



P.O. Box 42026  
Washington, DC  
20015  
phone 202.230-9029  
fax 202.249-1784

## MEMORANDUM

To: David Miranda, Ph.D.

From: Sally Crelia, Kelly Moriarty, Margaret Gerteis, and Colleen Dobson

Date: August 27, 2009

Re: Summary Findings from Formative Research

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The Centers for Medicare & Medicaid Services (CMS) has contracted with L&M Policy Research, LLC (L&M) and its subcontractors, Mathematica Policy Research, Inc. (MPR) and McGee and Evers Consulting, to conduct formative research around the new Hospital Outpatient Measures. The research team conducted a total of four focus group discussions with consumers and caregivers. The consumer participants ranged in age from 40 to 70 years of age and had a mix of experience with outpatient hospital services; the caregiver participants ranged in age from 18 to 70 years of age and provide care for persons who have had a mix of experience with outpatient hospital services. We also conducted a total of six in-depth interviews with providers, including three primary care physicians, one emergency room doctor, and two radiologists. The research was conducted in Boston, MA on August 12 and 13, 2009.

This memorandum summarizes findings from the formative round of research and describes implications for future research.

### “Inpatient” vs. “Outpatient”

After providing participants with a brief overview of the *Hospital Compare* website, focus group moderators led a discussion around the concepts of and differences between “inpatient/inpatient services” and “outpatient/outpatient services”. The moderators first asked participants to discuss their understanding of these terms, then provided draft definitions to the groups to further prompt discussion and to gather feedback on proposed terminology.<sup>1</sup> Results from these discussions are provided below.

#### Observations:

- In general, consumer participants understood the distinction between “inpatient/inpatient services” and “outpatient/outpatient services”. For the most part, participants defined an “inpatient” stay as having a bed and receiving meals.

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<sup>1</sup> Proposed definition for *Inpatient Services*: Hospital services provided to patients admitted to a hospital, including bed and meals, nursing services, services to diagnose and treat an illness, and medical or surgical services. Proposed definition for *Outpatient Services*: Hospital services provided to patients who are not admitted to a hospital. These may include services to diagnose and treat an illness, nursing services, and medical or surgical services. Examples of outpatient hospital services include emergency room care, observation services, and outpatient surgery (also called “day” or “ambulatory” surgery).



*“What distinguishes it [inpatient and outpatient] for me is that you have a bed in the hospital.”*

*“You don’t get a bed and meals unless you are admitted.”*

- When asked to describe “inpatient services”, participants mentioned:

*“Staying overnight”*

*“You get meals”*

*“Getting 24 hour, round the clock care”*

- When asked to describe “outpatient services”, participants mentioned:

*“Diagnostic tests or procedures”*

*“Services that are scheduled in advanced but you go to the hospital because they have the equipment”*

*“Going in for a test or day surgery, a procedure”*

*“Services that take place on the first floor”*

- Most participants indicated they would be more likely to use the term “outpatient/outpatient services” than “inpatient/inpatient services”, or would not distinguish between the two.

*“No I wouldn’t actually say it [inpatient]. I would say I’ve been admitted to the hospital or I’m going to the hospital. I’ve said I’m going to the hospital for an outpatient treatment but not I’m going for inpatient”*

*“We understand what these terms are but [I] don’t think of myself as an inpatient or an outpatient”*

*“Everyone is familiar with these terms, but it is just that we wouldn’t use them in normal conversation. You know them so that when you go to the hospital you know what to look for.”*

- When asked if they would look at inpatient services vs. outpatient services when comparing hospitals, most indicated they considered the hospital as one place, and would not distinguish between whether a service was provided on an inpatient basis or an outpatient basis.

*“I think of it as all one thing”*

*“If I had a bad experience in one [part of the hospital], I think I would say I’m not going back there [to any part of the hospital]. If I have a bad experience I would lump them all together”*

- In general, participants understood the proposed definition for “inpatient hospital services”. Several participants mentioned that the use of the phrase “including bed and meals” was a useful distinction between inpatient and outpatient.

