March 15, 2011

# Cracking the code on consumer/patient engagement


**Presented by:**

Mary Jane Osmick M.D.

Vice President/Medical Director

# Encoders and decoders

**Choctaws in training in World War I for coded radio and telephone transmissions**

**Enigma Machine**

**Cypher**

**(Douglas "Doug" Ramsey)**

**Mary Jane Osmick MD; mary.osmick@staywell.com**

# What is engagement?

**Outcomes Guidelines Report, vol. 5. Care Continuum Alliance, 2010.**

- The Initially Engaged Population is a subset of enrolled members who are **working or have worked directly with a nurse or health coach in a chronic care management or health improvement program within the reporting period**
- Members are interacting with the health professional in reference to their health improvement plan with "**bidirectional interaction" meaning an exchange between the health professional and the member in both directions.**
- A participant is considered **initially engaged** if she has completed a **clinical and lifestyle behavioral risk assessment** that includes a **mutually agreed upon plan of care with goals** and **at least one follow-up coaching discussion within 90 days.**
- **Only real-time human interaction is included** in this definition of initial engagement, regardless of the venue used for discussion.

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**Mary Jane Osmick MD; mary.osmick@staywell.com**

# Agenda

## Decoding participant engagement

- Program effectiveness
  - Focus on activation
- Program participation
  - Focus on incentives (and a cautionary tale)

**Mary Jane Osmick MD; mary.osmick@staywell.com**

# Decoding program effectiveness

## Activation

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# Population health improvement


**Mary Jane Osmick MD; mary.osmick@staywell.com**

# Intrinsic motivation*

- Motivation driven by an individual's interest or enjoyment in the task itself
- Exists within the individual, rather than relying on any external pressure.
- Intrinsic motivation is more likely if:
  - Individuals can attribute the results to the amount of effort they put in
  - Individuals believe they can be effective agents in reaching the desired goals
  - Individuals are interested in mastering the topic

* Intrinsic motivation – Heider's Attribution Theory; Bandura's Theory of Self-efficacy; Deci and Ryan's Self-determination Theory

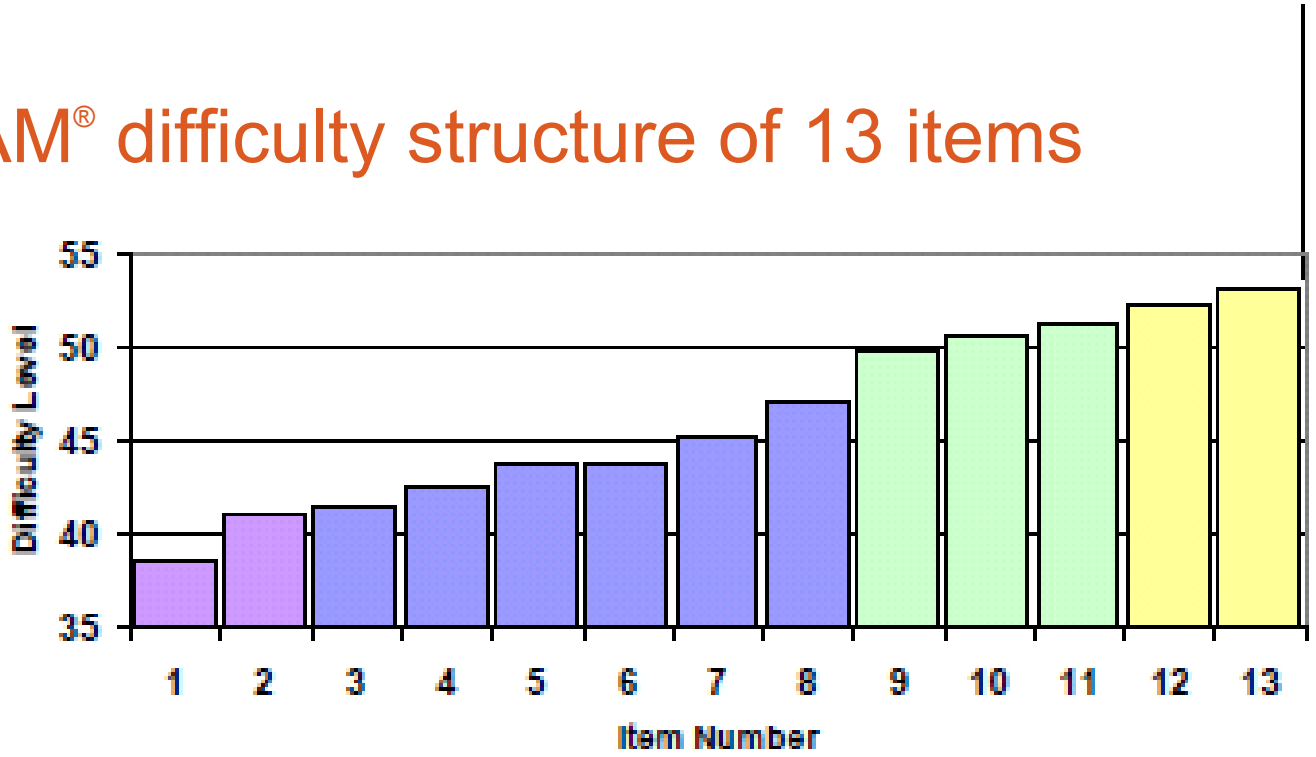
**Mary Jane Osmick M.D. mary.osmick@staywell.com**

# Patient activation

- An over-arching measurable individual construct
- Having the knowledge, skills and confidence to play a role in one's health care
- Level of activation is influenced by personal preference, education, culture, literacy, health literacy, and age
- Different populations appear to have somewhat predictable activation "fingerprints"

**Mary Jane Osmick M.D. mary.osmick@staywell.com**

# PAM® difficulty structure of 13 items




## 4 Stages of Activation

| |
|---|
| Does Not Yet Believe they have Active/Important Role |
| Lack Confidence and Knowledge to Take Action |
| Beginning to Take Action |
| Maintaining Behaviors Over Time |



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# Patient Activation Measure® visual scan

| | | | | |
|---|---|---|---|---|
| When all is said and done, I am the person who is responsible for managing my health condition. | Strongly Disagree | Disagree | Agree | Strongly Agree |
| Taking an active role in my own health care is the most important factor in determining my health and ability to function. | Strongly Disagree | Disagree | Agree | Strongly Agree |
| I am confident that I can take actions that will help prevent or minimize some symptoms or problems associated with my health condition. | Strongly Disagree | Disagree | Agree | Strongly Agree |
| I know what each of my prescribed medications do. | Strongly Disagree | Disagree | Agree | Strongly Agree |
| I am confident that I can tell when I need to go get medical care and when I can handle a health problem myself. | Strongly Disagree | Disagree | Agree | Strongly Agree |
| I am confident I can tell my health care provider concerns I have even when he or she does not ask. | Strongly Disagree | Disagree | Agree | Strongly Agree |
| I am confident that I can follow through on medical treatments I need to do at home. | Strongly Disagree | Disagree | Agree | Strongly Agree |

