Relative patient benefits of a hospital-PCMH collaboration within an ACO to improve care transitions: Lessons learned from the PCORI grant application experience

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Disclosures

- Recipient of grant funding from Sanofi aventis for investigator-initiated study of intensive discharge intervention in patients with diabetes (IDID)
- Consultant for QuantiaMD, for whom I produce educational content for providers and patients regarding medication safety during transitions in care
Goals of this Talk

- To briefly describe the design of the newly funded PCORI study “Relative patient benefits of a hospital-PCMH collaboration within an ACO to improve care transitions”
- To review the reaction from reviewers and lessons learned
- General discussion, including how to use this experience when writing future proposals to PCORI
Goals of this Talk (2)

• To briefly describe the design of the newly funded PCORI study “Relative patient benefits of a hospital-PCMH collaboration within an ACO to improve care transitions”
• To discuss the intervention in detail and early experiences gaining institutional support
• General discussion
Specific Aims

• To develop, implement, and refine a multi-faceted, multi-disciplinary transitions intervention with contributions from hospital and primary care personnel across several PCMHs within the Partners Healthcare Pioneer ACO.

• To evaluate the effects of this intervention on post-discharge adverse events, functional status, patient satisfaction, and emergency department and hospital utilization within 30 days of discharge.

• To understand barriers to and facilitators of successful implementation of this intervention across practices
Partners is increasingly focused on improving value for patients and is now a “Pioneer Accountable Care Organization”

Partners hospitals have several financial incentives to reduce 30-day readmissions

As part of the ACO effort, most primary care practices will soon become Patient-Centered Medical Homes

In theory, then, both Partners hospitals and primary care practices will have a vested interest in preventing readmissions

An ideal transition requires efforts of inpatient and outpatient personnel

It is clear that there are limits to how much can be provided by the hospitals alone without participation and complete buy-in of primary care practices
Conceptual Model: Ideal Transition in Care

Burke, Kripilani, Vasilevskis, and Schnipper. JHM 2013. In press
Methods

• Patients
  – 1800 patients from 50 PCHI PCMH “primed” practices within Partners Healthcare admitted to BWH or MGH

• Study Design
  – “Stepped Wedge” : randomize order in which each practice implements the intervention (once achieve “primed” status)

• Outcomes
  – Assessed 30 days after discharge by phone interview and medical record review
  – Post-discharge adverse events
  – Patient satisfaction and functional status
  – Health care utilization
  – If readmitted, 360-degree review to determine preventability (patient/family, index and readmission attendings, PCP)
Methods

• Iterative Refinement of Intervention
  – Based on readmission reviews

• Mixed Methods
  – Provider surveys and focus groups to determine facilitators of and barriers to implementation
    • Environmental context
    • Intervention fidelity
    • Provider focus groups
  – Subgroup analyses: who benefits the most?

• Patient and Caregiver Stakeholder Involvement
  – Patient and family advisory council
  – Patient/family representation on study steering committee
### Stakeholder Engagement