*“I was going to say it earlier but I didn’t. It’s the meals [that means you have been admitted]. You’ve got the TV and you’ve got the meals.”*



- Participants also understood the proposed definition for “outpatient hospital services”. Some mentioned that the bolding of the word “not” helped to distinguish this definition from the definition of “inpatient services”. One suggested adding the term “testing services”.

*“I would include ‘testing services’ because every time I hear outpatient services described I usually hear testing services, such as x-rays, or MRIs.”*

- Some consumer participants, however, were not sure what the term “observations services” meant and one participant suggested adding a definition for “admitted”.

- When probed on the meaning of the word “admitted”, participants described this term as:

*“When you are admitted to the hospital you go to a different ward and different staff treat you”*

*“It’s when you go to a different department and see a particular doctor”*

*“Being admitted means getting a bed”*

## **Efficiency**

Focus group moderators then led a general discussion around the concept of health care “efficiency”. The moderators first asked participants to discuss their understanding of this concept, then provided a definition of efficiency, to gather feedback and reactions and to solicit alternative wording for describing efficiency. Results from these discussions are provided below.

### *Observations:*

- Consumer and professional participants had mixed reactions and interpretations of the term “efficiency”. Most consumer participants equated efficiency to a sense of timeliness. Consumer participants did not generally mention cost saving or appropriateness of care until the moderator brought up these concepts later during the group. Physician participants, in general, equated efficiency to both cost saving and timeliness.

*“For me, the more efficient, the less time you wait.” (Consumer)*

*“If a place was run efficiently there wouldn’t be unnecessary delays or waiting time.”  
(Consumer)*

*“It is not just doing things fast or quickly. That is part of it. But it is also doing things well and doing things that need to be done.” (Consumer)*

*“It means the best outcomes at the lowest cost.” (Physician)*

*“Cost-effectiveness, and minimizing the wait time for people to come see me.” (Physician)*

*“To some patients, less is better but to others they want it to be thorough. Thorough may be more efficient to some patients. Even with some physicians, they don’t care how long it takes to do something, as long as it’s done right.” (Physician)*

- Some consumer participants expressed suspicion over the meaning behind “efficiency”, assuming that the services being provided efficiently would be beneficial for the government but not necessarily for patients.

*“Strikes me as do more with less.”*



*“When I hear a government talk about efficiency, I don’t think they have the best interest of the people in mind.”*

*“To me it’s the faster you can be measured and discharged. But, if you are rushed through and not being cured, then you will have to come back again.”*

*“Efficiency can be done but I just worry about it sometimes.”*

*“Some people I know were kicked out of the hospital early and they had to go back into the hospital for the same thing. If it had been taken care of the right way you wouldn’t have to go back.”*

*“From a patient’s point of you, it’s how quickly you are seen and from the hospital’s point of view it’s how quickly they can get you out.”*

- After reading the proposed definition of efficiency<sup>2</sup>, many consumer participants questioned the meaning of “wasteful”.

*“It sounds so simple but how do you define waste?”*

*“The question is what is wasteful? In some cases, it’s wasteful and in others it’s necessary.”*

*“Is there something that they are throwing away that they could reuse? Are they recycling?”*

- When asked to suggest other terminology to describe efficiency, consumer participants mentioned: *cost-effective, quality and well run.*
- When asked to suggest other terminology for inefficiency, consumer participants mentioned: *duplicative, incompetency, and redundancy.*

## **Measures of Outpatient Medical Imaging**

### ***Understanding of “Medical Imaging” and Reactions to Domain Label***

Following the general discussion of health care “efficiency,” focus group moderators introduced the imaging efficiency measures to the groups. The moderators first provided a draft domain title to the groups (“Measures of Outpatient Medical Imaging”) to explore participants’ understanding of “medical imaging” and gather feedback on the label. Results from these discussions are provided below.

