More women in the United States die of heart disease than of any other cause, and one form of heart disease, myocardial infarction, is responsible for the majority of these deaths. Moreover, women who survive myocardial infarction are at high risk for recurrent episodes of it and for heart failure. Several medical therapies are available to treat myocardial infarction and can greatly reduce the morbidity and mortality associated with it. In order to be effective, these therapies must be delivered rapidly, within 2 hours of the onset of symptoms. Nevertheless, many patients delay several hours and sometimes days before seeking care for their symptoms of myocardial infarction, and in most studies, women delayed longer than men did.
This period between the onset of symptoms and entry into the healthcare system is termed treatment-seeking delay, and it can be divided into 3 phases: (1) decision time, the interval from onset of acute symptoms to the decision to seek care and subsequent enactment of that decision (eg, calling 911); (2) transport time, the period from the enactment of the decision to seek care to arrival at the emergency department; and (3) therapy time, the period from arrival at the emergency department to initiation of medical treatment. (We use this definition of therapy time because prehospital thrombolytic therapies are in very limited practice in the United States.) Although major advances in transport time and therapy time have been made in the past 2 decades, little progress has been made in reducing patients’ delay in seeking treatment, that is, in reducing decision time. Reducing the time between the onset of the symptoms and entry into the healthcare system is an important clinical and research priority.13,9,10

In our research, we focus on describing the decision time in women, because women delay seeking treatment longer and have worse outcomes from myocardial infarction than do men. The long-term goal is to develop an educational intervention to reduce decision time and improve outcomes for women experiencing myocardial infarction.11

Understanding and addressing the decision time is difficult because the target behavior takes place before patients enter the healthcare system. Most researchers have measured decision time as a single outcome variable, documented in minutes and hours, but without any description of what occurred during the decision time. Time is an important variable because of its relationship to morbidity and mortality associated with myocardial infarction, but decision time has been a deceptively simple measure of a complex number of decisions, symptoms, and behaviors that occur during the decision time. A description of the course of the symptoms and the responses that make up that complex time span may be more useful in understanding the phenomenon of delay in seeking treatment, and such a description could lay the foundation for developing an intervention to reduce the delay in women experiencing myocardial infarction.

Women respond to the symptoms of myocardial infarction in a variety of ways, but these responses have not been well characterized. The purpose of this study was to identify and describe the patterns of cognitive, affective, and behavioral responses of women from the onset of symptoms of myocardial infarction to the decision to obtain medical care to the action of seeking care and entry into the medical system. We call these patterns decision trajectories. Researchers have used various theoretical frameworks to study the delay in seeking treatment11 and have documented characteristics of the decision time phase.12-14 but we still do not have a good understanding of what happened—what women were doing and experiencing—during the decision time. We used inductive, qualitative strategies to describe this period.

Decision trajectories (ie, patterns of decision-making behavior) in women who delay seeking treatment for myocardial infarction are dynamic and can be shaped by a number of intrapersonal and social influences.15 A range of decision times has been documented4,12,16-19 and manifestations of symptoms and courses differ among women and between women and men.20-22 Therefore, we thought that women experiencing myocardial infarction might follow varied decision trajectories. We conducted focused semistructured interviews to elicit individual stories and then used narrative analysis techniques to identify common patterns of behavior that occurred during the delay in seeking treatment.

Women delay seeking treatment longer and have worse outcomes from myocardial infarction than do men.

Little progress has been made in reducing patients’ delay in seeking treatment.

Methods

We recruited women who were hospitalized for their first myocardial infarction, and we chose the acute care setting to learn their stories soon after the stories occurred. All 52 participants were given the option of completing the protocol in 2 sessions to reduce the burden of taking part in the study, but no woman chose to do so. This study was approved by the appropriate institutional review board.