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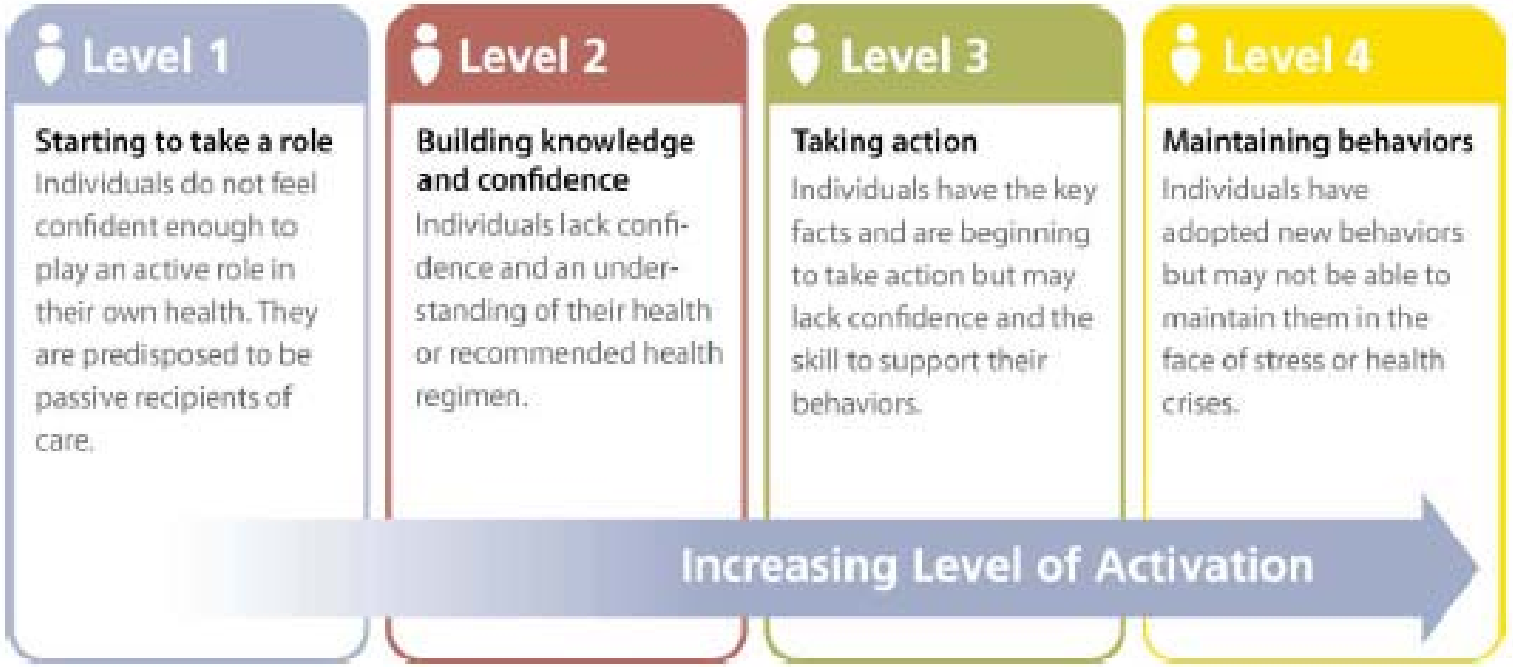
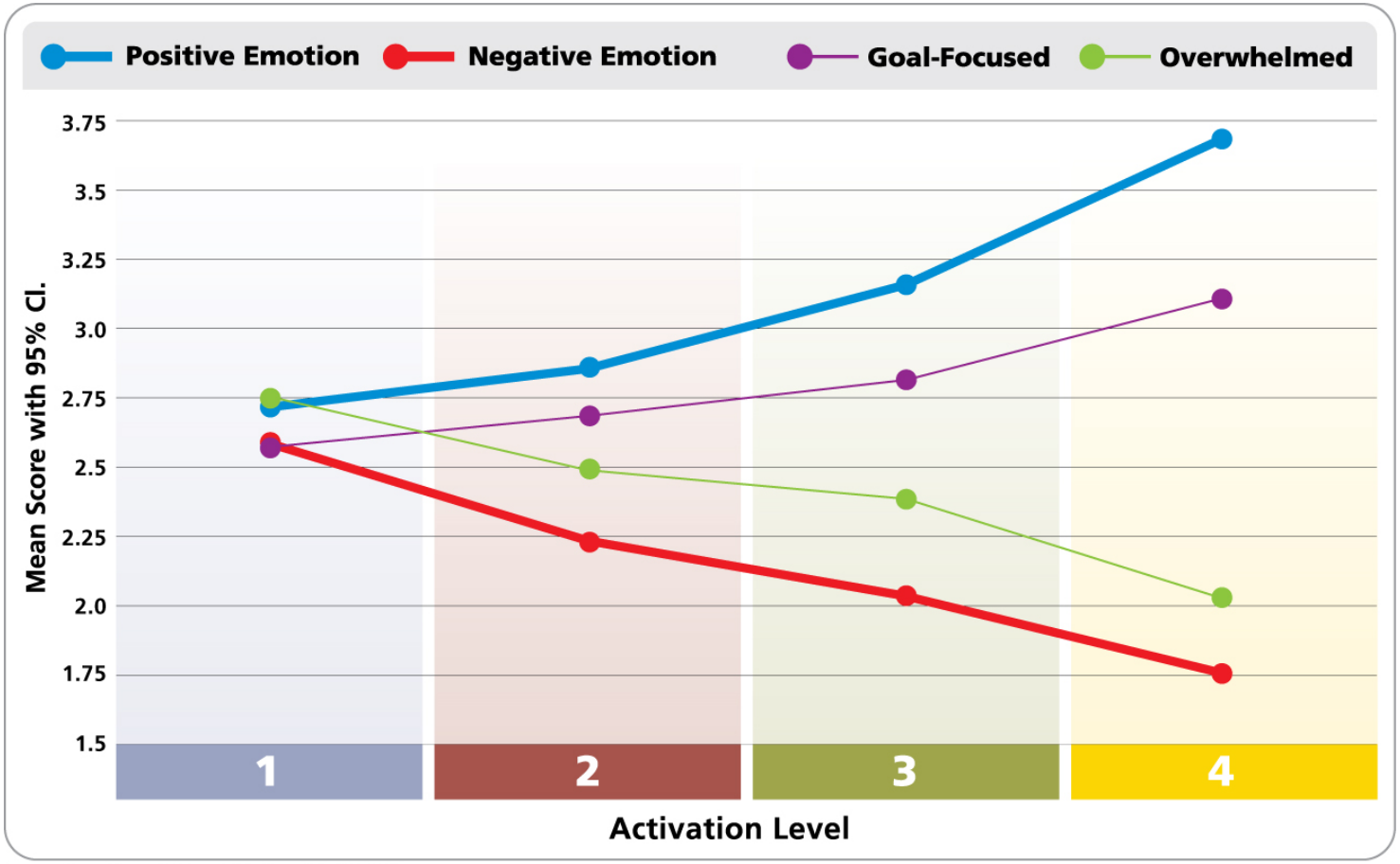
# Four levels of activation