#### ***Observations:***

- Participants generally understood the term “medical imaging.” When asked what it meant, participants offered many examples, including x-rays, ultrasounds, MRIs, mammograms, and CAT scans.
- Based only on the domain label, participants were unclear what the imaging measures were about. A few offered guesses about what would be included in this type of domain, including measures

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<sup>2</sup> The research team used the following definition of efficiency: “The effort to reduce waste and, thereby, reduce the total cost of care.”

of how many patients have the test, of how many times a test (such as an x-ray) needs to be performed, about the accuracy of the test, or about patient satisfaction.

### ***Understanding of and Reaction to the Imaging Efficiency Measures***

In the consumer groups, the moderator then presented a draft table display with three of the four imaging measures.<sup>3</sup> The measure table display was used to prompt further discussion about the concept of health care efficiency, as well as to gather feedback on the individual imaging measures.

In the physician IDIs, interviewers provided the participants with the measure table display, as well as displays with the measure definitions and “Why is this important?” information.

Results from these discussions are provided below.

#### *Observations:*

- Some participants viewed the imaging measures as measures of “efficiency,” but most were using “efficiency” in the sense of saving time or ensuring convenience for the patient. Examples are provided below.
  - One participant interpreted the MRI measure as indicating that the hospital was efficient because it went right to treatment (such as from a chiropractor) rather than spending time waiting to get an MRI.
  - A few participants indicated that the CT scan or mammogram measures were related to efficiency because getting both tests done at the same time, rather than needing to go back for a second test later, would save time.
  - Another participant indicated she would like to see a low number of follow-up mammograms because the tests were painful and inconvenient for the patient.
- Participants struggled to understand all of the imaging efficiency measures and appeared to need additional context, such as benchmarks or parentheticals indicating the directionality of the measure, to help them understand the measure and compare the results.

*“You are showing me three hospitals but what is average? You need a baseline or a benchmark.”*

- Some participants felt that doctors, rather than hospitals, have the larger role in determining which tests patients receive. Two participants thought that the hospital probably also had a role in the number of tests performed, although they were unsure what that role might be.
- Most consumer participants understood the meaning of the MRI measure<sup>4</sup> – that this was a measure about patients receiving an MRI before trying certain treatments. Likely because of the parenthetical included at the end of the measure label “(a lower percentage is better),” most also understood that they were supposed to look for lower percentages. A couple of participants

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<sup>3</sup> Because the two CT scan measures are identical except for the area scanned (thorax vs. abdomen), the team presented only the abdomen CT scan measure during the groups.

<sup>4</sup> MRI measure label: “Percent of patients with low back pain who had an MRI before they had tried certain ways of relieving their pain (a lower percentage is better).”



specifically mentioned unnecessary and expensive tests when explaining the meaning and purpose of the measure.

*“I interpret it to mean that the doctor orders an MRI before PT, or any kind of anti-inflammatories. There are some patients that are very assertive and the doctor says okay, go ahead and have your test.”*

*“It seems like it would be better to try to find ways to relieve the problem before going right to an MRI. It seem like it would be better to have a lower number here than a higher number . . . Because the test would be expensive and maybe not necessary. So if you started with other ways to relieve the problem, that would be better.”*

- While most participants understood that they were supposed to look for lower percentages for the MRI measure, many indicated that they were unlikely to do so. Some were skeptical about who the lower percentage would benefit, and therefore appeared to place limited value on the information. Others seemed to find the information useful but only for seeking out the hospital with the highest percentage.

*“I’m supposed to think it’s a good thing that the hospital held off on an MRI.”*

*“Lower is better for the hospital or better for the patient? If the percentage is 0 that means nobody gets an MRI.”*

*“If I saw a hospital had a high number, instead of the low number they are looking for, I might say they very thorough, they are efficient. That may be the hospital for me. They aren’t afraid to go to Step 10. I don’t want to fool around with Advil.”*

*“I think at first, when I read it, I would think, of course, a lower percentage is better. But if I think about it, I would think no, maybe the higher percentage is better. I want a place that is giving out the test.”*

- The physician participants generally viewed the MRI measure as an efficiency or cost-saving measure. Most seemed well aware that MRIs are expensive and sometimes overused for low back pain. In fact, before seeing the actual imaging efficiency measures, one radiologist used premature MRIs for low back pain as example of an imaging-related inefficiency. While the physicians saw these as efficiency measures, one PCP questioned whether fewer MRIs was to the benefit of patients.

