Staying alive:
Towards a diverging consensus model of overcoming a bias against novelty in groups

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Abstract

Organizations that desire creativity often employ groups like task forces, decision panels and selection committees with the primary purpose of evaluating novel ideas. Those groups need to keep at least some novel ideas alive while also assessing the usefulness of ideas. Research suggests, however, that such groups often prefer proven ideas whose usefulness can be easily predicted and reject novel ideas early in the course of discussion. How those groups deal with the tension between novelty and the predictability of idea usefulness in the process of overcoming a bias against novelty is therefore an important question for understanding organizational creativity and innovation. We explore that question with a qualitative study of the discussions of 4 healthcare policy groups, who confronted the tension early in the process of evaluating ideas. Unlike prior work that emphasizes how groups integrate tensions to build consensus around ideas, our study showed that overcoming a bias against novelty involved maintaining tension by fracturing a group's shared understanding of usefulness and retaining those divergent perspectives alongside moments of consensus. We describe this as a diverging consensus model of overcoming a bias against novelty. Our work contributes to the literature examining how groups can productively engage with tensions, and provides a dynamic process for how groups might overcome the bias against novelty and so keep some novel idea alive to fuel organizational creativity and innovation.

Novel ideas—ideas that depart from current practice—are key to solving complex unstructured problems with unique requirements (Amabile and Pratt 2016; Diedrich et al. 2015; Harvey 2014). To reap the advantage that novel ideas can bring, organizations often employ consensus-based problem solving groups to recommend ideas to pursue. Yet, research has uncovered a deep irony; consensus-based problem solving groups like R&D selection panels (Criscuolo et al. 2017), groups assessing crowdsourced ideas for innovation (Piezunka and Dahlander 2015), and review teams of prestigious journals (Siler and Strang 2017), tend to build consensus around and recommend ideas that are low in novelty—even when highly novel ideas are required to solve the problem at hand. This suggests that consensus-based problem solving groups often experience a bias against novelty, which has been shown to occur when ideas are first encountered and persist even when novel ideas are desired (Mueller et al. 2018) and high in quality (Boudreau et al. 2016).

Theory suggests that the process of building consensus can evoke a bias against novelty because consensus is easier to achieve for low novelty ideas. This is because a central tension exists between novelty and the extent to which one can predict whether a novel solution is also useful (Miron-Spektor and Erez 2017). Ford, Sharfman and Dean (2008) describe the process of building consensus around recommendations as one of reducing uncertainty about the usefulness of alternatives—often before ideas have been implemented. Research has long underscored that the more novel an idea, the less is known about its actual usefulness until after implementation (Simonton 2003; Van de Ven 1988). Because the usefulness of novel ideas is relatively uncertain, it is more difficult for consensus-based problem solving groups to obtain consensus to move novel ideas forward. Further, consensus-based problem solving groups are often accountable to others in the organization should their recommendations fail (Cohen and Bailey 1997), which further heightens the perceived tension between novelty and predictability of idea use (Mueller et al, 2018).

Yet, anecdotal evidence and studies of groups engaged in solving complex problems also shows that consensus-based problem solving groups can keep novel ideas alive. For example, at 3M, a group of managers developed consensus to keep the Post-it note alive even in light of poor initial sales metrics that meant the usefulness of the idea remained ambiguous (Mueller 2017). Research similarly

shows how some groups navigating complex problems can put novel recommendations forward (e.g., Harvey and Kou 2013; Majchrzak et al. 2012). A critical question is therefore: how do consensus-based problem solving groups keep some novel ideas alive, so that those ideas can develop, gain support, and be implemented to solve complex problems?

Prior research has often overlooked the role of consensus-based problem solving groups in keeping novel ideas alive because it has advocated that brainstorming and other ideas generating groups *avoid* the tension between novelty and predictability of idea usefulness to keep novel ideas alive by delaying consensus. Like idea generating groups studied in the creativity literature, consensus-based problem solving groups can generate alternative solutions (Laughlin 1988), but they do so in the course of developing agreement around which solutions to recommend to others in the organization (Cohen and Bailey 1997; De Dreu and Weingart 2003; Vroom et al. 1969). Therefore, rather than generating or producing ideas, building consensus around novel solutions is at the heart of what problem solving groups do in dealing with complex problems requiring creativity (De Dreu and Weingart, 2003). Yet, consensus-based problem solving groups cannot indefinitely delay consensus to keep novel ideas alive, and as a result, experience the tension between novelty and predictability of an idea's use most acutely.

Other streams of creativity and groups research suggests it may be possible to build consensus for novel ideas by *resolving* the tension between idea novelty and the predictability of its usefulness. Specifically, this work theorizes that reconciling diverse evaluation criteria, ideas, and opinions to create a unique and nuanced shared understanding may help keep novel ideas alive (Harvey and Kou 2013; Harvey 2014). Shared understanding can develop in a group through deep dialogue over many iterations over time (Bechky 2003; Harvey 2014; Tsoukas, 2009). However, because that work views shared understanding as fundamental for building consensus, it does not unveil how groups build consensus for and retain novel ideas when they are first encountered, before shared understanding has developed, and when novel ideas are most vulnerable to rejection (Mueller et al 2012). Instead, theory from the group creativity literature suggests that if groups come to consensus early on they will evaluate ideas based on implicit or automatic evaluation criteria of idea dimensions that are easy to

assess (Cronin and Weingart 2007, Reiter-Palmon et al. 1997), fail to integrate ideas (Harvey 2013, Stasser and Titus 1985), and compromise when choosing between ideas (Holloman and Hendrick 1972, Mohammed & Ringseis, 2001). Those processes favor low novelty ideas. As prior work has not examined how groups keep novel ideas alive while shared understanding is emerging, it is unclear how groups disrupt those implicit, automatic evaluation criteria to preserve novelty or make collective sense of novelty and usefulness in the absence of shared understanding about those dimensions.

In our research, we aim to systematically explore how groups deal with the tension between novelty and predictability of idea usefulness to overcome the bias against novelty by examining episodes in which groups develop consensus about ideas that emerge during their early interactions. We present a qualitative study of the discussion practices through which groups build consensus for novel ideas during those idea episodes in 4 healthcare policy groups. The groups are consensus-based problem solving groups tasked with recommending novel courses of action to improve the healthcare domain. Our study builds on the insight that tensions in the creative process may be embraced in productive ways (Andriopoulos 2003; Farjoun 2010; Gebert et al. 2010; Harrison and Rouse 2014; Lingo and O'Mahony 2010; Miron-Spektor et al. 2011; Murnighan and Conlon 1991; Putnam et al. 2016; Schad et al. 2016; Smith and Lewis 2011). Whereas prior work has emphasized avoiding or resolving tensions to keep novel ideas alive, we find that groups build consensus around novel ideas by *maintaining tension* between novelty and predictability of usefulness and preserving divergent evaluation criteria, ideas, and opinions rather than integrating them. We describe this as a model of *diverging consensus*. Our model contributes to understanding the roles of evaluation and tension in creative processes and provides new insights into how groups can overcome a bias against novelty.

THEORETICAL UNDERPINNINGS: BUILDING CONSENSUS FOR NOVEL IDEAS IN PROBLEM SOLVING GROUPS

To shed light onto the processes through which problem solving groups build consensus for novel ideas during their early interactions, we define consensus as a dynamic processes that unfolds over time through the course of groups' ongoing generative work (Chia 1994; Harrison and Rouse 2014; Harvey and Kou 2013). The process of building consensus entails evaluations that begin when

ideas first arise, as groups explicitly and implicitly navigate which ideas to keep alive and develop further versus which ideas to let go, while those ideas are still nebulous, ill-defined, and developing. When novel ideas arise, groups can choose to discuss, build on, or integrate an idea or not, as do brainstorming groups during idea generation (Harvey 2013); allocate time and cognitive effort towards developing one idea versus another, as Hollywood producers do when they co-develop a script with a writer (Elsbach and Kramer 2003); or explicitly compare ideas and select between them, as angel investors do when they nurture and elaborate entrepreneurial ideas (Huang and Pearce 2015). Thus, building consensus may involve explicit choices, but it may also occur when a group forgets or stops attending to an idea (e.g., Harvey and Kou 2013; Jackson and Poole 2003). Each of those events presents an opportunity for retaining a novel idea for further development or eliminating it from the creative process (Mumford et al. 2002).

Prior research has overlooked many of those processes because it has primarily examined the process of building consensus in problem solving group contexts where novelty is not required to solve the problem at hand (e.g., Bales and Strodtbeck 1951; Hirokawa 1983; Vroom et al. 1969). In cases where novelty is not required, it can be more straightforward for groups to build consensus as members can demonstrate the usefulness of low novelty solutions to one another and so make accurate recommendations or correct decisions (Laughlin 1988). However, as solutions become more complex and ambiguous to assess, so that they are a matter of judgment rather than intellect or calculation, groups are increasingly subject to a variety of biases that influence which ideas they develop consensus for (e.g., Stasser and Titus 1985).

The process of building consensus can lead to a bias against novelty because it highlights the tension between novelty and the predictability of an idea's use in at least four ways. First, the process of assessing ideas necessary to build consensus encourages groups to rely on known criteria that are easy to evaluate and defend to the group (Hsee, 1999), which may lead to a preference for low novelty ideas (Harvey and Kou, 2013). For example, when the digital camera was first developed, experts in film—the dominant technology of the day—assessed the digital camera as low in usefulness because it offered poor picture quality (Moreau et al. 2001). What experts could not predict was that

consumers found the immediacy and lower development costs of digital cameras to be more useful. Employing standard evaluation criteria that could be easily assessed resulted in a bias against novelty.

Second, consensus-based problem solving groups are often not responsible for implementing the ideas they recommend. Hence, these groups cannot reduce the tension between novelty and predictability of idea usefulness by gathering information about how useful their novel ideas are via implementation efforts (e.g., prototyping, experimentation). Third, consensus-based problem solving groups are often accountable to others in the organization if their recommendations should fail. Research shows that accountability pressures can evoke a mindset that prioritizes predictability and correctness, leading to a bias against novelty when making recommendations (Mueller et al, 2018). Fourth, prior research shows that the bias against novelty is automatic (Mueller et al, 2012), likely because the tension between novelty and predictability of an idea's use is highest when people first encounter an idea they know relatively little about. The process of needing to develop consensus may exacerbate group members' tendency to conform to any initial voiced reaction—which in the case of a novel solution is likely to be negative. Therefore, as problem solving groups build consensus for an idea, they are likely to prefer predictably useful ideas over novel ideas during the earliest phases of idea evaluation and discussion and so reject novel ideas (Mueller et al., 2012; Harvey and Kou, 2013).