Each woman was asked, in a focused semistructured interview format, to describe the events that occurred from the onset of symptoms of the myocardial infarction to the time of her arrival at the hospital. The women were asked to describe not only their symptoms but also their related thoughts, feelings, decisions, and actions. We probed for the women’s interpretations of these events and for the exact times of the onset of symptoms and the decision to seek care. Each interview led to a complete story of the woman’s pattern of decision-making behavior, her decision trajectory.
Using the benchmarking technique of Alonzo, we determined a decision time for each woman. In this approach, women who could not remember exact times were asked to time the onset of symptoms by relating the onset to routine daily events, such as a favorite television program. Because we were interested in the pattern of responses, we did not establish a priori categories based on time frames. Interviews were tape-recorded and were transcribed for analysis.

We used narrative analysis to examine the stories and to identify decision trajectories. A narrative is defined as a story about a specific past event. Narrative analysis describes a meaning structure that rather than merely listing a contextual sequence of events organizes the story as a whole. By meaning structure, we mean that the researcher listens to the story and seeks to identify the organizing structure and the meaning for the story-teller. In this narrative analysis, we focused on the core narrative of each woman’s decision making to identify her decision trajectory.

Narrative analysis has 2 goals: to identify the organizing structure of each narrative, the pattern that holds it together, and to categorize common themes of behavior across stories. In this study, these themes describe common decision trajectories. To achieve the first goal, we used the structural approach of Labov. The 6 elements of this approach are as follows:

1. the abstract, which is a summary of the narrative;
2. the orientation, including the time, place, setting, and individuals present;
3. the actions or the sequence of events;
4. the evaluation, which is the assessment of the significance and meaning of the actions;
5. the resolution, which is what finally happened; and
6. the coda, or the returning from the narrative to the present.

We included symptoms as a subcategory of actions because they were crucial to our interpretation of the narratives. We read each transcript and coded clauses or sections for structural elements. Additional codes were added as the analysis revealed important features or themes, such as reluctance to call 911. After this coding, we wrote a summary of the core narrative, or skeleton plot, for each story. Polkinghorne defines plot as “the organizing theme that identifies the significance and the role of the individual events.” Accomplishment of this first goal provides within-subject analysis; that is, the cognitive, affective, and behavioral responses in each woman’s story.

We then used these organizing themes to develop a decision trajectory for each story and labeled the trajectories. Examples of labels we developed include knowing and waiting and managing an alternative hypothesis. For each story, in addition to writing the core narrative, we developed a large matrix containing descriptive information. These matrices were used for both within- and across-case analyses, and their components included symptoms, clinical characteristics (eg, prior heart disease), intra-personal influences (eg, affective, cognitive, and behavioral responses), sociostructural influences (eg, presence of others), and triggers to action.

To achieve the second goal of narrative analysis, to identify common themes across cases, we used constant comparison to compare the individual themes and patterns. Two of us, the principal investigator (AGR) and the senior research assistant (AL), independently categorized each individual pattern into one of the emerging categories of decision trajectories; we discussed any discrepancies until we reached an agreement or identified a need to further develop the categories. As the categories were developed, we returned to earlier cases and compared the organizing structure of those stories with the current categories. At the conclusion, of the 52 narratives in our sample, each of 48 narratives was classified into 1 of 6 types of decision trajectories, and descriptions of each type were finalized. Four narratives could not be classified as 1 of the 6 types; these we termed ambiguous. The software program N5 was used to organize analysis of the qualitative data.

Techniques to ensure validity of the findings included keeping detailed accounts of the procedures followed and reviewing findings with 4 participants in a focus group format. In the focus group discussions, descriptions of the patterns of decision-making behavior were presented for evaluation of the truthfulness of the descriptions. The women enthusiastically endorsed the descriptions and gave only minor suggestions for changes.

Results

Study participants were 38 to 87 years old (mean 67.4, SD 12.7), had a mean of 13.1 (SD 2.3) years of education, and were predominantly white, insured, married, and unemployed, retired, or housewives.

We found 6 types of decision trajectories. Each type was composed of individual stories that shared common cognitive, affective, and behavioral responses. All trajectories shared narrative elements, such as awareness and interpretation of symptoms, triggers to action, and the role of others, that varied across the patterns. Although the 6 trajectories were unique enough to be separate, 4 had commonalities in the evaluation element and were further grouped as knowing. The 2 remaining trajectories shared a common course of action and were grouped as managing (see Table). The women in the 2 groups differed primarily in their awareness and interpretations of
symptoms of myocardial infarction and in their patterns of decisions about whether and how they sought treatment. Women who told stories of managing delayed seeking treatment for their symptoms longer than did those who told stories of knowing.

