base)

National Data Source: U.S. Bureau of Labor Statistics  
<sup>†</sup>(Dec. 1997=100 base)

# "Better has no limit" *(an old Yiddish proverb)*

- ♦ *The professions passed the tipping point roughly 9 years ago; accelerating rapidly*
- ♦ *Similar major change in care delivery operations*
- ♦ *Tightly linked to better internal data (true transparency)*
- ♦ *Often called "**Organized Care**:" Health care as an organized system focused around patient need  
(not built around physicians or technology; "patient-centered care")*
- ♦ *Financial incentives (payment) aligned to appropriate patient-centered professional goals = **provider "at risk" payment** (ACOs; AMH, bundled payment)*
- ♦ *Key operational idea: Don't wait for Washington*