The approach to dealing with this problem traditionally recommended in the creativity literature has been to avoid the tension by using structural solutions that delay consensus by separating it from idea generating processes (e.g., Osborn 1957; Paletz and Schunn 2010). However, consensus-based problem solving groups cannot avoid this tension, as they must begin to move ideas towards recommendation. The question remains how consensus-based problem solving groups might engage the tension between novelty and predictability of an idea's use in ways that help keep novel ideas alive during the earliest phases of evaluation when novel ideas are most likely to be rejected.

Building consensus by resolving tensions

Research suggests that, alternatively, problem solving groups build consensus in favour of ideas by developing shared understanding. This entails resolving tension. Specifically, prior work suggests that groups reconcile tensions and develop shared understanding in at least three ways—by

building a shared problem framework that reconciles diverse evaluation criteria, by integrating multiple ideas into a collective group product, and by reconciling divergent opinions to come to group decisions. Some work suggests that in some cases, it is possible to build consensus for novel ideas through this approach (Harvey and Kou 2013).

The first way that groups build shared understanding is by integrating divergent evaluation criteria into a shared problem framework to guide the way they assess and evaluate ideas. People often hold different and competing evaluation criteria for the same product (Dougherty 1992). Those differences are a significant source of tension in groups (Sherif 1958; Smith and Berg 1987). The tension can be resolved by integrating criteria into a shared understanding that provides a basis for recognizing and assessing ideas (Okhuysen and Bechky 2009; Tindale et al. 1996). A shared framework of evaluation criteria can aid creativity (Reiter-Palmon et al. 1997) by endowing a group with a unique interpretation of a problem that facilitates generation of novelty, while allowing group members to converge in their assessments of ideas (Harvey 2014; Paletz and Schunn 2010).

The second way that groups resolve tensions to build a shared understanding is by integrating different ideas into a single collective product or solution. Divergent idea generation helps groups to develop novel ideas, but groups with a diversity of ideas are likely to experience tension as their ideas compete for attention and resources (Miron-Spektor and Erez 2017). Groups can resolve this tension by building on one another's ideas (Kohn et al. 2011) and integrating ideas into one solution or product (Hargadon 2002). The process of integrating ideas is likely to involve moving from an abstract and unformed idea to something more concrete, like a prototype or artefact that provides a literal interpretation of the abstract concept. Using concrete artefacts and visual representations of ideas helps group members to communicate ideas (Bechky 2003; Stigliani and Ravasi 2012) and can make them easier to assess by providing information about how the ideas may work in practice (Carlile 2002; Perry-Smith and Mannucci 2017). That can provide further opportunities for elaborating or changing the ideas. Making ideas concrete can therefore help to integrate a divergent set of ideas into a single novel product.

The third way that groups resolve tensions to build a shared understanding is by integrating individual opinions into collective judgements and decisions. Doing so moves groups from disagreement to agreement. Disagreement over options is another fundamental source of tension in groups (Jehn 1995; Smith and Berg 1987) and resolving differences is generally considered necessary for effective group functioning (Behfar et al. 2008, Mohammed and Ringseis, 2001). Collaborative dialogue helps resolve tension by integrating divergent opinions into consensus over the course of discussion (Bechky 2003; Harrison and Rouse 2014; Lovelace et al. 2001; Tsoukas 2009). Through discussion, group members can come to see connections between or similarities in their ideas that allow them to reconcile different opinions. As a result, composing groups of members with a variety of perspectives and cognitive approaches stimulates dialogue and transforming those views into agreement moves groups towards implementation (Andriopoulos 2003; Lovelace et al. 2001; Miron-Spektor et al. 2011).

Whereas resolving tensions allows groups to build consensus for ideas, it may still be difficult for groups to develop the kind of shared understanding that keeps novel ideas alive during the earliest phases of discussion. Research shows that shared understanding developed early on in the course of decision-making that is not the result of careful deliberation and deep discussion is one marker of a biased decision-making process (Janis 1982; Mesmer-Magnus and DeChurch 2009; Tindale et al. 1996). Correspondingly, developing shared understanding that supports novel ideas is likely to take time and deep engagement with ideas and with others in the group (e.g., Harvey 2014). Moreover, research has not unveiled how groups overcome their initial, implicit assumptions and make sense of novelty and usefulness before true shared understanding has emerged.

Recognizing these challenges, prior research has turned to structural and interpersonal solutions as alternative avenues for building consensus for novel ideas. For example, idea champions, leaders, and high status group members can help to integrate divergent opinions by helping others in an organization to envision novel ideas and creating passion for those ideas, while also securing resources for developing and implementing the ideas (Perry-Smith and Mannucci 2017). Our goal in the present paper, however, is to refocus attention on early phase group process to understand how

groups can *collectively* engage with the tension between novelty and the predictability of an idea's usefulness to build consensus for novel ideas.

Building consensus for novel ideas while maintaining tensions

An alternative perspective suggests that tensions are never entirely resolved and so repeatedly resurface over time (Farjoun 2010; Poole and Van de Ven 1989; Putnam et al. 2016). This implies that even if group members are able to develop consensus around a concrete idea, conflicts and incompatibilities between their interpretations of and perspectives on the idea may create new tensions (Benson 1977). In order to develop consensus for novel ideas, groups may therefore require processes and practices for productively maintaining the tension between novelty and predictability of usefulness during idea evaluation. Recent research hints at three alternative ways that groups may maintain, rather than resolve, tensions while building consensus for novel ideas.

First, rather than developing a shared understanding of evaluation criteria, some studies have found that group members can use one another's ideas and knowledge in producing and assessing novel ideas while maintaining different interpretations. Specifically, groups can rely on loose semi-structures like routines and scaffolds to develop novel solutions and integrate knowledge (Majchrzak et al. 2012). Semi-structures provide sufficient overlap for members to coordinate inputs, without requiring complete convergence in collective knowledge (Valentine and Edmondson 2014). Importantly, that mix of convergence and flexibility has been linked to creativity (Miron-Spektor et al. 2011). However, that perspective has not yet been integrated into our understanding of how consensus-based problem solving groups deal with the tension between novelty and predictability of idea use as they attempt to build consensus for novel ideas.

Second, studies have recognized that the initial retention of an idea in group discussion must occur before ideas are well enough developed to be interpreted and translated literally into concrete ideas like prototypes, as ideas often change substantially between initial consensus and selection (Amabile and Pratt 2016). For example, entrepreneurship literature has noted that investors sometimes view ideas as placeholders that will evolve significantly over time, so early stage idea selection is often based on characteristics of founders rather than on the basis of ideas (Huang and Pearce 2015).

Long-Lingo and O'Mahoney (2010) provide an example of how country music producers maintain tension at early stages in the process by winnowing down and developing loose agreements about which songs to record before producing songs. The final form of songs remained ambiguous during that process, as production was where the "studio magic" (Long-Lingo and O'Mahoney 2010, pg 67) of the final version was created. This approach is consistent with a view that ideas are social constructions whose boundaries can be interpreted and reinterpreted through group discussion (Tsoukas 2009). Ideas can therefore develop and shift over time through group discussion, rather than remaining as literal interpretations of an initial choice.

Finally, some research raises questions about the extent to which integrating opinions is necessary before moving forward with new ideas. Certainly, some differences between group members are incompatible and cannot be resolved (Cronin and Weingart 2007). Groups who produce highly novel ideas, like dance troupes and video game developers, tend to move between exploring and navigating constraints (Goh et al. 2013; Harrison and Rouse 2014; Miron-Spektor et al. 2011) and between generating and converging on novel assessment criteria (Long-Lingo and O'Mahony 2010), perhaps never realizing a point at which consensus is reached and further divergence is minimized. For instance, Murnighan and Conlon (1991) described how, when string quartets disagreed about how to play a piece (which constituted a novel idea in that context) they would retain both ideas by performing it first one way and then another. Therefore, integrating opinions is not always necessary for building consensus in favour of novel ideas.

RESEARCH SETTING AND APPROACH

Building on insights from our review of the literature, we examine the processes through which consensus-based problem solving groups engage with the tension between novelty and predictability of idea use to build consensus for novel ideas before shared understanding around novelty and usefulness has emerged. We developed a set of detailed analytic questions based on our review to guide our analysis: How do group members overcome their initial automatic reliance on criteria that are easy to assess and that point them towards lower novelty ideas? How do they make collective sense of the novelty and usefulness of ideas early on? How do these groups resolve internal

disputes without evidence to of the usefulness of ideas or which evaluation criteria are most important gained through implementation efforts? How do they move novel ideas forward without total agreement?

We examined the verbatim discussions of four cross-functional, cross-organizational groups who developed policy recommendations for the use of electronic information technology in the health care industry. These groups determined which ideas would be passed along for further development to the Secretary of Health and Human Services (HHS). Groups met for two years, but our study focuses on the groups' first five meetings, after which an initial set of recommendations was due. Groups met once per month, often virtually, and audio recordings of their meetings were publicly available. The groups worked on four policy issues: using information technology to treat chronic diseases (we label that group CD); using patient data for public emergencies (group ES); establishing a system for patients to manage their health records (group HR); and using patient data across the health care system (group PD).

Harvey and Kou (2013) drew on the same data as our study to explore the creative processes of these groups and revealed how evaluations were situated throughout group interactions and intertwined with the groups' generative processes. Importantly, the unit of analysis in the Harvey and Kou paper was the group process aggregated across many ideas irrespective of how novel ideas were or were not. In contrast, as we will describe later in the methods section, the unit of analysis in the current paper involves group discussion around an individual idea. Based on their findings, Harvey and Kou theorized that evaluating ideas early on in group interactions may enable groups to build a common problem framework that may help them assess and positively value novel ideas over time. Instead, our research question requires examining how groups built consensus around individual ideas that arose early on in group discussion, while a common framework would still have been developing. Further, studying our research question required adding new data about the extent to which the ideas proposed by the groups were high or low in novelty.