<table>
<thead>
<tr>
<th>Step in CER Process</th>
<th>Purpose of Patient Engagement</th>
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<tbody>
<tr>
<td>Topic solicitation</td>
<td>- Identify topics that are important to patients, caregivers, and the community</td>
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<td>- Propose topics to be investigated</td>
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<td>Prioritization</td>
<td>- Solicit feedback on relevance and priority of topics</td>
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<td>- Discuss the urgency of addressing topics</td>
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<td>Framing the question</td>
<td>- Ascertain questions’ relevance and usefulness</td>
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<td>- Assess “real-world” applicability</td>
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<td>Selection of comparators and outcomes</td>
<td>- Identify comparator treatments of interest</td>
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<td>- Identify outcomes of interest</td>
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<td>- Incorporate other aspects of treatment</td>
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<td>Creation of conceptual framework</td>
<td>- Provide a “reality check”</td>
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<td>- Verify logic of conceptual framework</td>
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<td>- Supplement with additional factors not documented in the literature</td>
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<td>Analysis plan</td>
<td>- Verify importance of factors and variables</td>
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<td>- Ascertain whether there is a good proxy for a specific concept</td>
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<td>- Inquire about potential confounding factors</td>
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<tr>
<td>Data collection</td>
<td>- Determine best approaches for data collection (e.g., trial, registry, medical charts)</td>
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<td>- Assist with selection of data sources</td>
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<td>Reviewing and interpreting results</td>
<td>- Assess believability of results</td>
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<td>- Suggest alternative explanations or approaches</td>
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<td>- Provide input for sensitivity analysis</td>
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<td>Translation</td>
<td>- Interpret results to be meaningful</td>
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<td>- Document which results are easy or difficult to understand</td>
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<td>- Indicate which results are counterintuitive</td>
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<tr>
<td>Dissemination</td>
<td>- Facilitate engagement of other patients</td>
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<td>- Help other patients to understand findings</td>
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Community Forum, Bethesda, MD
Stakeholder Engagement

- Best practices in patient/family engagement
  - Provide training activities for Advisory Council members
  - Provide honoraria and reimbursement expenses
  - Provide networking opportunities for Council members
  - Explain how stakeholder engagement will be used
  - Provide training to researchers
  - Clearly explain the purpose of stakeholder engagement
  - Provide project materials in advance with expectations
Stakeholder Engagement

• Best practices in patient/family engagement (continued)
  – Establish next steps and planned follow-up
  – Facilitate opportunities for members to voice their opinions
  – Take steps to foster a sense of equality
  – Establish clear rules for engagement at all meetings
  – Conduct periodic evaluations
  – Document how input was used to inform activity outcomes.
  – Work with patient and consumer organizations
• Practical issues: involving patient/family representatives in the grant-writing
  – Worked with head of BWH Center for Patients and Families
  – Identified a patient/family representative
  – She agreed to serve as a representative, agreed with our approach to stakeholder engagement and our outcomes
  – We wrote a letter of support which she edited
  – Mentioned all this in the proposal
Intervention

- Inpatient medication safety interventions
  - Inpatient pharmacist role similar to past studies
- Inpatient “discharge advocate” (DA)
  - Focus on communication and education
  - Enter all team members into PEPL
  - Initiate dialogue among all team members, joint creation of the discharge plan
  - Ask patient most important goals for post-discharge period
  - As needed, contribute to d/c instructions, coordinate education, use teach-back
- “Responsible Outpatient Clinician” (ROC)
  - Ambulatory counterpart to DA, likely an RN, help facilitate communication between inpatient and outpatient teams
  - Visit in person or by video conference prior to discharge, encourage patient to keep post-discharge appointments
Intervention (Continued)

- Visiting Nurse Intervention
  - Partners Healthcare at Home VNA (+/- other VNAs)
  - Standard checklist re: ability of patient to manage conditions at home
  - Encourage communication with inpatient and outpatient teams
  - Document findings in LMR

- Multi-disciplinary post-discharge clinic visit
  - Takes place in the primary care practice, as part of PCP visit
  - Contributions from ROC, outpt pharmacist, PCP +/- SW, psych as needed
  - Structured visits with checklists
  - ROC will initiate Coleman coaching, including 3 phone calls (focused on PHR, med self-mgmt, red flags, follow-up)

- Interventions for high-risk patients
  - Home visits by patient coach
  - Telemedicine programs: weights, blood sugars, blood pressures, etc.
• Advance care planning
  – Automatic trigger tool for palliative care consultation
• Information technology
  – Web-based discharge ordering module (BWH)
  – Automated system to alert providers of results of tests pending at discharge
  – Group email capability linked to PEPL