*“I think the idea of MRI being done in an overzealous manner is critical. Certainly, it’s very important for me as the physician – I know what I’m looking for.” (PCP participant)*

*“To keep the costs down, a lower number is better but not necessarily better for the patient.” (PCP participant)*

- When discussing the mammogram measure,<sup>5</sup> most consumer participants seemed familiar with screening and follow-up mammograms and understood that the measure showed the percentage of patients who had a follow-up mammogram. However, most participants interpreted this measure as a quality indicator rather than an efficiency measure. Participants were divided about whether a high percentage of follow-up mammograms was good or bad. Most just seemed unsure about the directionality. Of those that felt they could interpret the direction, most indicated that

<sup>5</sup> Mammogram measure label: “Percent of outpatients who had a follow-up mammogram or ultrasound after having a screening mammogram.”



they would look for higher numbers because it would indicate that the hospital was being “thorough.” A few, however, pointed out that higher numbers could also indicate that the hospital has poorer quality equipment, although they seemed unsure how this would or should affect their use of the information.

*“I would have more confidence in a hospital that had a higher percentage. . . Because the reason to have a follow up mammogram, I’m assuming, is because they saw something in a screening mammogram. I would have more confidence in the higher number.”*

- Several participants indicated that there are factors that would impact hospitals’ results and make it more difficult for them to use the mammogram measure to compare hospital performance. For example, some pointed out that differences in age, socio-economic status, or history of breast cancer between patient populations could affect the results so that they could not be sure which hospital was doing the best.
- Like the consumer participants, many of the physician participants viewed the mammogram measure as a quality indicator rather than an efficiency measure. Two of the PCPs were looking for higher numbers for the measure. One because he thought this was a measure of how often a follow-up was done if the screening mammogram indicated that a follow-up was needed. Another because he appeared to interpret the screening mammogram as the patient’s baseline mammogram and therefore thought it was a measure of how many patients are getting their annual mammogram after getting their baseline. But even after the meaning of the measure was clear, many of the physician participants remained skeptical of the measure’s value as an efficiency measure.

*“You should err on the side of doing an unnecessary mammogram to pick something up early.”  
(PCP participant)*

- Participants had significant difficulty understanding the CT scan measure.<sup>6</sup> Participants seemed generally less familiar with CT scans than with MRIs and mammograms and very few were familiar with the use of contrast dye for these scans. Without a clear sense of the purpose of the contrast dye, most participants were unsure what the measure was about and whether they should be looking for high or low numbers. Of the few that identified the direction, nearly all stated that they would look for high numbers because it indicated “thoroughness.”

*“Do you only use the dye if there’s some question on the first one?”*

*“It means on the first CT scan, if everything is normal then you would want [the second CT scan] because it’s better to be safe than sorry. I’m not sure – I’m a little more confused by this one than the others.”*

*“I would think they are being more thorough. So I would have more confidence in a hospital with a higher percentage.”*

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<sup>6</sup> CT scan measure label: “Percent of outpatients having a CT scan of the abdomen who are given a “combination” CT scan (one CT without contrast dye followed by a second CT that uses contrast dye.)”





### ***Relevance of Efficiency vs. Patient Safety***

While the discussion mainly focused on the imaging measures as measures of efficiency, toward the end of the group, the team introduced the idea that some of these could also be used as measures of patient safety. The moderator provided draft language for a “Why is this important?” section, which allowed researchers to explore participants’ reactions to the measures as both measures of efficiency and of patient safety. Results from these discussions are provided below.