This setting was appropriate for this new research question because group members had a variety of perspectives, ideas, and opinions at the beginning of their interaction, and faced the tensions

between novelty and predictability of idea use. To accomplish their tasks, groups had to consider ideas that ranged in novelty. Ideas could be generated by individual group members, imported from their broader networks and presented to the group, or could emerge during group discussion. Groups desired ideas that were high in novelty because they wanted to make significant improvements to healthcare, but the technological solutions for doing so were in early stages of development during the period of our study and considering ideas for how to implement those solutions required reimagining the way that practitioners and patients could interact. Groups also had to think critically about the impact and implementability of their ideas as they were accountable for their recommendations, although the group itself would not implement ideas. This context was ideal for examining our theoretical question because it brought our phenomenon of interest to the surface (Glaser and Strauss 1967); groups wanted to build consensus for novel ideas, yet also retain useful ideas. The context also helped to isolate the phenomenon of interest from some of the structural and interpersonal factors that have been used to explain how groups build consensus for novel ideas. The groups in our study did use several of the structural solutions for retaining novel ideas—groups were diverse, they existed at the nexus of a several organizations and fields and so were isolated from specific firm cultures, and connected people across those organizations. Despite that, they often rejected highly novel ideas. In addition, the interpersonal dynamics that characterize traditional groups were muted in this context. Although members were committed to group goals, their time was not fully dedicated to the group and meetings were often virtual. These conditions meant that group members were not fully immersed in the dynamics of the group. Power and status dynamics also played a relatively minimal role in these groups. Members were drawn from different domains and many were of similarly high status within their respective domains, so that status differences were less salient. Groups had facilitators but no clear leader who exerted a strong influence on group decisions.

Meetings lasted anywhere from one hour to over four hours. The average number of members attending each meeting was between 13 and 18. Group members included members of the health care community (e.g., doctors, nurses), private health care professionals (e.g., insurance companies, internet-based medical services), information technology experts (e.g., executives from IT

companies), and government agencies (e.g., the Veterans' Association, the U.S. Treasury).

METHODS

We used a qualitative inductive process analysis (Langley 1999; Van de Ven and Poole 1995) to build theory by analyzing verbatim transcripts of groups as they developed recommendations. This was appropriate as prior work has not explicitly examined how groups confront the tension between novelty and predictability of idea use in ways that allow them to build consensus for novel ideas (Eisenhardt 1989). Specifically, we coded group interactions to identify and examine ideas discussed by the four groups, creating a set of 41 idea episodes (e.g., Bailey et al. 2010; Metiu and Rothbard 2013). Each episode captured the verbatim discussion of a focal idea until a consensus emerged about the idea; it therefore contained the complete discussion of one idea within a meeting. Those episodes acted like case studies that allowed us to compare processes in which novel ideas were retained and kept alive in the group discussion versus those in which novel ideas were rejected (Eisenhardt and Graebner 2007; Langley 1999). We only included ideas in the dataset if they were particularly high or low in novelty, and if the group came to consensus about whether to retain or reject the idea.

Analytic Strategy

Our analysis consisted of three stages that resulted in 22 episodes of retaining novelty and 19 idea episodes of rejecting novelty, allowing us to compare the two processes. We first coded the episodes to reveal group interactions involved in each process, and then compared episodes to examine the process of building consensus to retain novel ideas in detail.

Stage I: Producing idea episodes. In the first stage, we developed episodes to describe a single focal idea. Episodes began when an idea was introduced to the group and ended when the group reached consensus on the idea. We first identified points at which ideas were introduced to group discussion by grounding ourselves in the data and using ideas as focal events (Abbott 1990) to develop a coding scheme that described the activities involved in group discussions over time. The resultant coding scheme included the introduction of an idea, discussion of an idea, and emergence of consensus about the idea. Other ideas may or may not have been discussed during the episode; where other ideas were discussed, we developed a separate episode to capture the full discussion of that idea,

but kept track of its discussion within the context of the focal idea (e.g., by coding a break during discussion of the focal idea of that episode). We developed episodes for all of the ideas that were either high or low in novelty and that were retained or rejected by a group.

Stage II: Theoretically sampling idea episodes. Consistent with a grounded approach to data analysis (Suddaby 2006), we theoretically sampled idea episodes to maximize variance in terms of the novelty of ideas being discussed and kept alive, the key construct in our theory. Specifically, we sample only those processes that we could reliably classify as associated with high or low novelty ideas. This provided the greatest variance for comparing the process of keeping novel ideas alive to the process of rejecting novel ideas in favour of more familiar alternatives.

We used a two-step procedure to identify the highest and lowest novelty ideas based on coding group members' descriptions of ideas to their groups. First, we drew on Loewenstein and Mueller's (2016) examination of over 2,000 participants in the US and China to identify cues that indicate high or low novelty. Ten cues indicated novelty: paradigm shift, breakthrough, potential, rare, repurposing, surprise, artistic, updates tradition, variety and combination. We deemed an idea to be novel if, while introducing the idea, a group member referred to the novelty of the idea using at least one of the 10 novelty cues. We used the 10 cues that indicated lack of novelty to identify low novelty ideas: routine, common, familiar, mundane, similar to the status quo or to another idea, low potential, well established. We employed this method of identifying novel ideas to avoid the problems of using either word counts of specific or rare words—methods which contain greater categorization errors due to taking words out of context or idiosyncrasies of lay speech. The authors systematically searched through the idea descriptions to select any ideas that contained the target cues.

Next, 7 raters who were graduate students in the medical and business domains rated the novelty of each idea. That process resulted in 23 high novelty ideas and 34 low novelty ideas for which there was substantial agreement across raters. On 52 of the 57 ideas, there was full agreement by all raters. For the other 5 ideas, agreement was over 40%. The authors re-examined those ideas and chose to keep them in the sample based on our judgment of their novelty. For the rest of the ideas identified based on cues, raters agreed that the cues did not indicate high or low novelty when used in

context. Those ideas were not included in the dataset as we could not confidently categorize them as high novelty or low novelty and therefore could not determine which of the processes of interest to our study (retaining or rejecting novelty) the ideas would be associated with.

To identify whether ideas were retained or rejected, we examined the idea episodes for explicit consensus of agreement or disagreement with an idea, or for instances when groups directed attention to an idea through their discussion, but did not reject the idea (e.g., one or more group members expressed a positive evaluation of the idea that was not challenged). For example, consensus for keeping novel ideas alive was reflected when group members were asked whether to move an idea forward and several members agreed and none argued; when a facilitator or leader summarized a discussion by concluding a positive collective attitude toward an idea and no member dissented; or when a discussion about an idea was positive and no member disputed that view. Groups did not decide on every idea introduced to the group. For those ideas, we did not have clear evidence about whether or not the idea was retained. Consistent with good practice in qualitative research, we aimed to include only those cases where we were most likely to observe our phenomenon of interest (that is, where novel ideas were either retained or rejected; Glaser and Strauss 1967). Therefore, we did not code ideas for novelty or include them in our dataset when we did not have clear evidence about whether or not they moved forward in the process. Although this is a high standard for ensuring that a group obtained consensus on an idea, when consensus was unclear, we would also expect the process to be somewhat murkier, and therefore less helpful for qualitative analysis.

We further examined the idea episodes to determine and eliminate cases in which low novelty ideas were retained without a high novelty alternative being rejected, in which case novelty was neither retained nor rejected. Sixteen ideas were removed from the dataset at this point. This process allowed us to identify two sets of idea episodes. The first set were those in which groups had consensus to move forward with a novel idea—that is, those in which high novelty ideas were retained in group discussion or low novelty ideas were rejected in favor of higher novelty ideas. Twenty-two episodes were included in this set. The second set of episodes were those in which novel ideas were rejected—that is, those in which high novelty ideas were rejected or low novelty ideas

were retained over higher novelty ideas. Nineteen idea episodes were included in this set.

Stage III: Identifying practices for building consensus for novel ideas. In the third stage, we used categorical analysis (Miles and Huberman 1994) to identify group processes and practices that were associated with building consensus for novel ideas within idea episodes. Both authors separately read through the episodes to ground ourselves in the context and identify broad themes, iterating between the data and theory to develop and test ideas about the processes involved in retaining or rejecting novelty (Glaser and Strauss 1967). We then identified first order codes based on the groups' interactions (Van Maanen 1979) and grouped those first order codes into theoretically meaningful categories to create second-order themes by using axial coding. Finally, we grouped second-order themes into aggregate dimensions that captured theoretically important concepts. We then returned to the episode transcripts to reconsider the emergent structure in light of the data. If the data did not fit well with a theme, we revised the theme, iterating the data structure numerous times before the second-order themes described the data contained in the idea episodes comprehensively and mutually exclusively. The iterative process involved weekly meetings between authors over several months. This stage resulted in a set of practices for building consensus for novel ideas.

Stage IV: Comparing processes for building consensus for versus rejecting novel ideas. In the final stage of analysis, we drew on the practices identified in Stage III to examine how they unfolded within an episode over time. We coded each episode according to the practices (second-order themes), providing us with a set of coding for each idea episode. We then compared those idea episodes in which groups developed consensus for novel ideas to search for similarities in process. We carefully examined the coding and developed visual maps (Langley 1999) to describe the way the discussions progressed according to the coding over time. Each map illustrated the coding for a single idea episode. From that comparison, we developed a summarized and smoothed process that captured key features that we observed across the episodes (Yin 2010). We used the same approach to develop a summarized process of rejecting novelty. We then contrasted the two summarized processes.

FINDINGS

The overarching result of our analysis was that the process of building consensus for novel ideas differed from the process of rejecting novel ideas. Although we searched for the effects of formal group roles or influence dynamics like idea champions on developing consensus for novel ideas, we found little evidence that they significantly influenced whether a group retained high novelty ideas in our setting. Three of the groups in our study exhibited similar acceptance rates for novel ideas, accepting 60-75% of the novel ideas we identified in our sample[1], suggesting that group level effects and structural and interpersonal dynamics in groups played a limited role. Further, if leaders or other influencers determined which ideas were accepted, we might expect a relatively limited discussion in which dissent was suppressed; in contrast, when highly novel ideas were accepted, many group members were involved in the discussion and there was a substantial amount of divergence around the idea. We observed relatively few influence tactics or special roles in the process like championing ideas or using authority to garner support for ideas[2]. We also examined whether the novel ideas that groups developed a positive consensus around were of a particular type along other dimensions. We found that the novel ideas groups retained varied in terms of the form of idea (e.g., product ideas versus process ideas), the reach of the idea, and level of the idea's specificity.