Reluctance to call 911 was a major theme in many stories regardless of the patterns of decision making.

Knowing Group

The knowing group encompassed women who knew that they would seek care for their symptoms or who knew that they needed help, although this classification does not mean that women knew that they were having a heart attack. All the women in the knowing group had the common defining characteristic of making a decision early; women said they needed to seek help or told someone about their symptoms. This group consisted of 4 trajectories: knowing and going, knowing and letting someone take over, knowing and going on the patient’s own terms, and knowing and waiting.

Most of the fast-track patterns appeared in the knowing group. The fast track is the desired pattern: recognizing symptoms as serious and entering the emergency medical system in less than 1 hour from onset of symptoms. Ideally, women experiencing symptoms of myocardial infarction call 911 within 15 minutes of the onset of the symptoms; indeed, recent guidelines call for the public to respond within 5 minutes. Fast-track responses to symptoms are a model of desired behavior to minimize decision time.

Knowing and Going. The 14 women with stories of knowing and going knew almost immediately that something was wrong; sometimes, but not always, they knew or suspected they were having a heart attack. A total of 9 of the 14 women with this pattern followed a fast track for seeking care, calling for or obtaining help within 1 hour of the onset of symptoms. The key feature of these stories was that women acknowledged something was wrong, made a decision to seek care, and acted on their decision within a relatively short time.

Fast-track knowing-and-going stories described the sudden onset of severe symptoms or of symptoms that soon became severe. A total of 7 women had symptoms that occurred at home; 1 woman’s symptoms started at home, but she then went out to eat; and 1 woman’s symptoms occurred on the job. These 7 women paid immediate attention to their symptoms, that is, they acknowledged the presence of the symptoms. Many noted that they “didn’t think too long about them,” typically because the symptoms were so overwhelming: “When you’re in so much pain, you really don’t think too much, except to get rid of that pain.” All but 2 called 911 (or asked someone present to call) within 30 minutes, although this group was not uniformly confident about using emergency medical services. As 1 woman with a story of fast-track behavior put it, “What if it turned out to be gas again? Then I’d feel like an idiot.” One woman drove herself within this time.

Most of the women (n = 7) thought they were or might be having a heart attack. Some “just knew”; others had learned the symptoms of a heart attack and recognized them. Significantly, their stories indicated that their first thoughts were that something was not right, but not that they were having a heart attack. Some of these women had other conditions, such as diabetes or gastroesophageal reflux disease, and tried medications or checked their blood glucose levels, but they quickly dismissed these possibilities as the cause of their symptoms; this evaluation is central to classification of these stories as knowing and going. Many of these women said they were scared during their experience of the symptoms.

Cognitive processes were key to the knowing-and-going fast-track stories: a quick acknowledgment (perhaps because of the nature of the symptoms) and minimal contemplation. Most women with knowing-and-going stories thought they were or might be having a heart attack: “There’s nothing else behind the left breast,” 1 woman recalled. A key feature of this group is that tellers of fast-track stories did not describe the reasons for the delay in seeking treatment as others had. Physiology may also play a role here; that is, severe symptoms are hard to ignore. However, we also heard stories from women with severe symptoms who did not pursue a fast track, so physiology does not entirely explain their behavior.

The knowing-and-going stories that did not describe fast-track behavior were also similar: these women knew something was wrong and decided early to seek care; thus, their stories echoed fast-track stories, but for various reasons these women did not call 911 or arrive at emergency care within 1 hour of the onset of symptoms. One reason is that symptoms of myocardial infarction are often hard for patients to interpret. For example, 1 woman vomited bile and knew something was wrong, but because she did not think her symptoms were those of a cardiac problem, she went to an urgent care clinic rather than calling 911. In these stories, the women sought care despite a lack of clarity.