* Medicaid and Medicare populations skew lower in activation

Mary Jane Osmick M.D. mary.osmick@staywell.com

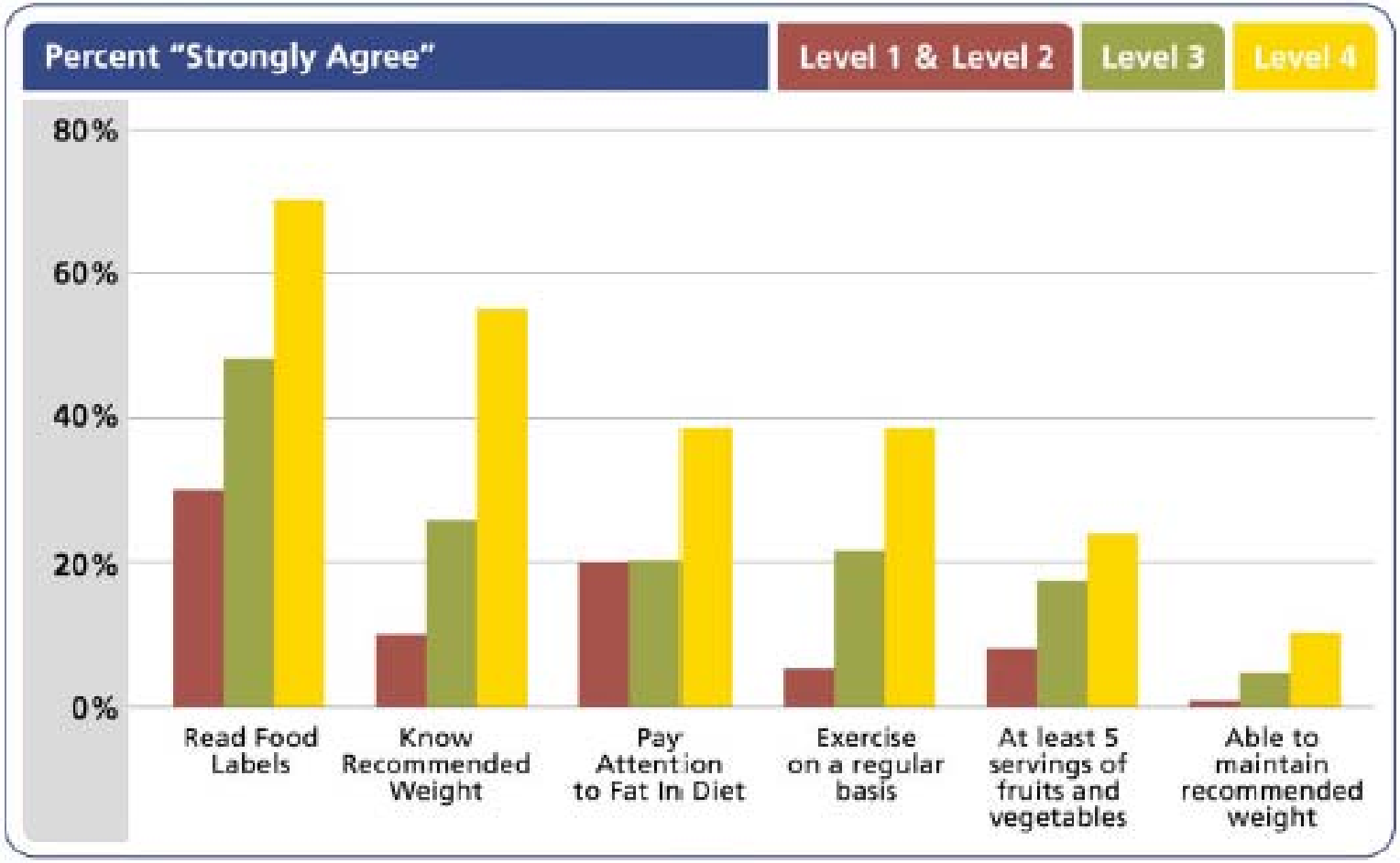
# Emotional disposition by activation level




Source: KnowledgeNetworks National Study 2008

**Mary Jane Osmick M.D. mary.osmick@staywell.com**

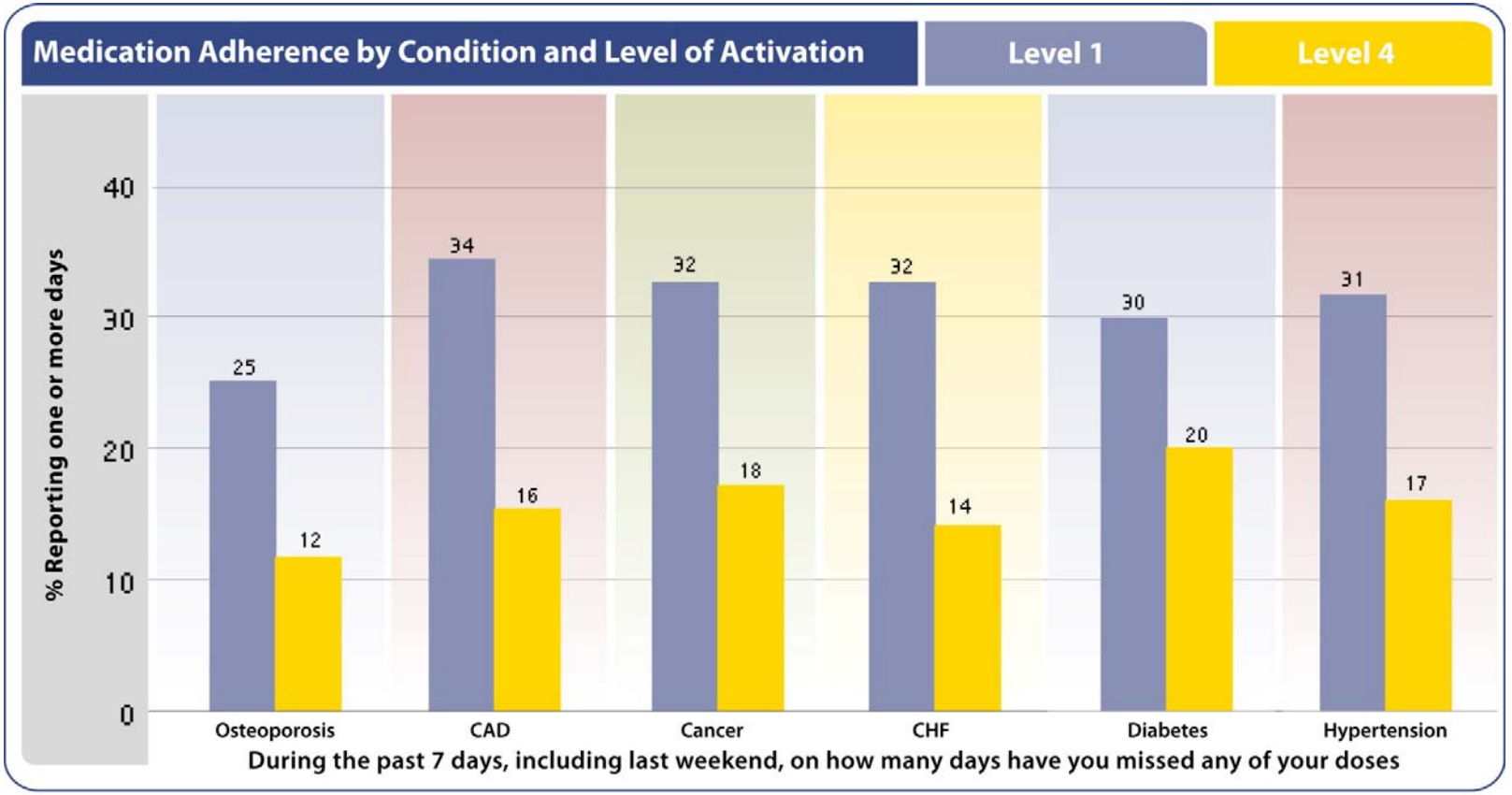
# Healthy behaviors by activation level




Source: RWJ PeaceHealth Study 2006

Mary Jane Osmick M.D. mary.osmick@staywell.com

# Medication adherence with PAM® levels




Source: Kaiser Center for Health Research 2006

**Mary Jane Osmick M.D. mary.osmick@staywell.com**

# PAM® score predicts utilization/outcomes in diabetes patients

| | % change for a 1 point change in PAM score | 10 point gain impact 54 (L2) to 64 (L3) |
|---|---|---|
| Hospitalization | 1.7% decline | 17% decreased likelihood of hospitalization |
| Good A1c control (HgA1c<8%) | 1.8% gain | 18% greater likelihood of good glycemic control |
| A1c testing<br>LDL-c testing | 3.4% gain | 34% improvement in testing |

Source: Is Patient Activation Associated with Future Health Outcomes and Healthcare Utilization Among Patients with Diabetes?Journal of Ambulatory Care Management, Oct/Dec 2009.