It is important to recognize that the context of our study may have played a significant role in shaping this outcome, as we chose a setting to highlight the processes of interest to our study and minimize other factors examined in prior work. The groups in our study were involved in actively searching for and assessing novel solutions for improving healthcare, often using emerging technologies. Group members' super-ordinate goals were therefore aligned around positively evaluating novel ideas. Further, group recommendations were passed along to others for eventual idea selection and implementation. For that reason, interpersonal and structural factors may have played a

[1] These figures do not represent holistic group acceptance rates for ideas and should be interpreted with caution, because they are based on only those ideas that we coded as high or low in novelty. In making judgments about idea novelty, we aimed to be extremely conservative, including only those ideas that we and independent raters were confident about how to categorize (as we described in the methodology section). That is consistent with our qualitative approach of identifying extreme cases where patterns were most likely to be seen; however, it limits our ability to be definitive about differences exhibited between the teams.

[2] One exception was that groups generally had a facilitator who kept track of the agenda and may try to move groups forward by summarizing their discussions. However, the facilitator did not appear to hold higher status in the group and others frequently disagreed with their summaries or kept the discussion open.

less significant role than we would expect to observe when group members may disagree over goals or later stage selection processes where resources may be contested. In our study, to the extent that an individual group member could be viewed as influencing outcomes of group discussions, it was due to the way that they engaged in the process of discussing, evaluating, and selecting ideas rather than their status or structural position in the group.

Our analysis revealed two distinct processes through which groups engaged with novel ideas. One process associated with rejecting novel ideas was a relatively straightforward discussion of an idea that proceeded quickly with little conflict. The second process associated with keeping novel ideas alive involved a more complex dialogue in which groups iterated between conflicting understandings, maintaining a tension between novelty and predictability of usefulness. A key insight of our analysis was that integrating tensions by developing shared understanding of usefulness tended to be associated with rejecting novel ideas, whereas a process of building consensus for novel ideas was triggered when groups challenged that understanding. We elaborate the two processes below.

Process of rejecting novel ideas

The process of rejecting novel ideas unfolded over three broad phases: establishing and accepting usefulness criteria for evaluating ideas, briefly assessing the novel idea in light of those criteria, and proceeding quickly to consensus to reject the idea, often in favour of a less novel alternative. Because our primary interest is the process of keeping novel ideas alive, the process of rejecting novel ideas is presented as a baseline for comparison, illustrated in Table 1.

[Insert Table 1 about here]

In the meeting excerpt, Ron introduced a novel idea—an “option 5” for developing an electronic record that would be held by a local practice or physician. In describing the idea, he implied patient trust was a criterion for assessing usefulness. Nicky, and ultimately the rest of the group, implicitly accepted that criterion by first, not directly acknowledging or arguing against the criterion and second, finding ways to modify existing, lower novelty ideas, to meet the criterion. For instance, Nicky asked whether it would “satisfy” Ron’s concerns to expand a previous recommendation and Ken suggested that one of those options could accommodate Ron’s idea. Although Ron reinforced his

view that the physician-centric approach was a separate option, he did not challenge the group's understanding of that patient trust was an important aspect of idea usefulness. There was limited discussion of the idea, and it was rejected in favour of modifying an existing, low novelty, solution. The group agreed with that approach when Nicky pushed towards consensus.

This example illustrates that the process of rejecting novel ideas proceeded when the group accepted a shared understanding of the criteria for assessing usefulness. There was a relatively short and shallow discussion of the idea involving few group members, who allowed Nicky to take the lead in rejecting the idea. The brief discussion moved quickly towards consensus to reject the novel idea.

Process of building consensus for novel ideas: The diverging consensus model

In contrast to the process associated with rejecting novel ideas, the process of building positive consensus around novel ideas was longer, more complex, and involved an iterative dialogue between group members as they cycled back and forth between ideas and evaluation criteria; between alternative forms of ideas; and between consensus and disagreement. We describe this process as *diverging consensus*, because it involves achieving consensus while, and often because of, diverging.

The process is summarized in Figure 1 and examples are provided in Table 2. A critical point of departure in the discussion of novel ideas that were retained versus rejected was that the group's shared understanding of usefulness was disrupted. That acted as a trigger to a process of building consensus for novel ideas, which then unfolded through three phases: evolving an evaluative scaffold, emerging liminal ideas, and developing transitional consensus. We identified four practices through which the phases were enacted: fracturing understanding of usefulness criteria, connecting novel ideas to usefulness criteria, creating moments of agreement, and retaining divergent interpretations.

[Insert Figure 1 about here]

We observed the process over the course of discussion of a single idea within a group. However, any given discussion may be balanced more heavily towards one phase of the process, so that over the first five meetings, groups experienced more triggers and evolved evaluative scaffolds early in the group's life; more liminal ideas emerged around the midpoint; and groups developed transitional consensus on more ideas as they approached their first deliverable. Further, although

groups broadly moved through the phases in order, the phases were intertwined and iterative. In some cases, groups would shift back and forth between the scaffold, emerging liminal ideas, and transitional consensus. This might occur because liminal ideas triggered consideration of the evaluative scaffold, or because as ideas evolved, the group revisited transitional consensus. Table 2 contains three excerpts from idea episodes in which groups developed consensus to retain novel ideas.

[Insert Table 2 about here]

Trigger: Challenging shared understanding of usefulness. Early in the discussion of an idea, groups generally exhibited a shared understanding of how to assess idea usefulness. For example, usefulness criteria included whether patients or doctors would use the idea and feasibility of implementing the idea within time and budget. These criteria tended to be abstract and general, so that they could apply to most decisions in this and other domains, and groups could converge around the criteria with little discussion. Since novel ideas rarely obviously met those criteria (e.g., because the group did not immediately know how to implement them or how long it would take to do so), novel ideas tended to be rejected when this shared understanding developed and persisted.

In the cases where novel ideas were retained, however, the group's shared understanding of usefulness criteria was challenged. In some cases, the challenge was direct disagreement with the group's way of assessing an idea. For instance, in the example in Table 2, panel B, Ron challenged the group's earlier consensus that recommendations should be evaluated in terms of the accessibility of the audit trail of their electronic record to patients, when he clarified that:

> "on (the) transparency point… the thought is that it's not a record that shows every single person that asks who it was, when it was, where it was... there can be some in a broad view… knowing that there was an entity that did look at this (rather than) a real detailed audit trail..."

Daniel suggested that the key evaluation criterion for an electronic health record would be that it was "patient controlled" rather than fully transparent, but Ron continued to question that. As the discussion went on, the group debated the two possible criteria, full transparency versus patient control. This contrasts with instances in which novel ideas were rejected, such as in the example in Table 1, where Ron proposed a specific alternative and framed the way to evaluate alternatives as

whether patients would trust those approaches. That criterion was never challenged by the group, who instead evaluated other options with respect to patient trust.

A group's shared understanding of usefulness criteria could also be challenged indirectly when one or more group members briefly shifted the focus from the usefulness of an idea to highlighting the need for ideas to be novel in order to meet the group's goals. This occurred when groups discussed how well an idea would adapt to an unpredictable future environment, considered the extent to which an idea would add value by changing the status quo, and questioned whether the group had thought broadly enough. For instance, in the example in Table 2, Panel C, Ken first attempted to establish the ease of the solution as way of assessing an idea's usefulness, by arguing in favour of using what already existed (i.e., using existing research). Karl agreed that it was "a good inclination" (rather than challenging the criterion directly), but went on to suggest "one other avenue" of having the group test ideas in interesting populations, because it hadn't been done before so what existed would not be that useful. He disrupted the group's understanding of usefulness by highlighting how using existing research would not provide the group with all of the information necessary to fully develop their ideas, even though doing so would be easy to implement. In another example of shifting the focus to novelty (group CD meeting 4), group discussion implied that patient access to personal health records should be assessed in terms of the usefulness of the records for patients in the current system. However, one group member challenged that view by suggesting that they consider how those records would evolve "going into the future", clarifying how the system would become less fragmented and the implications for patients. That forced the group to reconsider how ideas would adapt to future environments. In other cases, group members simply challenged the group to "think more broadly" about a problem, reminding the group that the process should support novelty.

Challenging the group's shared understanding of usefulness highlighted the tension between novelty and predictability of idea usefulness. Discussions exposed group members to the difficulty of predicting how ideas would fare on usefulness criteria or how the criteria itself may change. Introducing novelty criteria implied that if the state of the world changed—for instance, technology developed, people's behaviour adapted—then an idea may not produce the outcomes the group

predicted. Or, it reminded the group that, while the status quo was known, the outcome of a novel idea had the potential to generate an even better outcome. These discussions also helped the group to begin to see how novelty could be considered useful for an idea, because the discussions centred on how only relatively more novel ideas may provide valuable solutions in the long run.

Phase I: Evolving an evaluative scaffold. Interestingly, even when novelty criteria were introduced, groups did not shift their attention to novelty for the remainder of the discussion; indeed, the introduction of novelty criteria was often brief, and the discussion then returned to the usefulness of the idea. Thus, discussing novelty criteria did not mean that a group simply assessed the idea more positively because they had shifted from focusing on usefulness to also considering novelty.

Instead, introducing novelty into the discussion changed the way that groups discussed usefulness. Following novelty criteria, groups evolved a more set of evaluation criteria in which a nuanced yet fractured understanding of usefulness emerged. From this, an evaluative scaffold developed as a verbal representation (Majchrzak et al. 2012) of the emerging evaluation criteria that loosely brought together group members' diverse understandings of usefulness at points that resonated with multiple interpretations. The scaffold contained a diversity of ways to define specific evaluation criterial. This provided a minimal structure (Valentine and Edmondson 2014) that brought the group together, but not so much structure that it created new shared understandings. Instead, the scaffold enabled individual group members to see how their goals and values could be satisfied within the group's evaluative structure. Retaining individual goals within the group's evaluation criteria appeared to reduce the group's need to reconcile differences.

The process for evolving the evaluative scaffold was a dialectic that iterated between usefulness criteria and novel ideas. By discussing ideas, group members made clear their various implicit understandings of usefulness, and explicitly, usefulness criteria provided an opportunity to refine ideas. Specifically, evolving the evaluative scaffold involved two practices: fracturing the group's shared understanding of usefulness and connecting novel ideas to the evaluative scaffold. The two practices were coupled such that the group shifted back and forth between consensus and

divergence. The shifts were moment-to-moment changes, reflecting the ebb-and-flow of the social interactions between group members (Ford and Ford 1994; Van de Ven and Poole 1995).