Many of these components were pilot tested in a study conducted at BWH (IDID)
Linked each component of the Ideal Transition in Care to a component of the intervention
• Quantitative
  – Primary outcome: presence of adverse events within 30 days of discharge
  – Logistic regression adjusted for study month and arm and several potential confounders
  – Clustered by nursing unit, practice, attending, and PCP using GLMMIX
  – Similar analyses for secondary outcomes: presence of preventable adverse events, duration of ameliorable adverse events, patient satisfaction, ED and hospital readmission, change in functional status (linear using MIXED)
  – Subgroup analyses: elderly, low health literacy, high comorbidity, high risk for readmission
  – On treatment analysis: adding receipt of each intervention component into the model
• Qualitative
  – Grounded Theory to analyze focus groups and interviews: themes re: barriers and facilitators of implementation
  – Mixed methods
    • Are certain facets consistently implemented with high fidelity and associated with improved outcomes?
    • Where success is variable, can it be linked to choice of implementation components, low intervention fidelity?
    • Can low intervention fidelity be linked to certain contextual factors?
• Sample size
  – 1800 patients: 80% power to detect decrease in AE events from 30% to 23.3% (2/3 of the preventable events), correcting for LTFU and intra-class correlation
Review of Proposal
Criterion 1: Impact of the condition on the health of individuals and populations

• What they liked
  – Readmission is a common, severe, and costly problem
  – Could serve as a model for other hospital/PCP partnerships

• What they didn’t like
  – Excludes rural populations
  – Unclear how it adds to what PCMHs currently do
  – Does not explicitly address how patients with chronic diseases will be managed

• What we could have done differently
  – Acknowledged and justified exclusion of rural patients
  – Been more clear about how intervention differs from PCMH “usual care” and how patients with specific diseases would be managed
 Criterion 2: Innovation and potential for improvement through research

- **What they liked**
  - Large potential to improve patient health and well-being while reducing costs
  - Bases the intervention on a “savvy” assessment of what ACOs and PCMHs are likely to do
  - Likelihood of widespread implementation if health care reform goes the way we think it will
  - Plan to write a 12-month report that can be used immediately
  - Large number and variation of primary care practices
  - Conceptual model of ideal transition in care

- **What they didn’t like**
  - Many studies of PCMHs already done, what is new
  - PCMHs take time to mature, intervention may not work
Criterion 2: Innovation and potential for improvement through research (continued)

- What they didn’t like (continued)
  - Unclear if an alternate plan if not enough practices sign up to participate
  - Not enough engagement of primary care practices as stakeholder and research participants

- What we could have done differently
  - Explained how intervention standardizes and adds to what PCMHs are likely to do on their own
  - Provided contingency plan if not enough PCMHs sign up
  - Engaged individual practices more
Criteria 3: Impact on health care performance

• What they liked
  – Potential for substantial cost savings
  – Encourages using staff and resources to engage patients in their own care
  – Appropriate use of inpatient and outpatient contributions may reduce redundancy
  – Multiple outcomes of interest to patients and providers

• What they didn’t like
  – Many variables that impact outcomes are beyond the researchers’ control
  – May be difficult to achieve Ideal Transition: many moving parts
  – Too many outcomes, at least at first
Criterion 3: Impact on health care performance
(continued)

- What they didn’t like (continued)
  - Use of PCMHs within the ACO limits generalizability
  - Use of an integrated EMR limits generalizability
  - Limits to dissemination if ACO model is not successful
- What we could have done differently
  - Acknowledged limitations more, justified choices better
Criterion 4: Patient-Centeredness

- **What they liked**
  - Full involvement of patients in designing study via advisory council and participation in steering committee
  - Selection of outcomes with patient-centeredness in mind
  - Addresses one of the key PCORI questions “how can clinicians and the health care delivery systems they work in help me to make the best decisions about my health care?”