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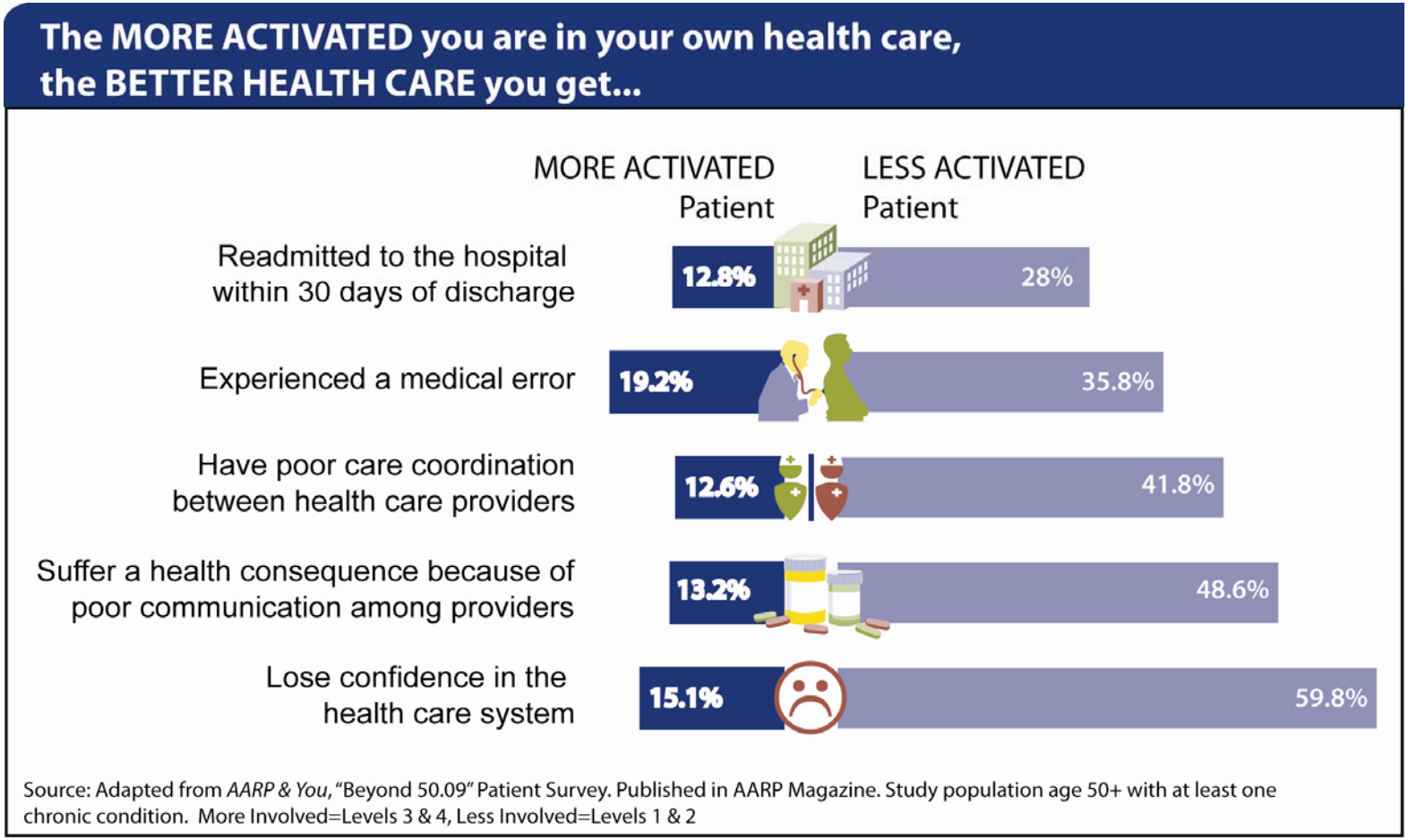
# PAM® scores predict health outcomes

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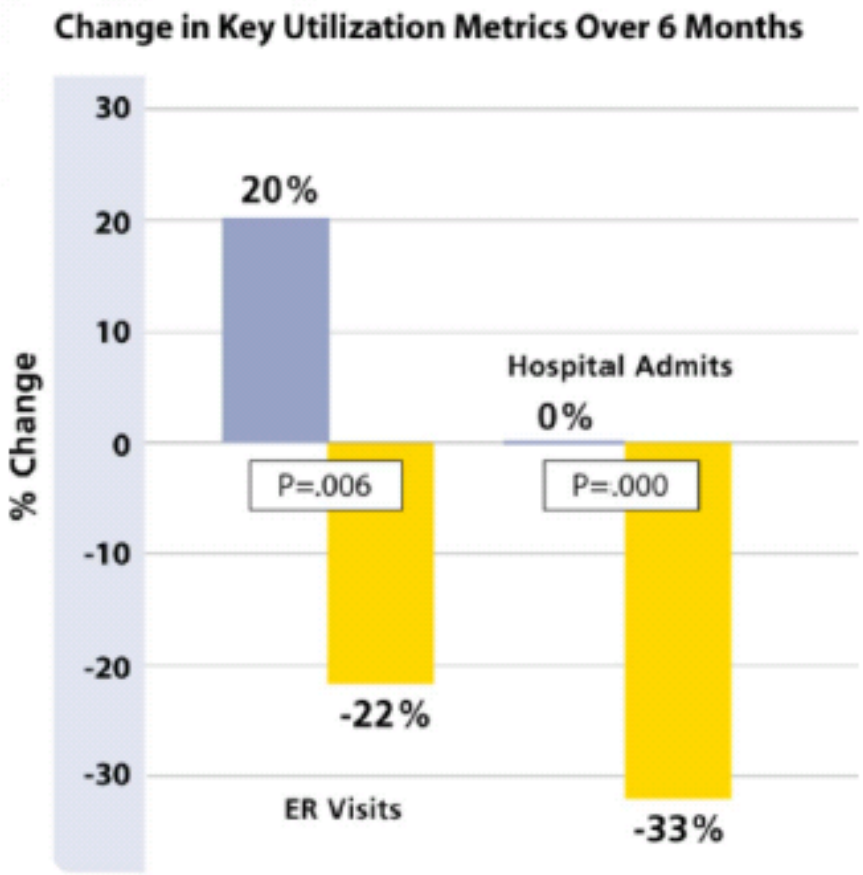
# Tailored coaching improves utilization and clinical outcomes




Hibbard, J, Green, J, Tusler, M. Improving the Outcomes of Disease Management by Tailoring Care to the Patient's Level of Activation. The American Journal of Managed Care, V.15, 6. June 2009

## Clinical Indicators*

**Medications:** intervention group increased adherence to recommended immunizations and drug regimens to a greater degree than the control group. This included getting influenza vaccine.