Practice i: Fracturing shared understanding of usefulness. Fracturing the group's usefulness criteria occurred as discussions between group members iterated between dimensions of usefulness. Two features of iterative discussions fractured the group's understanding in distinct ways. First, discussions iterated between different categories of usefulness (such as cost versus feasibility), demonstrating that the usefulness criteria considered by different group members diverged so that the set of usefulness criteria considered by the group broadened. In the example described above and in Table 2, Panel B, Nicky first triggered a discussion by challenging the group's usefulness criteria around transparency. Following that trigger, the group iterated between two understandings of usefulness—full transparency versus patient control. Nicky's comment towards the end of that discussion reflected how the group's understanding had fractured when she summarized the "four points" the group has discussed; yet even after that, Daniel and then Ken probed and questioned whether the different criteria were really something that the group "would hope to achieve".

Second, the discussions cycled between abstract and concrete ways of interpreting specific criteria (such as feasibility in terms of timing, feasibility within regulatory constraints, or feasibility given the resources available), giving group members a more nuanced and varied way of understanding each dimension of usefulness. The result was a less clear and shared understanding of the usefulness criteria; yet also a more diverse and nuanced understanding. Discussing concrete details allowed group members to see how others were evaluating ideas and the implications of enacting otherwise abstract principles in various ways. This also opened up new understandings of usefulness. Returning to abstract principles allowed group members to identify points of resonance where their divergent understandings could connect. For example, in group HR, meeting 2, Ken suggested a specific issue—whether people other than a patient should be able to access a personal health record— which triggered a dialogue. Ken made the issue more concrete by suggesting that caregivers might need access to those records. Daniel abstracted that to creating a trustworthy system:

> Ken: "Another [issue is] the need for identifying whether there are family members and caregivers that should have access to personal health records authorized by a patient…For

> example, if we decide that one of the subpopulations of interest is the elderly, then caregivers might become much more important and we may need to specify the need for proxies..." Daniel: "…going out to at least 5,000 feet from this list of issues… the ultimate challenge to all of us is creating a trustworthy system in the minds of the American public…"

Expanding usefulness to 'trustworthiness' allowed for multiple, even conflicting, criteria to persist. A system could be perceived as more trustworthy if it was difficult for anyone other than a patient to access (e.g., it had a high level of security); or it could be perceived as more trustworthy if anyone who would need a patient's health information could access it. It therefore provided a point of concordance that formed a scaffold in which those divergent understandings could hang together without resolution. In the example above, Daniel encouraged the group to accept that ambiguity, stating "…we can't, here, in a week or two, come up with answers to (all of) these questions…"

It is interesting to note that the specific usefulness criterion itself (trust) was also used in a process of rejecting ideas. In that case, it was asserted and never challenged. Our findings suggest that it is the process of challenging and then fracturing understanding to shape usefulness criteria over time that is more important than the specific criteria used to assess ideas.

Practice ii: Connecting novel ideas to usefulness criteria. As the evaluative scaffold developed, members used their shifting understandings to connect novel ideas to the conceptual framework. That involved negotiating ways to elaborate and refine a novel idea so that all group members had an opportunity to incorporate their contribution. For example, in the excerpt in Table 2, Panel A, after recognizing a tension between Josh and Matthew's preferences, Cory attempted to negotiate between their divergent understandings by adjusting the focal idea:

> "Could you just reword the opening statement? Just say something (like): HHS should identify opportunities to leverage existing programs and/or use existing or planned HHS demonstration programs to use secure messaging between clinicians and patients…"

Through that process, group members could become committed to and develop ownership for an idea because they had a chance to contribute to or change it. At the same time, the process could help them to see how ideas could fit their own distinct understanding of usefulness. For example, in the excerpt in Table 2, Panel C, Ryan and Ken went through a similar process of refining an idea in response to the evolving evaluative scaffold. Ryan identified that giving patients control over and access to information in personal health records would entail significant effort, asking "are (we) allowing them

to just see it or incorporate it into their record because once it is in their medical records… I'm not going to give them an audit trail that goes back to their personal health record…every time." Ken asked how the idea could be refined so that it still achieved the criterion of patient control, yet was "less onerous", and Ryan made some suggestions, stating that they should be "explicit about the information a patient is giving for their record" and the precise nature of control and access that patients would have. He therefore connected his idea to the evaluative scaffold that Ken reinforced.

Phase II: Emerging liminal ideas. After ideas morphed to fit the evolving scaffold, one idea then emerged as a liminal idea. Liminal ideas were concrete ideas that embodied qualities of an idea that the group would be willing to select, but that group members also expected would not ultimately be selected despite being retained in the group discussion. This was because each group member had different concerns about the concrete idea, so that resolving issues by choosing a different idea or elaborating the focal idea was not straightforward and would prevent the group from reaching consensus. We use the term "liminal" to describe these ideas because they embodied the duality that the group believed those ideas would be both retained and not retained (Turner 1977). Liminal ideas acted like placeholders that allowed group members to maintain idiosyncratic concerns safe in the knowledge that the group might, but also might not, ultimately pursue that specific idea.

In the example in Table 2, Panel A, a liminal idea emerged for HHS to "take the lead in establishing a model for reimbursement…". It became clear that the idea was viewed as liminal when Katherine responded that a demonstration program was "one way of doing it. There are other ways…", suggesting that the idea could achieve the group's goals, but that the group should not fix on that specific option. She further observed that the group may not be getting to consensus because of the concrete notion of demonstration programs, despite group members agreeing with the goal of those programs. When Josh endorsed the idea and elaborated that it should focus on "coverage with evidence development", Katherine re-iterated "Or some language. Some language that allows…" the group to satisfy the evaluation criteria for ideas, without committing them to a specific idea.

The emergence of a liminal idea acted as a turning point that made it possible to develop transitional consensus. In the example in Table 2, Panel C, the novel idea itself emerged as a liminal

idea early in the group discussion. Karl suggested that instead of drawing on current practices, the group should gather evidence on the use of personal health records (PHRs) by running programs in "a number of interesting test beds." He developed the concrete idea of PHRs for pregnant mothers in inner-city Chicago, but also made clear that this was just one example of a context that would work:

> "…there are lots of test beds where some of this might be interesting. What I'm saying is, one of the recommendations might be if we were clever about the context, we also might learn some interesting things by constructing, or recommending that interesting test beds be supported by the government, because no one else is going to deal with these populations…"

Although Karl's idea was concrete, Nicky abstracted from the idea that they should recommend pilot programs with "special populations." Because the idea developed as a liminal idea early on, the group moved relatively quickly towards the next phase of transitional consensus.

Phase III: Transitional consensus. Over time, the emergence of liminal ideas enabled groups to reach a transitional consensus. This was not full and final agreement from the group (or even a majority of members); rather, it was a temporary negotiated agreement that allowed the group to move forward, retaining the novel idea for further discussion. Transitional consensus involved two practices: creating moments of agreement and retaining divergent interpretations of the liminal idea. As during the process of evolving the evaluative scaffold, the two practices were coupled such that the group iterated between consensus and divergence. This allowed a group to surface incompatibilities and tensions in ideas while retaining novel ideas for further exploration.

Practice iii: Creating moments of agreement. Creating moments of agreement involved a tentative and temporary consensus to move forward with a liminal idea. This reflected that the group saw value in retaining the idea for further discussion. For instance, in the example in Table 2, Panel A, Thomas indicated that they were "coming close to an agreement"; in Table 2, Panel B, Daniel indicated that they had "broad agreement about some of these elements", and in Table 2, Panel C, Nicky asked the group for an indication of consensus. As is the case in all three of these examples, moments of agreement were often facilitated by a group member attempting to push the group towards consensus. Each of these examples also reflects, however, that those group members understood and communicated to others that the agreement was temporary or provisional. Thomas (Table 2, Panel A) commented that he "…would hate to just put language up there that we come up

with in a hurry" and asked for further input from several group members on how precisely to word the recommendation. Daniel (Table 2, Panel B) similarly suggested that the idea would be further refined, so that "at some point" the group can look at it again.

Practice iv: Retaining divergent interpretations. Although groups achieved these moments of agreement, they also retained divergent interpretations—members held different views about the idea on which they had achieved a momentary agreement and the way in which that idea should develop. That is, although the group settled on a consensus to move forward with an idea, members continued to have different opinions about the idea and specific issues to be resolved. Concerns centered on group members' view of the usefulness of the novel idea. It was possible to move forward with the focal idea because the group viewed it as a liminal idea that would further diverge during future group discussion. This maintained the possibility that a group member's concerns could be met as an idea evolved—that is, the issues around the idea's usefulness could still be worked out—which allowed group members momentarily agree to the idea while maintaining their unique interpretations. The retention of divergent interpretations is reflected by Jessica, in Table 2, Panel A who withheld her judgement until the idea had developed further, when the group could "have another discussion", and Ryan, in Table 2, Panel C who retained the idea based on the specific way that it was worded, suggesting that the idea retained a certain flexibility and could develop in a direction he would not desire. In the example in Table 2, Panel B, Dan's comment that the principles were "a good starting point, but they do need to be bedded and discussed and thought about rather extensively… this should not be considered the final word" provides more explicit evidence that divergent interpretations were retained. Despite their persistent concerns about the ideas, however, group members did not block the idea, and indeed, encouraged the group to keep it alive for further discussion.

DISCUSSION

Prior research has theorized that groups are more likely to keep novel ideas alive if they delay consensus or spend tremendous time and effort integrating diverse evaluation criteria, ideas, and opinions into shared understanding. Neither approach, however, explains how groups develop consensus around novel ideas early on, before true shared understanding has emerged. To fill this gap,

our study uncovered the *diverging consensus model* to explain how consensus-based problem solving groups overcome an initial bias against novelty. The model involves *maintaining* the tension between novelty and predictably of ideas usefulness, rather than *resolving* tensions created by integrating different evaluation criteria, ideas, and opinions into a shared understanding. Our model further identifies that groups move forward with novel ideas through ephemeral moments of agreement around liminal ideas. A critical insight of the model is that fracturing, rather than sharing, understanding triggers a process through which groups build consensus for novel ideas at the early stages of group interaction. Whereas theory suggests that shared understanding that develops through time, effort, and engagement with ideas helps groups retain novel ideas at later stages (Harvey & Kou, 2014), our study suggests that at earlier stages or in cases where groups do not engage in such efforts, shared understanding is likely to rely on implicit understandings of novelty and usefulness that favour low novelty ideas. Hence, our work challenges the notion that shared understanding is necessary to keep novel ideas alive.