- **What they didn’t like**
  - Does not discuss which patients will be selected for the advisory council and steering committee
  - Not clear on exactly what roles patients will play or how they would become more involved in their care
  - Duration of roles patients play on committee not clear
  - Could have better engaged PCMH PCPs in the study
Criterion 4: Patient Centeredness

- What we could have done differently
  - Been more clear about how patients will be chosen for the advisory council, exactly what their roles will be, and the duration of those roles
  - Been more clear about how patients in general will use the results of this study
  - Better engaged PCPs in the study
Criterion 5: Rigorous Research Methods

• What they liked
  – Stepped wedge study design, viewed as essentially a randomized trial
  – Well-justified analytic choices and sample size calculations
  – Unbiased recruitment
  – Use of qualitative and mixed methods
  – Takes into account environmental context, intervention fidelity, and evaluation of readmitted patients

• What they didn’t like
  – Intervention delivered primarily by hospitals: unclear what usual care patients get
  – Unclear how patients will be sampled
• What they didn’t like (continued)
  – Lack of continuous monitoring of fidelity of implementation of each intervention component
  – Could have expanded the qualitative analysis beyond focus groups and interviews to include direct observations, medical histories
  – Did not clarify range of stepped wedge implementation start times

• What we could have done differently
  – Clarified how hospitals will deliver usual care
  – Clarified patient sampling issues
  – Clarified range of implementation start times
  – Acknowledged other methodological choices
Criterion 6: Inclusiveness of different populations

• What they liked
  – Includes broad range of hospitalized patients in an ethnically and socioeconomically diverse catchment area
  – Includes some hard-to-reach patients
  – Makes attempts to individualize care

• What they didn’t like
  – Excludes rural patients
  – Does not discuss achieving diversity in the patient representatives
  – Does not discuss how to ensure diversity in the enrolled patient population
  – Does not includes sub-analyses by race, ethnicity, geography
Criterion 6: Inclusiveness of different populations
(continued)

- What we could have done differently
  - Addressed how to achieve diversity in the patient representatives
  - Provided minimum criteria and over-sampling to ensure diversity in the enrolled patient population
  - Briefly discussed sub-analyses by race, ethnicity, geography
Criterion 7: Research and Environment

• What they liked
  – Large, strong team with previous experience, pilot study
  – Good mix of complementary methodological expertise
  – Good engagement of stakeholder groups throughout the study life-cycle
  – Strong evidence of institutional support, with letters

• What they didn’t like
  – Not enough patients on the advisory council to ensure sufficient representation
  – Not enough qualitative researchers
  – Not enough mid-level providers
• What we could have done differently
  – Added more patients to the advisory council
  – Added another qualitative researcher?
  – Added more mid-level providers to the research team or steering committee
Criterion 8: Efficient use of research resources

• What they liked
  – Compensated patient/family representatives
  – Included a patient coach training conference
  – Justified budget

• What they didn’t like
  – No effort to create sustainable research infrastructure
  – Did not clarify how research assistants will be trained
  – Did not clarify who will attend the training conference
  – Did not elaborate on other methods of dissemination such as conferences, seminars, workshops, etc.
Criterion 8: Efficient use of research resources
(continued)

• What we could have done differently
  – Added a section of how the infrastructure for this study could be re-used
  – Clarified how research assistants will be trained
  – Clarified who will attend the training conference
  – Added (and budgeted) other methods of dissemination such as conferences, seminars, workshops, etc.
Protection of Human Subjects

• What they liked
  – Listed strategies to make participation easy for subjects
  – Attempts to protect privacy of PHI
  – Includes strategies to recruit women and minorities

• What they didn’t like
  – Did not discuss risks to providers in enough detail
  – Did not discuss initial and ongoing training of research personnel in ethics of research

• What we could have done differently
  – Provided more detail on risks to providers (and how to minimize them) and training of personnel in research ethics
Summary

Pay attention to the following:

– Ensuring adequate representation of patient sub-populations in study and in stakeholder representatives
– Being cognizant of sensitivities to MDs in large AMCs doing work on urban populations with integrated EMRs
– Being as explicit as possible: how your intervention is innovative, how the usual care group is being treated
– Engaging as many types of stakeholders as possible
– Acknowledging and justifying limits to generalizability
– Providing contingency plans
– Being very clear about roles of stakeholders
– Budgeting adequate resources for dissemination
– Attempting to make infrastructure reusable
Questions?
Comments?