**Blood Pressure**: Intervention group had a significantly greater drop in diastolic as compared to control group.

**LDL**: Intervention group had a significantly greater reduction in LDL, as compared to the control group.

**A1c**: Both intervention and control showed improvements in A1c.

*Using repeated measures, and controlling for baseline measures

**Mary Jane Osmick M.D. mary.osmick@staywell.com**

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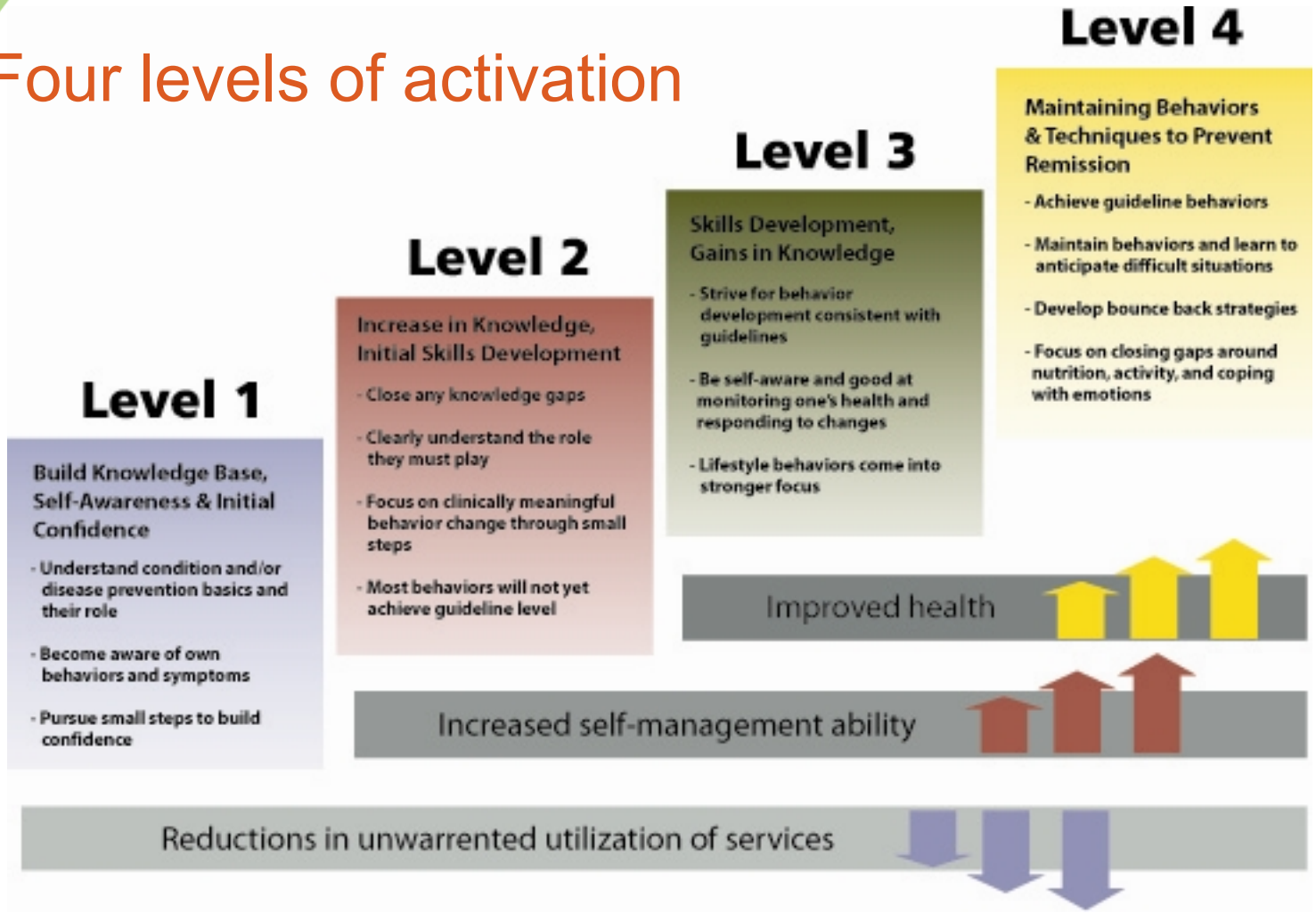
# Four levels of activation



# “Ideal” program based on activation

## Program design

- Activation is infrastructural to program design
- Activation levels represent individual pt. and population “vital signs”

## Sequential activation levels available in every individual in population

- Annual health assessment
- Coaching tool/Health professional tool
- Multi-modal tool availability – online, voice response , mobile devices

## Coaching

- Coaches listen for Activation consistency between tool and conversation
- Coaching drives intrinsic motivation through tailored coaching to activation levels
- Coaches use PAM visual scan to discover and explore pt. gaps
- Coaches “dial back” care plans for level of activation to promote iterative success
- Educational materials are consistent with activation levels
- Coaches can “chunk” educational materials as needed c/w level of activation

## HIT system supports individual/cohort trended PAM scores and levels

## Cost, utilization trends are reported within and between activation levels

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# Decoding program participation

## Incentives

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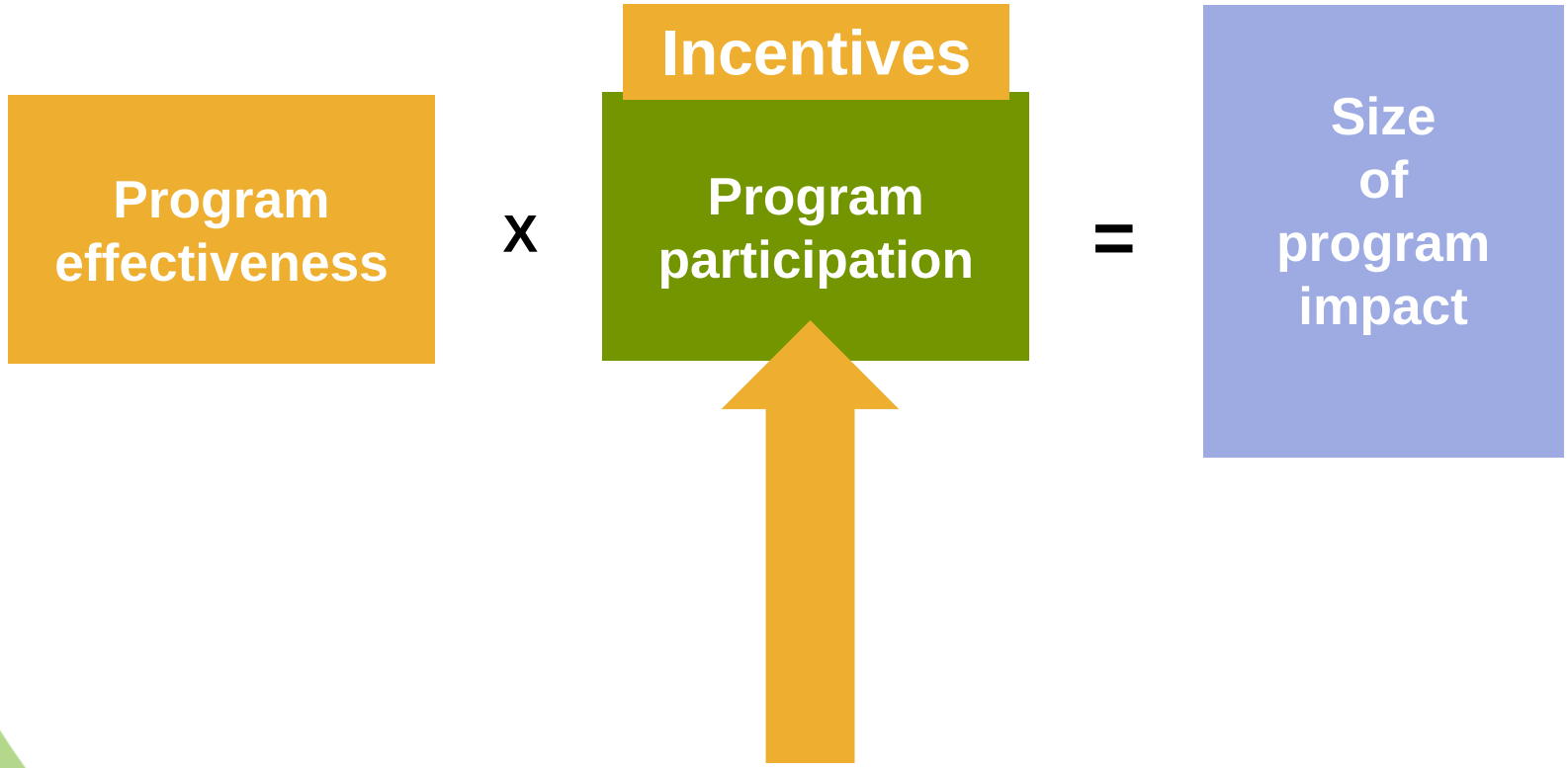
# Decoding population health improvement