Towards a diverging consensus model of overcoming a bias against novelty

We found that the tension between novelty and predictability of idea use is maintained through three phases that distinguish our model from prior research. First, whereas literature has suggested that groups build consensus by integrating divergent evaluation criteria into a shared problem framework, we found that when consensus-based problem solving groups kept novel ideas alive, they fractured their initial shared understanding of idea usefulness. Challenging criteria tended to disrupt collective understanding and maintain the tension in productive ways that allowed groups to overcome an initial bias against novelty.

Lack of shared evaluation criteria can make it difficult for groups to agree and move forward with ideas, but in our study, diverse interpretations of criteria evolved into an evaluative scaffold. The scaffold differed from shared understanding; it consisted instead of ways of connecting, without reconciling, different criteria for assessing ideas—such as links to higher level abstract criteria that multiple specific and deeply held criteria were related to. For example, both cost and time could be related to feasibility of an idea. Group members could agree about the importance of feasibility while

individually believing cost or time was the most important dimension of feasibility. Scaffolds structure collective work and help groups track their progress by containing information about what and how each member needs to contribute to the group's task (Okhuysen and Bechky 2009). They can exist in different forms, including plans and schedules (Okhuysen and Bechky 2009), maps (Mark 2002), and dialogue (Majchrzak et al 2012). The groups in our study used verbal representations of evaluation criteria to coordinate around ideas. In our study, the scaffold allowed divergent understandings of usefulness to be retained rather than resolved (see also Majchrzak et al 2012).

In the scaffold, a diverse range of novelty and usefulness criteria co-existed. We suggest that developing a scaffold helps groups to build consensus for novel ideas in two ways. One way is that it enables a group to use the tension between novelty and the predictability of usefulness to generate new understandings of existing usefulness criteria (Farjoun 2010; Lewis 2000; Miron-Spektor et al. 2011). For instance, it may help group members expand their understanding of usefulness from shorter term concerns like cost or feasibility to the longer term value that an idea could provide. We suggest that when members had divergent views about evaluation criteria, it created space for considering novelty and reshaped how the group understood novelty; it helped a group view novelty as useful. That suggests that reframing usefulness—rather than focusing on or weighting novelty—can keep novel ideas alive. The second way that the scaffold helps to build consensus for novel ideas is by encouraging agreement to move forward with an idea, without requiring complete convergence in knowledge or opinion (Majchrzak et al. 2012). This is because group members can see how their criteria can be satisfied within the context of the scaffold. Therefore, the scaffold allows group members to retain distinct interpretations of the value and usefulness of an idea, while connecting that interpretation to other's evaluations.

The second phase that distinguishes our model from past work is the emergence of a liminal idea. Rather than integrating their divergent ideas into a single concrete idea we found that building consensus for novel ideas involved developing a liminal idea that acted as a temporary placeholder between idea generation and idea selection. Liminal phenomena are symbols, like myths and rituals, that exist at the threshold between spaces (Turner 1977), like between the old and the new or the true

and the false (Huizinga 1955). They have been linked to creativity (Mainemelis and Ronson 2006) because they share characteristics of both spaces, yet are distinct from them. We suggest that liminal ideas help to build consensus for novel ideas because to the group, they are both real and unreal; concrete and abstract. In one sense, they are specific ideas that the group could act upon, and so might ultimately select. They help group members to understand an idea, realize how it could be implemented, and help them to work through issues and concerns. Yet in another sense, liminal ideas are understood as something that will not be the group's final idea. The group expects the final idea to share some abstract qualities of the liminal idea, but the final idea is also expected to embody those qualities in different ways. Indeed, each group member may believe the final idea will embody the qualities in different ways. Therefore, liminal ideas avoid highlighting pragmatic boundaries that might prevent a group from agreeing to an idea (Carlile 2002). The value of liminal ideas is mirrored in studies that show how judgements of entrepreneurial ideas assume that ideas are flexible and do not necessarily represent prototypes of final ideas (Grégoire et al. 2010; Huang and Pearce 2015) and evidence that individual creativity involves allocating effort both towards exploring new options and persisting with a focal idea (Steele et al. 2019).

Whereas prior literature views building consensus as a process of integrating divergent opinions, we find that the third phase of retaining novel ideas occurs with a transitional consensus, in which divergent opinions about the usefulness of novel ideas are preserved, but members implicitly suspend their idiosyncratic concerns. Our findings echo an emerging view that reconciling conflicting views to achieve group consensus about ideas can be unnecessary and even ineffective for early phase group outcomes (Gillespie 2011; Harvey et al. 2017; Majchrzak et al. 2012). We suggest that for emerging, ill-defined ideas it is only possible to achieve complete consensus on ideas that are relatively low in novelty but high in usefulness, so that the process of obtaining consensus will shift groups away from their more novel ideas (Rietzschel et al. 2010). In contrast, in transitional consensus, groups build on moments of shared agreement around a specific, temporary idea that allows them to move forward. However, because those agreements form around liminal ideas, group members can retain unique understandings of evaluation criteria safe in the knowledge that the liminal

idea will change in the future, and can change along multiple different paths that will allow it to address their concerns. We suggest that retaining diversity may help to improve the novelty and usefulness of the ideas that remain in a group's consideration set by encouraging group members to find ways to adjust an idea to address other's concerns (e.g., Murnighan and Conlon 1991). At the same time, it may give group members a sense that decisions are provisional and group members retain control over the group process, creating a space for decisions to be made.

Our study also described the process through which groups rejected novel ideas. Interestingly, that process resembled the recommendations from classic literature on how groups should select useful ideas by developing a shared understanding of usefulness irrespective of how assessing novel ideas might require that members change their paradigms and beliefs (Ford et al. 2008; Ford and Sullivan 2005). Our work therefore triangulates with prior findings that when groups employ existing paradigms to assess ideas, they often reject novel ideas (Siler et al. 2015).

Boundaries and limitations of the model

Our model focused on identifying how groups overcame an initial automatic reaction to reject novel ideas when first encountered. Our view was that if groups automatically reject new ideas with little deliberation when solving ill-defined and complex problems that require novel solutions, groups likely engaged in biased decision-making. Hence, our findings are limited to those situations where novelty is both desired and valuable for solving problems or creating organizational value. Our study is not intended to suggest that overcoming a bias against novelty is always beneficial; there may be many contexts where novelty is not warranted or harmful to group performance. Moreover, we did not observe later stage processes to know whether the ideas retained were ultimately selected or successful. Like the groups in our study, we could not objectively evaluate the usefulness of ideas retained relative to the usefulness of ideas rejected as they remained relatively ill-defined and ambiguous. We therefore cannot claim that retaining novelty positively influenced performance. However, our data provides some evidence that the concern in the prior literature that groups ignore usefulness when embracing novelty may be exaggerated. Instead, the process of building consensus

for novel ideas was characterized by rigorous discussions about the context specific usefulness of an idea on many facets, such as feasibility, practicality, and value.

Importantly, our findings may not transfer to other groups involved in the creative process. Consensus-based problem solving groups may lack intense engagement in collective idea generation, prototyping, and implementation that are characteristic of creative groups studied in prior work (e.g., Hargadon and Sutton 1997; Hargadon and Bechky 2006). Those activities may evoke the kind of shared understanding that allows groups to retain novelty. Our model is also bounded by the fact that the groups we studied encountered few interpersonal conflicts and members were committed to the group and its goals. Combined with our focus on earlier phases of evaluation, this may explain why structural features like group composition, roles, or status hierarchy were less explanatory in our context than in prior research. Later in the process, when ideas compete for resources, we might expect to see power and influence dynamics play a more prominent role. Our model further applies to groups motivated to retain novel ideas. Groups may not always desire highly novel ideas (e.g., due to lack of organizational support or responsibility for implementing those ideas), and those group settings are not covered by our model.

Finally, as our focus was on the early phase evaluative processes enacted by consensus-based problem solving groups, our model cannot speak to whether shared understanding develops in these groups over time and aids idea selection later on.

Theoretical contributions of the diverging consensus model

Processes of evaluating ideas in groups. We build on an emerging interest in understanding the messy middle processes that form a bridge between traditional idea generation and selection processes (Elsbach and Kramer 2003; Harrison and Rouse 2014; Harvey and Kou 2013; Mueller et al. 2018). We highlight how evaluations at early stages of group interaction help build consensus that provides momentum for ideas to move forward through the idea journey (Perry-Smith and Mannucci 2017). In particular, our work shows that reconciling divergent evaluation criteria to build shared understanding, as suggested in prior research, is not the only path to keeping novel ideas alive. Groups in our study evolved an evaluative scaffold that preserved divergent understanding. The scaffold was

triggered by a disruption of shared understanding, and developed as discussions about usefulness shifted between criteria and specific ideas, revealing ways to link criteria without reconciling them. Further research might explore the precise nature of those links. Our study suggests links often consisted of higher order or abstract connections between the criteria, but other links are likely to exist. Future research may also consider the extent to which interventions can disrupt shared understanding or trigger the evolution of a scaffold.

Our emphasis on this bridging process distinguishes our work from the vast majority of organizational creativity research that focuses instead on generating novel ideas or selecting useful ideas. Although processes that bridge generation and selection have received relatively less scholarly attention, they are critical for understanding organizational creativity because they can govern movement between phases. We hope that our study inspires further research attention to bridge processes and their role in the creative process. In particular, future research would benefit from demonstrating how bridge processes like those we observed link to final group decisions.

Our work also highlights the unique tension faced by consensus-based problem solving groups, who often act as gate-keepers to organizational creativity (e.g., Criscuolo et al 2017; Piezunka and Dahlander 2015). Those accountable for recommending ideas that organizations pursue are rarely examined, yet they account for a larger percentage of variance in organizational performance than those in idea generation roles (Mueller et al 2018). Unlike idea generating groups that focus on developing a single or small set of ideas for one purpose, groups recommending ideas must address a wide range of issues. They may therefore need to continuously revisit their evaluation criteria as the issues they face change over the course of even a single discussion. Maintaining diverging views may allow the flexibility needed in that context.