#### *Observations:*

- As mentioned above, most of the participants did not view the imaging measures as measures of efficiency, i.e., as measures indicating that hospitals were avoiding unnecessary tests and wasteful spending. Instead, nearly all of the participants attempted to use the measures as quality measures, i.e., indicators that hospitals were providing “thorough” care. When consumers talked about these as efficiency measures, the discussion focused on saving patients’ time.
- When given “Why is this important” language that included references to both saving costs and ensuring patient safety, most of the physician participants keyed in on the patient safety issues as the more important issue, particularly for the CT scan measures.

*“I think the explanation is a good one – the concern here is safety, more than cost. . . . I think patients would key in on unnecessary radiation exposure – you should just say that.”  
(PCP participant)*

*“I think [patient safety] is something patients want to look at. I guess the last two [measures] would be safety issues. Not so much the first two. I like the term safety more for the last two.”  
(Radiologist participant)*

- The language in the “Why is this important?” information<sup>7</sup> stated that these measures could be used to see how well hospitals do in limiting wasteful health care spending. Most of the consumer participants, however, were unswayed by the language and a few reacted very negatively to the language. Several felt that wasteful health care spending was something that insurance companies should be concerned about, rather than consumers. Others felt that it could be useful to know which hospitals gave unnecessary tests, but that they could not be sure what was truly unnecessary or wasteful. Only one participant indicated that the efficiency aspect of the measures should play a role in hospital selection.

*“There are two different things going on here. One is about care and one is about money. We only care about care. They care about money. I am rethinking my numbers. I don’t care what it costs. I want the best care. I am working and I am paying for my insurance. I want my MRI! I am afraid that to show good numbers they are going to cut back on patient care.”*

*“The primary thing is going to be our care. If we think we need a test, we want that test. But I think we would all agree that if we heard about a patient getting an MRI for a paper cut that*

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<sup>7</sup> “Why is this important?” information: “These measures provide information to help judge the quality and safety of certain types of medical imaging hospitals do for their “outpatients.” Quality and safety includes keeping patients’ exposure to radiation as low as possible, following quality of care guidelines for when and how certain types of medical images should be done, and following up appropriately on results of medical imaging. These measures also provide information about how well hospitals limit wasteful health care spending by avoiding unnecessary or inappropriate outpatient medical imaging.”





*would be clearly wasteful. But you don't know all those details just by these numbers. So it's difficult to know what to make of them."*

*"This is a way to let people like us make choices about where we want to get our care. And if we have a way to know which hospital is more efficient plus which give good care, then that will benefit the hospitals that are doing a good job."*

- The "Why is this important?" information also indicated that the imaging measures could be used as measures of patient safety. Participants generally did not bring up the issue of patient safety or radiation exposure prior to these concepts being introduced to them.
- Once the radiation exposure was introduced, some of the participants became more interested in the measures. They interpreted them as measures of quality or safety because they indicated whether the hospital was limiting patient exposure to radiation.

*"Exposure to radiation is a big risk."*

*"It's very important – high exposure to radiation is not good for you."*

*"I changed mind about the importance because we're talking about quality and safety."*

- For others, however, the issue of radiation exposure had little impact on their impression of the measures. A few indicated that they would not consider radiation exposure to be an important issue because they thought that getting the test was more important than limiting their exposure to radiation. A few others seemed skeptical about whether the measures had anything to do with patient safety.

*"With my MRI, I thought to myself 'I need it,' so I didn't worry about stuff like [radiation exposure]."*

*"The cynic could say the reason they are putting in the part about radiation is because they want to cut the costs. It's like saying to your kid, I don't want you to have that toy because it's dangerous, but it is really because it is expensive."*

*"I'm reading this and going back to the original question . . . Those percentages are not based on safety and quality. So I don't think this has anything to do with the measures."*

### **Measures for Outpatients Treated in the Emergency Room (ER) for Chest Pain or Heart Attack**

Focus group moderators introduced the outpatient heart attack/chest pain measures to the consumer groups. Moderators first presented a draft domain title to the groups ("Quality of Care Measures for Outpatients Treated in the Emergency Room (ER) for Chest Pain or Heart Attack"), and then presented a draft table display with the five outpatient heart attack/chest pain measures. Results from these discussions are provided below.