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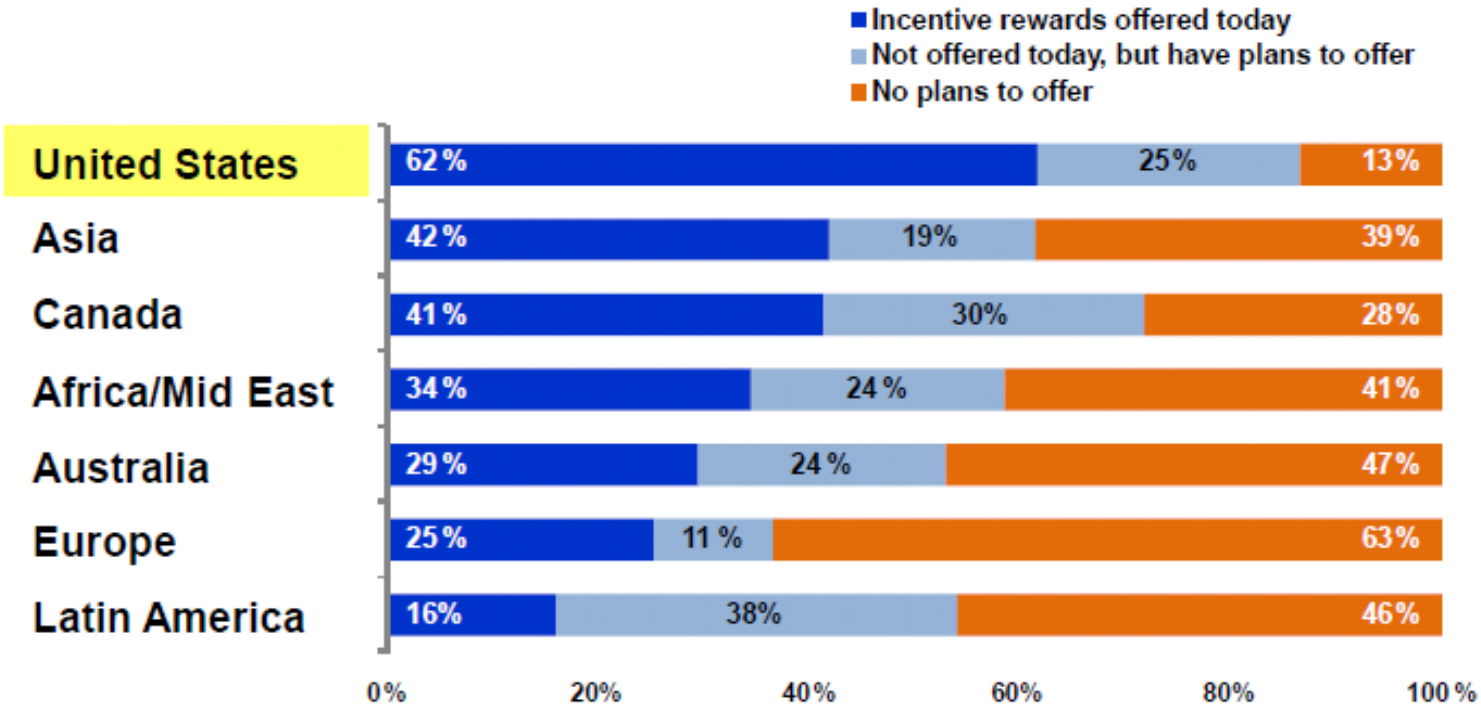
# Incentives

- Any factor that enables or motivates a particular course of action, or counts as a reason for preferring one choice to the alternatives.
- Incentives are examples of **extrinsic motivators** (outside the individual)
  - money
  - grades
  - competition (win and beat others)
  - applause
  - coercion
    - explicit or subliminal
    - threat of punishment