Overcoming the bias against novelty. Core to the theory of why people reject novel ideas is the way that they approach uncertainty. The traditional perspective on group idea selection notes that uncertainty reduction guides idea selection (Campbell 1960; Ford et al. 2008), yet more recent work notes that uncertainty reduction can also spark a bias against novelty (Mueller et al. 2012; Mueller et al. 2014). Our work converges with this latter perspective, finding that when groups reduce

uncertainty by developing an initial shared understanding, they are more likely to reject novel ideas (Mumford et al. 2001; Rietzschel et al. 2010). This raises the possibility that early in the course of evaluating novel ideas, feelings of confidence may be a sign of bias against novelty rather than an indicator of decision-making quality. This insight contributes to an emerging literature showing that feelings of high confidence and low uncertainty can harm judgement accuracy in many contexts and domains (Anderson et al. 2012; Minson and Mueller 2012; Moore and Healy 2008).

Our work moves beyond this to illuminate the practices groups might enact to overcome their natural inclination to reject novelty. The practices we observed may actually increase the level of uncertainty in a group. For instance, retaining a liminal idea for further discussion increases uncertainty because it implies that a group does not know what form the final idea will take. Hence, our work suggests that while groups do attempt to reduce uncertainty in the course of assessing idea usefulness (by agreeing in the moment, for example), if they desire idea novelty, they may also need to engage in practices that generate uncertainty.

Managing tensions in the creative process. Our work highlights the tension between novelty and the predictability of an idea's usefulness. Although scholars have long recognized this tension (e.g., Simonton 2003; Van de Ven 1988; Huang and Pearce 2015; Miron-Spektor and Erez 2017), how evaluators can use both novelty and usefulness criteria in concert is relatively unexplored (Diedrich et al. 2015; Steele et al. 2019). Until now, novelty and usefulness have often been described as goals that are relevant to different parts of the creative process, with novelty maximized during idea generation and usefulness maximized during idea selection (Paletz and Schunn 2010; Staw 2009). However, our study suggests that it may not be possible or desirable for groups to side-step the tension between novelty and predictability when they evaluate novel ideas and offers practices for engaging productively with the tension.

Our research builds on the view that tensions may be productive for the creative process (Miron-Spektor and Beenen 2015; Miron-Spektor and Erez 2017; Schad et al. 2016). Whereas prior research has suggested that integrating apparently paradoxical or divergent elements into shared understanding, new ideas, and consensus can benefit creative idea generation, our findings showed

that maintaining tension was critical for keeping novel ideas alive. Tensions were maintained through an iterative dialectic (Benson 1977) that helped groups to move ideas forward by generating alternative framings for evaluation criteria. Because tensions are never resolved in our model, we suggest that it may form the basis for a more dynamic process than building understanding and moving towards stable consensus (Smith and Besharov 2018). Our work therefore helps to address recent calls to elaborate the dynamic nature of creativity (Amabile and Pratt 2016; Litchfield 2008).

The literature on idea selection has yet to embrace the value of tension for creativity. Reducing tension makes sense when selection decisions are conceptualized as discrete outcomes at a specific point in time (Rietzschel et al. 2010). Our study revealed the benefit of tensions for overcoming a bias against novelty by viewing consensus for novel ideas as a gradually unfolding process in which evaluation and selection decisions are situated within group discussion (e.g., Harvey and Kou 2013). This presents an alternative way to interpret the challenge of confronting tensions. Groups can frame ideas in ways that maintain tensions even as they make decisions; for example, they can treat ideas as "liminal" and likely to change in ways the group cannot predict rather than "final." Our work thus highlights the value of a process lens for understanding collective creativity evaluation.

Conclusion

Consensus-based problem solving groups face an acute tension between novelty and predictability of an idea's usefulness. Our study introduces the diverging consensus model to explain how groups maintain divergent evaluation criteria, ideas, and opinions to engage productively with that tension. This process allows them to come together in ephemeral moments of agreement to overcome a bias against novelty and so keep novel ideas alive in the course of solving complex problems.

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Figure 1: Diverging Consensus Model of Overcoming a Bias against Novelty in Groups

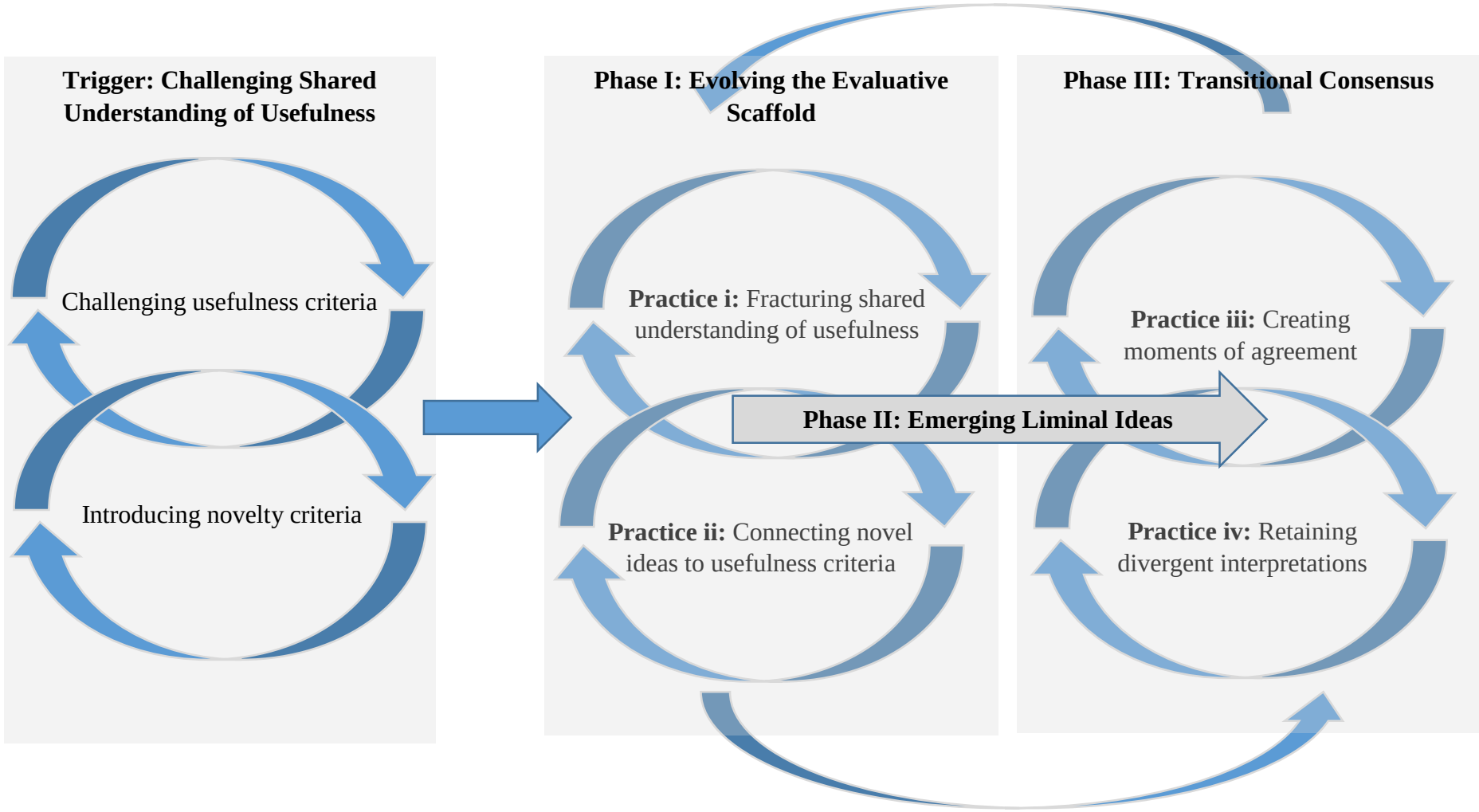

Table 1: Process of Rejecting Novelty
Modified Idea Episode HR Meeting 2 [1]

Phase I: <u>Establishing and accepting evaluation criteria</u> [patient trust]
***Ron*:** I wonder if there's not an option five, which would be more position-centered. Because you look at all of the other options and you ask yourself, "Who is the patient going to trust with this data?" They certainly don't know RHIOs or Katrina Help. They are certainly concerned about vendors, and they are very concerned about employers and insurance plans… in general, in the health care field, patients trust their physicians more than anybody. And I don't see anywhere in these models where the physicians and the patients have the central relationship. And for example, I see a potential way of doing this…is… you work through the physicians.

***Nicky*:** Ron, would it satisfy the recommendation you're making if the three options were expanded to include language such as "in coordination with physician input" or "physician involvement"?

<u>Phase II: Assessing idea</u>
***Ron**:* I will give you two examples. Cleveland Clinic and Brown and Poland in San Francisco. Both of them are group practice centric and have met with a lot of success. So I just think there is more than one way to skin the cat here. And I wonder if you really want to put up a fifth option, which is practice or physician centric.

***Nicky**:* I think I'd like to hear from the group as to whether they want to propose to have a fifth or whether they would like to integrate language that includes physician to the models that have better than proposed.

<u>Phase III: Consensus to reject idea</u>
Ken: I… think option three could lend itself to a provider or group practice-based PHR. I agree, Nicky, with what your original proposal was to make sure we incorporate one of these options, incorporate sort of a provider orientation and perhaps work off of a group practice-based model.

Consensus
***Nicky*:** Thank you, Ken. With Ken's remarks, I would like to see again if we can get to a point of consensus…

Episodes have been edited for length and clarity. Every effort has been taken to ensure that the meaning of the episode is not altered by editing.