Thanks!
Description of Intervention
General Description

• Goal is standardization of function
  – Each unit, service, hospital, and practice may do things differently, and with different personnel, but hopefully all achieving the same ends
• Liberal use of checklists to ensure activities are completed
• Reduction in redundancy in tasks, except where necessary
• Process redesign and standardization may result in greater efficiency, but additional personnel still needed
  – Some of these tasks have never been adequately resourced, rarely performed
Inpatient Medication Safety Intervention

• Goals
  – Ensure that medication reconciliation has been done correctly
  – Educate patients/caregivers about the discharge medication regimen
  – Prepare patients/caregivers to take medications safely and correctly after discharge
• Activities tailored to patient’s needs
  – In-depth medication reconciliation at admission and discharge
  – Help with discharge documentation (indications, special instructions, etc.)
  – Patient/caregiver education, including medication changes, reasons for changes, what to watch out for, education re: new medications
  – Communication with post-discharge providers by email re: discharge medication regimen, reasons for changes, establish point of contact
Inpatient Discharge Advocate

• **Goals:**
  – Coordinate discharge plan with the patient, caregivers, hospital team, and outpatient team
  – Educate and prepare patient and caregivers for discharge
Discharge Advocate Activities

• Communicate with patient/family re: discharge planning
  – Confirm patient can get to follow-up appointments
  – Give patient/family realistic expectations of date/time of discharge

• Coordinate communication among clinicians for timely decision-making and handoffs in care
  – Fax discharge documents to relevant out of network specialists
  – Inform inpatient pharmacists regarding patient’s needs, estimated discharge date
  – Enter all providers into Partners Enterprise Patient List application, initiate group emails
Discharge Advocate Activities (Continued)

• Identify, communicate, and make plans to resolve barriers to patients/caregivers being able to carry out the post-discharge plan

• Perform safety checklist
  – Adequate post-discharge monitoring is in place
  – Resident’s discharge documentation is adequate
  – Timing of follow-up is adequate

• Point person in case patient, family, or post-discharge providers have questions about the hospitalization
Other Inpatient Care Providers

- Goal is to standardize and distribute the work
- Primary Nurse
  - Talk with ROC, learn about patient, communicate
  - Document discharge patient instructions (e.g., behavioral changes, final discharge plan, red flags, discharge status)
  - Educate patient and family: identify active learner, review instructions, use teach-back
  - Give patient personal medical record to use
- Unit coordinator
  - Schedule follow-up appointments based on time-frame, patient/caregiver and provider availability
  - Give patient calendar of follow-up appointments
Partners Healthcare at Home

- Goals:
  - Assess patient’s home situation
  - Ensure ability and help patients/caregivers manage their medical conditions at home
  - Communicate with other members of the care team
PHH Activities

- Evaluate ability of patient to function at home with current level of support and services
- Evaluate and address ability of patient/caregiver to perform necessary self-care activities
  - Take medications
  - Perform other treatments (e.g., wound care)
  - Modify health-related behaviors (e.g., diet)
  - Manage follow-up appointments
• Assist with above activities as needed
• Teach patients/caregivers to perform these activities until they are independent or the activities are no longer needed
• Document all findings in templated note in EMR
• Communicate with inpatient attendings by email (and cc PCP and NP) re: questions with discharge plan, status at time of discharge, etc.
• Communicate with outpatient providers (PCP, ROC, specialists) regarding plan of care
Responsible Outpatient Clinician / Patient Coach