Mary Jane Osmick M.D. mary.osmick@staywell.com

# Prevalence of incentives (or disincentives)




*Source: Buck Consultants' Global Wellness Survey, November 2010*

**Mary Jane Osmick M.D. mary.osmick@staywell.com**

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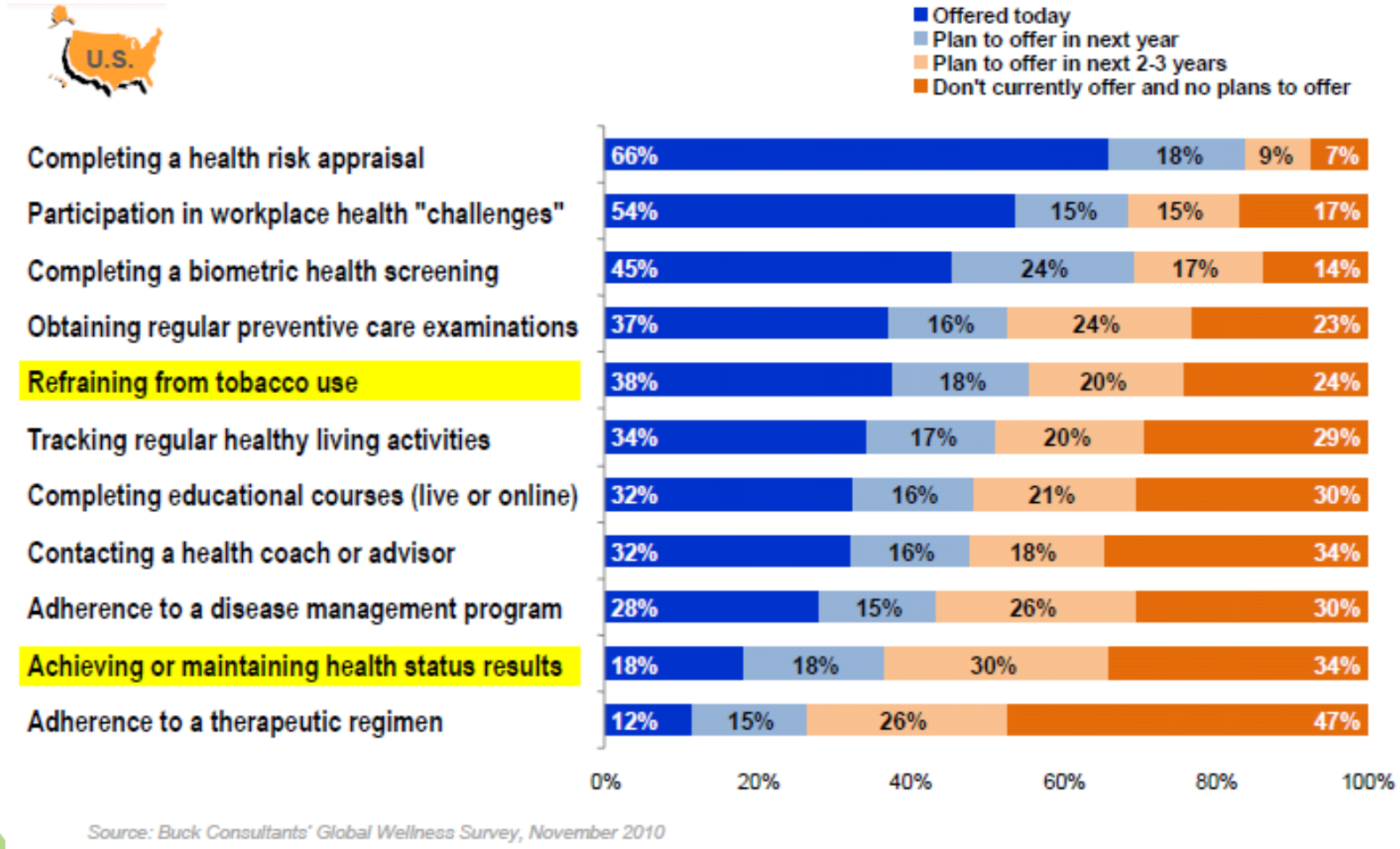
# Activities of U.S. employers that are incentivized




*Source: Buck Consultants' Global Wellness Survey, November 2010*

**Mary Jane Osmick M.D. mary.osmick@staywell.com**

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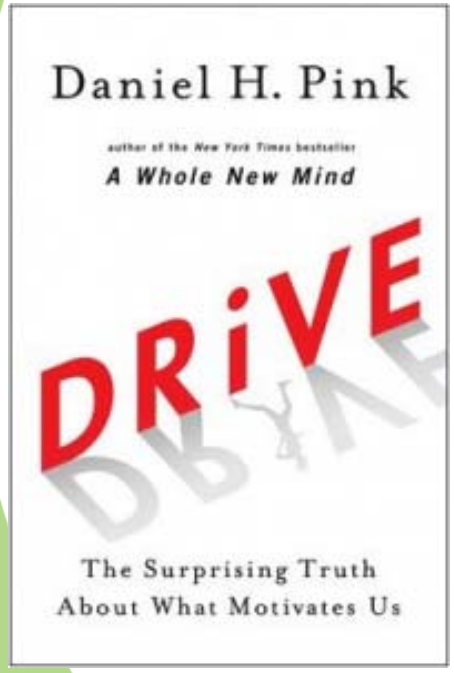
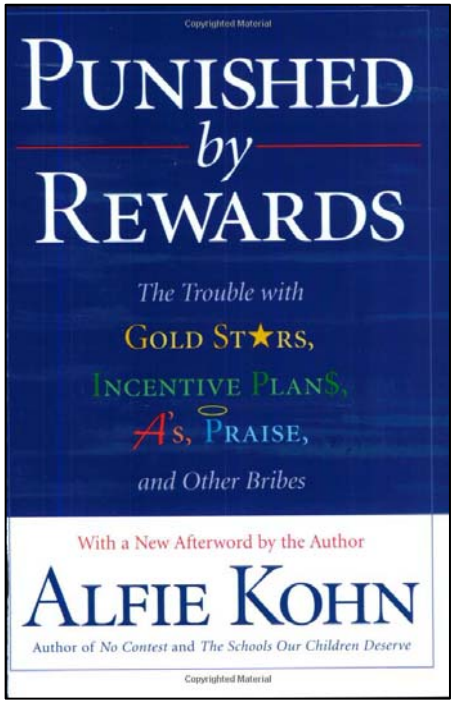
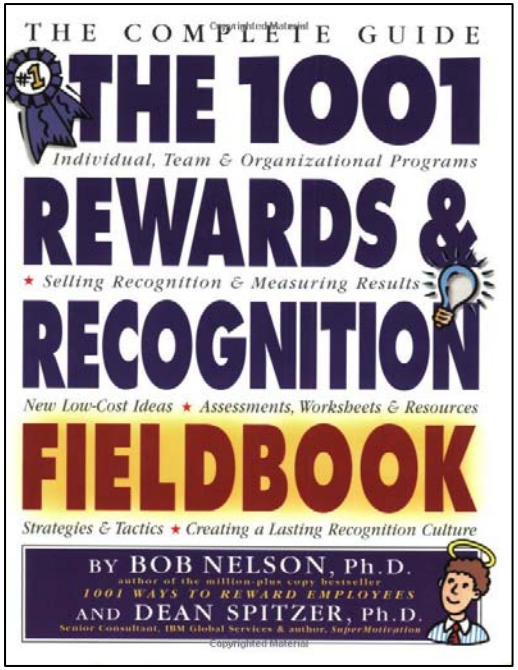
# Incentives

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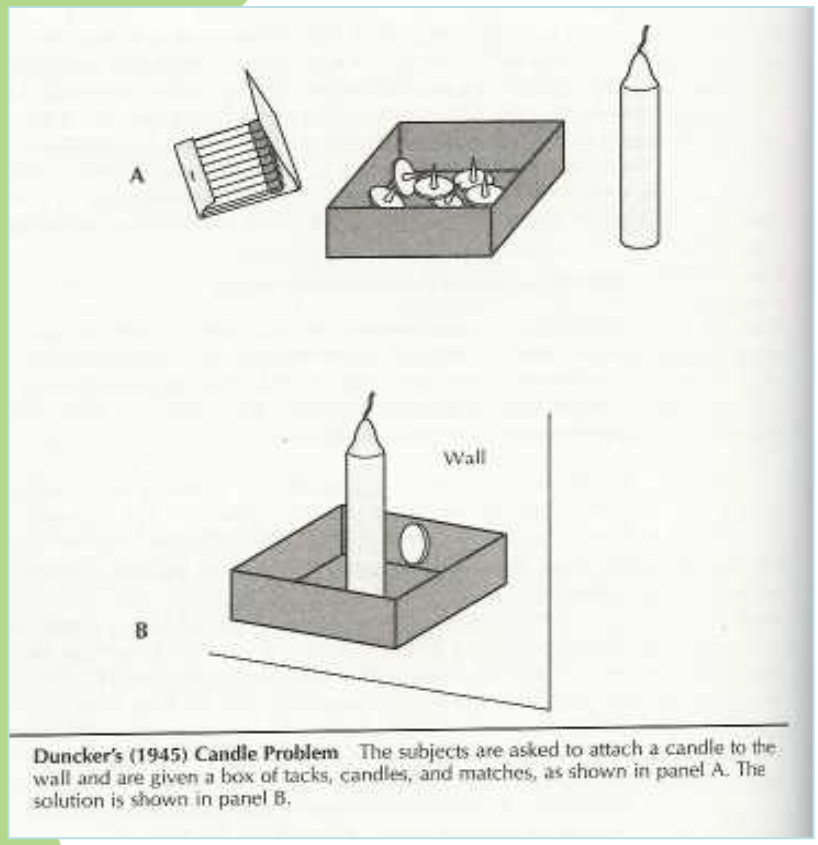
**Mary Jane Osmick M.D. mary.osmick@staywell.com**