Table 2: Process of Building Consensus for Novel Ideas
Modified Idea Episodes [1]

Panel A: CD Meeting 4	Panel B: HR Meeting 2	Panel C: HR Meeting 3
Trigger: Challenging shared understanding of usefulness (that who will pay should be left open) Josh: As the largest payer, if (CMS) don't set the stage, it is a lot harder for either other payers or employers, or physicians to get excited about this … I think something very explicit, whether it is tied to an existing program, or the creation to a new demonstration program, is absolutely pretty critical to whether this actually flies or not. Thomas: I know Matthew was very much not supporting something specifically in this area. Katherine: Well, you know, one of the things that can be done... We have recognized that we may not get absolutely consensus on every recommendation … the issue of how this eventually gets teased out may not be resolvable within this Workgroup… **Iterating between Phases I, II, III** ***Practice ii: Connecting novel ideas to usefulness*** Cory: Could you just reword the opening statement? Just say something (like): HHS should identify opportunities to leverage existing programs and/or use existing or planned HHS demonstration programs to use secure messaging … That is kind of what it says now… ***Practice iii: Creating moments of agreement***	**Trigger: Challenging shared understanding of usefulness (that more detailed audit is better)** Ron:…on (the) transparency point… the thought is that it's not a record that shows every single person that asks who it was, when it was, where it was... there can be some in a broad view… knowing that there was an entity that did look at this (rather than) a real detailed audit trail, per se. Daniel: There has been, to his comment, a feeling the technology does routinely provide for that auditing and that audit should itself be available to the patient whose information has been disclosed. Ken: – onerous… Daniel: I think the principle here that might address that is the one that indicates that people, the patients, have the ability in this personal health record world to determine who can see and receive access to their personal health records... So in this model, I think the patient can say… "I'm going to issue that (physician) a password or credentials to access my PHR… so it is patient controlled." Ron: …I am not sure it is explicit in that particular definition. **Phase I: Evolving the evaluative scaffold** ***Practice i: Fracturing shared understanding of usefulness*** Nicky: … if we look at the last two bullets: people must have the ability to designate and withdraw (proxies to manage their record). And after that, people must be able to choose whether or not their information is shared… *[Nicky goes on to identify two other principles]*. I think in combination, those four points seem to address a fairly well-structured process of the consumer being in control of who is going to access their information and what steps it's going to take to do it. Daniel: The last point on the entire list, this would permit patients to transmit information to their health care providers as well as receive information from them? Nicky: Uh-huh. Daniel: Implies that that capability is something we would hope to achieve? Nicky: Absolutely. I think the fact we talked about the authority and the authentication processes, that is very integral to the discussion.	Ken: I have a suggestion. There might be some experts who would be willing to come in and give a presentation and… summarize what is known in the literature… or what are current practices with… PHRs providers in trying to develop interfaces that are sensitive to these literacy issues. **Trigger: Challenging shared understanding of usefulness (that the group should leverage existing expertise)** Karl: I think the idea that there's a lot of good research throughout is always a good inclination… I think one other avenue we have to put this out in interesting test beds. I think a lot of this hasn't been done… **Phase II: Emerging liminal idea**

Eric: I think that would work in opening the door (to what) we were advocating in our original version, and hopefully be sensitive to what Daniel and others may have been concerned about. ***Practice i: Fracturing shared understanding*** Josh: I hate to be a pain, but I don't understand the process… what I am hearing is that I am part of a consensus process, but I am not sure that we have defined where our consensus is on this issue… I do think, at this point, if we, as a group, not just as individuals… feel strongly about a particular point, like a demonstration project, we ought to be free to put it in the recommendation… Thomas: We are not suggesting to take in or take out. I was just expressing why we had recommended some changes in that, based on what Matthew wanted… ***Practice II: Emerging liminal idea*** Cory: … is the consensus is that we think that we ought to leverage existing programs wherever they reside? Or we should leverage existing programs just within HHS? Josh: I would say leverage wherever they reside, but make sure at least there is a commitment to one program within HHS, whether it is an existing one or a new one, so that the recommendations can truly be tested in the environment that we are talking about. …there is a lot of flexibility still left within that, and I would like to see something fairly specific recommended. ***Practice i: Fracturing shared understanding***	Kevin: It's their choice, right?... It's their choice to give all access to their physician or partial access. By having it within their control, they would get to choose, right? Nicky: Yeah, that is correct … I think the patient would want to reserve the right to determine what health care providers are… going to have access to... ***Practice ii: Connecting novel ideas to usefulness criteria*** Ryan: I hear not exactly an issue coming up – while we give patients a right to access information… are (we) allowing them to just see it or incorporate it into their record because once it is in their medical records… I'm not going to give them an audit trail that goes back to their personal health record of every time somebody within my organization necessarily looks at that, processes it, has to do something with claims or something related to that. I don't see a clear breakoff point. And this is *what* is different about electronic information versus, you know, the paper…record. So I don't see that clarity in here yet... Ken: Is there a way to propose a less onerous, but still comprehensive account… Ryan: …if we can be explicit about the information a patient is giving for their record, are they giving a permission to view it, but not incorporate – not extract the data for their own records… Along with that permission, it is kind of an implication that they're not going to have full control over that – they're not going to have the audit information about that copy necessarily… ***Practice i: Fracturing shared understanding of usefulness*** Nicky: If we look at first two bullets under Principles for Information Access and Control, people must have the ability to control who has access to their personal health information over an electronic health network… And the second one: at a minimum, the structure and rules of the breakthroughs must facilitate the ability of people to exercise their personal health information right… do we not feel those combinations, those comments in combination with others that we have called out would address the concern that you were addressing, perhaps? Kevin: I guess on this topic, the differentiating point we are trying to make – is this data that is the accessible on the network, or is it data that resides within an individual's application? Because from an audit trail standpoint, I would agree, it's going to be very difficult to submit backup to the PHR every time a physician may access a patient's record in their own EHR system… Nicky: Kevin, that is my view of this issue, particularly when I look at the fact that the individual that's accessing the personal health information over the network… is going to have to give authority and be authenticated to do it.	Karl: We know, for instance, inner-city Chicago has 20 different languages; government pays for 60 percent of the health care happening in inner-city Chicago. We know that mothers in the WIC program speak 20 different languages; we spend $200 million a year printing brochures and multilanguages for mothers in the WIC program. It's a 9-month window that they're pregnant, deliver a child, and then you have a period afterwards that they have a 14 percent rate of giving birth to low-birthweight infants and have outcomes you can look at. They're expensive. It's multilingual; it's low literacy. I mean, you could think of a number of interesting test beds around the country, or medical problems that…have outcomes that you could look at. And get back to Daniel's comment… what is it that no one else is

Cory: If you go back to the overall charter…it almost has to include an HHS component. Josh: That is my feeling. I think we always come back to being a subset of that overarching objective, so whatever we do here has to just kind of feed into that. Thomas: Yeah. And I think the point is that the recommendation would be that, anything that is going to be widespread has to include HHS and specifically CMS, because CMS is such a big share… **Phase II: Emerging liminal idea** Paul: I am wondering if perhaps HHS shouldn't take the lead in establishing a model for reimbursement within the programs… Katherine: (Perhaps) there (should) be some discussion on different ways that HHS might be able to move forward. I mean, demonstration program is one way of doing it. There are other ways also of testing out the way that reimbursement might be done within HHS. I am just wondering if the problem around consensus is around demonstration programs, and there may be other ways that the same objective could be realized. Josh: I like that idea. What about an idea around coverage with evidence development… Katherine: Or some language. Some language that allows CMS to develop a program to evaluate reimbursement within the Medicare setting. **Phase III: Transitional consensus** ***Practice iii: Creating moments of agreement***	Kevin: Yeah, but so we're not claiming that – say a patient gives Dr. Jones the ability to view and incorporate their information, which is a subtle difference between view and actually extract… They give the permission to do that. Once the information is extracted in their EHR, I don't think there is an expectation that there is another audit trail that comes back up from the EHR each time that they access. I mean, basically that information is now the physician's information within their own charts. **Phase II: Emerging liminal idea** Nicky: Is there a recommendation of wording that you think would make it more explicit? Kevin: Can I think about it and not spend our time wordsmithing it? Nicky: Sure. *[discussion continues and returns to evaluation criteria]* **Phase III: Transitional Consensus** ***Practice iii: Creating moments of agreement*** Daniel: I think it would be useful for us over time if we – it sounds like we have broad agreements about some of these elements to end up with a refined document that we can, at some point, look at as a single piece of work …and perhaps evolve this into something that is more user friendly – would be a worthwhile thing to take on once we think we have general agreement… ***Practice iv: Retaining divergent interpretations*** Dan: I second that notion that these principles are a good starting point, but they do need to be bedded and discussed and thought about rather extensively and should be – this should not be considered the final word. Kevin: Just to add on to that last comment about – that these need to be bedded more extensively. One of the things that I struggle with coming from a DOD environment: as we do our records, the goal is basically, from cradle to death, that every single piece of information to do with your health care is in the system. And we don't really make a distinction between electronic medical record and PHR… you made a distinction about labs and radiology and pharmaceutical and things of that nature being events that would be in the electronic health record… do we see an evolution over time as we go through this process that the personal health record and the electronic health record will be one in the same eventually? Or are they going to be separate? …	going to do? And no one else is going to take care of poor women giving birth… So there are lots of test beds where some of this might be interesting. What I'm saying is, one of the recommendations might be if we were clever about the context, we also might learn some interesting things by constructing, or recommending that interesting test beds be supported by the government, because no one else is going to deal with these populations… So it's sort of a fourth bucket of what is it that we could do that no one else is going to do on their own. **Phase III: Transitional consensus** ***Practice iii: Creating moments of agreement*** Nicky: So Karl, to summarize, what we could do that maybe no one else is going to do on their own is to make certain that we include as a

Thomas: It sounds like we are coming close to an agreement on it, but I would hate to just put language there that we come up with in a hurry… Cory: I am all for that, under the assumption that we are all in agreement that what we really want… is that HHS has to lead the way with the capability under the banner of things that they reimburse for (you know, that 50% of the market, or whatever it is); they have to have the demonstration vehicle there, and whether it is co-opted from somebody else, whether it is plagiarized from somebody else -- it has to be leveraged back into the HHS world. If that is true, and everybody is happy to say, "All right, that is our intent"… *[Eric, Jay, Josh, Dan, Colin, and Mike all say "I agree" or "I'm fine"]* ***Practice iv: Retaining divergent interpretations*** Jessica: … I am going to demur; I have to see the language first… when we see the language, I guess we can have another discussion.	**<u>Phase II: Emerging liminal idea</u>** Ken: I think it's premature to assume that the PHR … will have a set of data elements that would be identical to an electronic health record … I think it would be helpful if we could figure out what is the set of principle that is we feel comfortable (with)… it might be helpful to identify the principles that we think absolutely need more vetting but then agree on the ones that we think are reasonable ones… **<u>Phase III: Transitional consensus</u>** ***Practice iii: Creating moments of agreement*** Katherine: I don't know that I'm hearing things said that would imply that, fundamentally, the principles before us don't represent, in a universal manner, universal principles that may work well for our group… *[discussion about role of audit continues and consensus reaffirmed]*	recommendation demos or pilots with these special populations. Karl: Correct. Nicky: Okay. Thank you. Do I have consensus to accept that as a fourth bucket that we need to be sensitive to and objective as we're moving forward? Again, silence will signify consensus. ***Practice iv: Retaining divergent interpretations*** Ryan: As I understand how you worded that, yes, I certainly -- I'll be silent on that. I agree with you.