#### *Overall Observations:*

- The majority of participants were able to comprehend these measures. In addition, consumer participants thought that these measures were easier to understand, compared to the imaging efficiency measures.

*"I would want to see these. These are more concrete [than the efficiency measures]."*

*“I think the imaging measures were a little more abstract – these are more specific.”*

*“That [the heart attack/chest pain measures] seems to give me information that I would make a decision on. Those are all legitimate concerns. That is quantitative. They are not fooling around with cost or anything else. That is efficiency, knowledge.”*

- A few participants (both consumer and provider) had some difficulty understanding the difference between the first two measures (how quickly outpatients got medicine to break up clots vs. the percent of patients who were given medicine to break up clots). Those who did understand the distinction between the two did not see the need to have both measures.

*“The phrasing of the second one is in contrast to the first. There is an extra step of cognition involved. A lower number in one case, higher in the other.” (PCP participant)*

*“One is time and one is the number of patients. I would just state the first one. I don’t care about number 2. If you have number 1, you don’t need number 2.”*

- When asked whether they preferred to see the measure reported in terms of time or percent, consumer participants had mixed responses.

*“Maybe the minutes [is easier]. Maybe that gives me a better idea? I don’t know. I’m not sure.”*

*“I am leaning toward the percentage. Because not everyone is going to know how many minutes would be the right number.”*

*“Percentages are a little less certain. [The measures should be] clear, objective, and literal. [So] fewer percentages.” (PCP participant)*

- In general, consumer participants did not perceive a difference between *quality* of care and *efficiency*. Several participants considered the heart attack/chest pain measures as measures of efficiency, because they provide information on how timely patients receive services in the emergency room. Others thought they were a combination of quality and efficiency.

*“These are efficiency measures, because you are saying how quickly they are being treated.”*

*“You are measuring the efficiency within the ER.”*

*“The first set of measures was related to ‘quality and safety’. The second [this] set is ‘quality and efficiency’”*

### **Measures for Outpatient Surgery**

Focus group moderators also introduced the outpatient surgery measures to the consumer groups. Moderators first presented a draft domain title to the groups (“Quality of Care Measures for Outpatient Surgery”), and then presented a draft table display with the two outpatient surgery measures. Results from these discussions are provided below.

#### *Overall Observations:*

- The majority of participants were able to comprehend the outpatient surgery measures and thought that they were easier to understand, compared to the imaging efficiency measures.

*“These are critical from a patient perspective. These are black/white. These are easily measurable, useful, non-controversial. The first set [efficiency] was tougher to measure, not black/white.” (PCP participant)*

- Most consumer participants assumed hospitals would always provide the correct antibiotic at the right time. Several thought these measures could be combined.

*“I don’t think you need both of these. If I’m having surgery I assume I’m going to get the right antibiotic at the right time – 100% of the time.”*

*“All of those should be 100% -- anything less is unacceptable; you can combine the two – right time, right kind”*

### **Organization of New Measures**

The focus group discussions also sought input on options for organizing the information on the site once the new measures are added. To prompt this discussion, the team displayed two possible options for the organization:

- *Option 1:* Users select their geographic area, then select whether they would like to see inpatient or outpatient information. Under inpatient, they select one of five different types of inpatient measures (surgery, heart attack, heart failure, pneumonia, or children’s asthma care). Under outpatient, they select one of three different types of outpatient measures (surgery, heart attack/chest pain, or imaging).
- *Option 2:* Users select their geographic area, then select one of six options for the type of information (information about a specific medical condition, surgery, complications and deaths, outpatient medical imaging, patient experience, or all information). Under the medical condition option, users select one of four medical conditions (heart attack, heart failure, pneumonia, or children’s asthma care). Under heart attack care, users would see both the inpatient and outpatient measures.