**The Candle Problem**

# Over-justification effect

When an external incentive decreases a person's intrinsic motivation to perform a task

**Gold Star or ribbon for children to draw**

**Mary Jane Osmick M.D. mary.osmick@staywell.com**

# Incentives can be squirrely!

**Mary Jane Osmick M.D. mary.osmick@staywell.com**

# Quitting smoking and incentives

**Mary Jane Osmick M.D. mary.osmick@staywell.com**

# Quitting smoking

- Smoking is leading preventable cause of premature death in the US
- 70% of smokers want to quit
- 2 – 3% succeed annually
- Smoking cessation programs and Rx are associated with higher rates of cessation, but pt. rates in programs are low
- Financial benefit to employers is ~$3,400 annually from increased productivity, decreased absenteeism, and reduced incidence of illness

**Mary Jane Osmick M.D. mary.osmick@staywell.com**

# Study 1

Question:

Do financial incentives significantly affect long-term smoking cessation rates in employees?

Mary Jane Osmick M.D. mary.osmick@staywell.com

# Study 1

## RCT - smoking cessation +/- incentives in 878 employees

**Arm 1 - No incentive**

- 436 employees
- Information about smoking cessation programs

**Arm 2 - Incentive up to $750**

- 442 employees
- Information about smoking cessation programs PLUS financial incentives
  - $100 to complete smoking cessation program
  - $250 for smoking cessation within 6 months of enrollment
  - $400 for abstinence for 6 more months

- Primary endpoint – smoking cessation 9 or 12 months after enrollment (depending on initial cessation)
- Secondary endpoints
  - Smoking cessation within the first 6 months after enrollment
  - Participation rates and completion of smoking cessation program

Volpp, NEJM, 360;7; 699 - 709

**Mary Jane Osmick M.D. mary.osmick@staywell.com**

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# Study I
## Financial incentives for smoking cessation

**No difference in Arm 1 vs. Arm 2 including:**

- Demographics
  - Age, sex, ethnicity (90% white), income level
- Smoking behavior (~1 ppd, 5 – 6% heavy smokers, similar # previous attempts to quit
- Degree of nicotine dependence (Fagerstrom score)
- Percent levels readiness to quit
- Self-assessed health status

Volpp, NEJM, 360;7, 699 - 709

**Mary Jane Osmick M.D. mary.osmick@staywell.com**

# Study 1 outcomes

| | Arm 1 (No Incentive) | Arm 2 (Incentive) | |
|---|---|---|---|
| Smoking cessation rates at 9 or 12 mths | **5.00%** | **14.70%** | **p<0.001** |
| Participation in smoking cessation program | **5.40%** | **15.40%** | **p<0.001** |
| Smoking cessation program completion | **2.50%** | **10.80%** | **p<0.001** |
| Smoking cessation rates associated with program participation | **20.80%** | **46.30%** | **p=0.03** |
| Prolonged abstinence: cessation rate at 15 or 18 mths | **3.60%** | **9.40%** | **p=0.001** |

Volpp, NEJM, 360;7, 699 - 709

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**Mary Jane Osmick M.D. mary.osmick@staywell.com**

# Study 2
## Process evaluation of Study 1

- Why are financial incentives not effective at influencing some smokers to quit?
- Assess awareness and attitudes about financial incentives in motivating smoking cessation
- Understand why, despite sizable incentives, 85.3% of study participants did not quit long term

Kim, JOEM, Vol 53, No. 1, Jan 2011, 62 - 67

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**Mary Jane Osmick M.D. mary.osmick@staywell.com**

# Study 2
## Process evaluation

Telephone surveys (baseline, 3 or 6 months, 9 or 12 months), Likert scale

- Awareness/perceptions of financial incentives,
- Awareness/perceptions of smoking cessation programs
- Participation and completion of smoking cessation programs
- Nicotine dependence and intention to quit (stage of change)

Kim, JOEM, Vol 53, No. 1, Jan 2011, 62 - 67

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# Study 2 results – cessation programs

- Few participants attended cessation programs (13.5%)
- Most attended online programs (59%)
- Program participation in the incentive group was 3X control
- Incentive group participants attended twice the number of sessions
- Program attendance rates was significantly higher among quitters (45% vs. 11 %)

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**Mary Jane Osmick M.D. mary.osmick@staywell.com**

# Study 2 results
# Perceived importance of financial incentives

- 69.8% of **quitters** perceived incentives "not at all important" or "somewhat important" in cessation efforts
  - "Icing on the cake"
  - "Nice perk"
  - "Win-win"
- 64.7% of **non-quitters** perceived incentives "not at all important" or "somewhat important" in motivating them to quit
  - "You really have to want to quit regardless of compensation"
  - "Money can't replace the benefits from not smoking"

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**Mary Jane Osmick M.D. mary.osmick@staywell.com**

# Study 2 results – incentive needed to quit

## Incentive group

- Non-quitters
  - 53.2% would not quit for double the incentive ($1500)
  - 65% would have quit if paid up to $3400
  - 35.5% required >$3400 to quit
- Quitters
  - 87.1% would have quit for less money – $20 average; range $ 0 - $500
  - 49% of quitters would have quit for no money

Kim, JOEM, Vol 53, No. 1, Jan 2011, 62 - 67

## Control group

- Non-quitters
  - 36.3% would quit for financial incentive
  - Wide range of incentive estimate from $1 to $5M
  - 29.5% required >$3,400

## Non-quitters – Incentive and control needing >$3,400

- Higher nicotine dependence scores
- 45.7% not thought about quitting
- 38.8% no quit attempt in last year

**Mary Jane Osmick M.D. mary.osmick@staywell.com**

# Study 2 Results

- Readiness to quit needs to be sufficiently high for incentives to work
- Among smokers lacking intention, money was not perceived as adequate to motivate quitting – even for large dollar incentives
- Most successful quitters in incentive group did not perceive incentives helpful in the quitting process
- Quitters reported they were already motivated and would have quit for less money
- Most participants perceived cessation programs to be helpful in in the quit process

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**Mary Jane Osmick M.D. mary.osmick@staywell.com**

# Take Home – Activation and Incentives

- Activation describes an individual's ability to play a role in their health and health care
- The PAM tool measures an individual's level of activation
- Individuals can be coached to improve their activation levels
- Higher activation levels are associated with improved health outcomes, better clinical quality indicators, lower utilization of resources
- Incentives are unlikely to overcome low intrinsic motivation
- Incentives can lead to decreased intrinsic motivation (over-justification effect)
- Incentives increase short-term compliance
- Incentives can "nudge" the individual into initial compliance which may become intrinsic over time (if the task fits the individual's values and beliefs)

**Mary Jane Osmick M.D. mary.osmick@staywell.com**

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**Mary Jane Osmick M.D. mary.osmick@staywell.com**

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**Mary Jane Osmick M.D. mary.osmick@staywell.com**