- **Goals:**
  - Serve as a bridge between inpatient stay and outpatient clinic
  - Modify post-discharge plan as needed
  - Coach patients and caregivers so that they are best able to carry out the post-discharge plan
ROC/ Patient Coach Activities

- While patient is still in the hospital
  - Ask patient about most important goals for recovery period
  - Discuss reasons for and importance of keeping follow-up appointments
  - Remind patient to bring discharge instructions, personal medical record, follow-up calendar, medication list, pill bottles
  - Review use of personal medical record
  - Discuss barriers to keeping post-discharge appointments and explore ways to overcome them
  - Use teach-back to confirm understanding
• During post-discharge clinic visit
  – Review patient’s goals for the recovery period, discuss how best to meet them
  – Review discharge summary, patient instructions, follow-up appointment calendar, patient’s PMR, VNA notes
  – Review test results finalized since discharge
  – Begin patient coaching
  • How to monitor medical conditions at home
  • How to manage behavioral changes
  • Danger signs to watch for
  • How to use medical system
  • How to keep a personal medical record
• Make 3 phone calls during the month after discharge
  – Perform coaching activities as above
• For high-risk patients, conduct home visits
  – Evaluate patient/caregiver’s ability to carry out plan at home
  – Perform coaching activities as above
• For all activities
  – Use role-playing and teach-back as needed
  – Contact inpatient providers as needed
  – Identify barriers to self-management and explore ways to overcome barriers with patient, caregiver, and PCP
  – Communicate with PCP, makes plans as needed, arrange follow-up as needed
  – Document findings in the EMR
Outpatient Pharmacist

• **Goals**
  – Ensure patient is discharged on the correct medication regimen, understands that regimen, and is adherent with that regimen
  – Screen for barriers to adherence, early side-effects, and address as needed
  – Coach patient/caregiver regarding issues of medication safety
Outpatient Pharmacist Activities

• Confirm medication reconciliation done correctly in the hospital and at discharge, update EMR
• Identify and resolve discrepancies between discharge regimen and what patient thinks s/he should be taking
• Answer questions about medications
• Ensure patient has filled prescriptions and knows how to obtain refills
• Assess adherence with medications, address as needed
• Identify and manage possible medication side-effects
• Contact inpatient team as needed
• Communicate with PCP, make changes to medications as needed
• Provide patient coaching
  – Work with patient/caregiver on strategies to maximize medication adherence, how to identify medication red flags, what to do if problems arise
• Document findings in the EMR
PCP

• Ask the patient about goals for the visit
• Evaluate status of active medical problems compared with discharge and post-discharge visits based on discharge summary and VNA notes
• Discuss advance directives as needed
• Follow up on any other issues raised by discharging team, visiting nurse, ROC, outpatient pharmacist, and communicate with these providers as needed (i.e., outpatient specialists)
• Arrange for additional follow-up as needed (e.g., closer monitoring of chronic conditions, social worker or psychiatric follow-up, palliative care services)
Interventions for High-Risk Patients

• Home visits by patient coach
• Telemedicine programs:
  – CHF: weights
  – Diabetes: POC glucose testing
  – Hypertension: blood pressures
Advance Care Planning

- Automatic trigger tool for inpatient palliative care consultation
- Structured consultation regarding goals of care discussion with patients, caregivers, and providers
- Communication with outpatient providers so discussion can be continued
- Documentation in the EMR
• Web-based discharge ordering module (BWH)
• Automated system to alert providers of results of tests pending at discharge
• Group email capability linked to PEPL
Early Experience with Study

• Leadership is supportive
  – Believe it is the right thing to do
  – Believe it will require additional resources
  – Willing to work together across traditional silos
  – Are they willing to open their pockets?
    • Everyone feels financially constrained
    • ROI is a leap of faith
    • Incentives are still not completely aligned

• Everyone feels financially constrained
  – ROI is a leap of faith
  – Incentives are still not completely aligned
Questions?
Comments?

Thanks!