The moderators showed the two options to each group, seeking feedback on each, as well suggestions for other ways to organize the information. Results from this discussion are provided below.

#### *Overall Observations:*

- Participants strongly preferred Option 2, citing the following reasons for this preference:
  - Many participants indicated that they would want to search for information about a specific condition. (While Option 1 also lets consumers see information by condition the step to narrow by condition is later in the pathway, after users have selected inpatient or outpatient information. It appears that the participants preferred that Option 2 let them narrow by condition earlier within the search pathway.) The participants indicated that Option 2 was more consumer friendly, while Option 1 appeared more appropriate for professionals:

*“If you’re comparing success rates, efficiency rates, whatever – break it down by condition because everyone cares about their own situation. If I’ve had a heart attack, I don’t care about a mammogram.”*



*“I like to look at information about my condition. Looking at information all together is more useful for an administrator but not for the individual.”*

*“If I was going to a website, I would go by what my health problem was . . . A hospital administrator would think of it as inpatient or outpatient. But if I am having chest pains, that is what I would be looking for.”*

- Several participants also liked that Option 2 allowed them to see inpatient and outpatient measures (specifically for heart attack) on the same page. Participants cited two advantages to this feature. First, it allowed them to see all of the information about heart attack together, which was especially important for this condition since, if they had a heart attack, they would not know in advance whether they would be treated on an outpatient basis or if they would be admitted to the hospital. Secondly, putting both inpatient and outpatient information on the same page for other conditions would allow them to more easily determine whether hospitals were performing well for the condition in both settings or only for one setting.

*“Maybe you don’t differentiate between inpatient and outpatient for heart attack. Because one could lead into the other.”*

*“It could be interesting to compare the inpatient and outpatient. So if you go to a condition and you could see both, then you could say, hey are they good with cardiology or are they only good with inpatient?”*

- Several participants were concerned about using the first option because they thought that some consumers would not know the difference between inpatient and outpatient services.

*“I don’t know how many people are going to think of themselves as inpatient or outpatient.”*

- Two participants indicated that they would like the option to search multiple ways for the information. One of the participants stated that he preferred Option 2 but that he would like the site to include a search similar to Option 1 as well.
- Several participants were unsure about the difference between heart attack and heart failure.
- Several participants stated that they expected to see or would like to see additional conditions listed.

### **Recommendations/Implications for Next Round of Research**

Our findings from the formative round of research suggest the need to continue exploring the most appropriate and useful ways to introduce and display the imaging efficiency measures. Our findings also indicate the need to further refine and consumer test explanatory language around the concept of efficiency as well as language and terminology for displaying the imaging efficiency measures.

Recommendations for the next round of research are provided below.

#### ***Imaging Efficiency Measures***



Findings from the formative research indicate that the imaging efficiency measures are not intuitive to consumers. Consumers will need considerable explanatory language to be able to interpret and to use these measures.

*Recommendations for next round of research:*

- Continue to research consumers' comprehension of the four imaging efficiency measures.
  - Develop and consumer test domain and measure labels for the imaging measures.
  - Refine and continue to consumer test definitions of and explanatory text to introduce and provide context around the measures.

***Heart Attack/Chest Pain Measures***

Findings from the formative research indicate that, in general, consumers understand these measures. During the formative round of research, the L&M team focused primarily on testing consumers' comprehension of the domain label and measure labels, and did not test any accompanying explanatory language with consumers.

*Recommendations for next round of research:*

- Consumer test the explanatory language around these measures, including the "brief explanation" and the "why is this important" text.

***Outpatient Surgery Measures***

Findings from the formative research indicate that, in general, consumers also understand these measures. These measures were also consumer tested as part of a previous project last year.

*Recommendations for next round of research:*

- Consumer test the explanatory language around these measures, including the "brief explanation" and the "why is this important" text.