Another woman with this pattern had intermittent chest pain for 2 days; she saw her physician, who told
her the pain was gastrointestinal in nature but instructed her to go to the emergency department if the symptoms came back and were not relieved by gastrointestinal medications. When her symptoms recurred later that evening, she followed this advice and had her daughter drive her to the emergency department. We categorized this woman’s story as knowing and going because we focused on the episode of symptoms directly linked to her myocardial infarction. It was sometimes difficult to separate the early warning or prodromal symptoms from the actual myocardial infarction, but our focus was the woman’s decision making for the symptoms of myocardial infarction.

In summary, whether on the fast track or not, women with knowing-and-going stories acknowledged that something was wrong and decided early to seek medical care for their symptoms. They then described acting on that decision.

**Women with stories of knowing and going acknowledged that something was wrong, decided to seek care, and acted on that decision within a relatively short time.**

**Knowing and Letting Someone Take Over:** The stories of the 4 women with the pattern of knowing and letting someone take over suggested that women did not always know or say that their symptoms were heart related or even explain their symptoms. The key feature of this group was that the stories followed a passive pattern: women told someone they had symptoms or admitted so when asked and were willing to go along with recommendations to seek medical care; that is, they allowed someone to “take over.” Sometimes this decision resulted in a fast track, but it is unclear what would have happened if someone had not taken over. None of the women in this group stated that she had other plans for dealing with her symptoms.

For 2 of the 4 women, the symptoms started when the women were out, 1 at church and 1 at work. The other 2 women were at home; 1 woman related her symptoms to her husband, and 1 woman called her daughter. The woman whose symptoms began at work had the sudden onset of headache, jaw and neck pain, and a band of pain and heaviness from armpit to armpit. She thought something was definitely wrong but did not think she was having a heart attack. She first suspected an airborne toxic agent, but then she realized no one else in the office was ill. A coworker came by and said the woman did not look well. From this point in her story, the woman used the pronoun we, saying, for example, “We called the supervisor.” The supervisor agreed the woman did not look well and asked if she wanted someone to call 911. Tellingly, the woman said, “We agreed.” The woman arrived at the emergency department 1 hour after her symptoms started. Knowing-and-letting-someone-take-over stories began similarly to stories in the knowing-and-going group, but then the women followed a more passive pattern to reach medical care, allowing others to take over decision making and enactment.

**Knowing and Going on the Patient’s Own Terms:** The 3 women classified as knowing and going on the patient’s own terms recognized symptoms, but their stories were different. Even when these women described seeking advice, they did not always follow the advice, choosing to reach medical care in other ways. These other ways involved driving to the hospital rather than calling 911 and calling a primary care provider rather than going to the hospital, all of which added time.

One woman had pain “where the head joins the body” as well as shoulder pain and a hot feeling in the middle of her chest. When the symptoms got worse, she decided to seek help. She called her physician’s office; he was not in, but the nurse asked the woman to describe what was wrong. The nurse relayed this information to another physician, who got on the telephone and told the patient she was having “all the symptoms” of a myocardial infarction; she should call 911 immediately and go to the emergency department. As we heard from many women, this woman did not want to call 911 and deal with all the attention produced by an ambulance. So she called her family, but had to make several telephone calls and leave messages before she reached someone. When a family member arrived, the woman asked to be driven to the hospital. On the way, they encountered delays due to road construction. They finally asked to be let through for a medical emergency.

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**Trajectories of responses to symptoms of myocardial infarction (n=52)*

<table>
<thead>
<tr>
<th>Group</th>
<th>Trajectory</th>
<th>No. of women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowing</td>
<td>Knowing and going</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Knowing and letting someone take over</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Knowing and going on the patient’s own terms</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Knowing and waiting</td>
<td>4</td>
</tr>
<tr>
<td>Managing</td>
<td>Managing an alternative hypothesis</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Minimizing</td>
<td>12</td>
</tr>
</tbody>
</table>

*A total of 4 women had patterns that were ambiguous and could not be classified.
All together, it was 5 hours between the onset of the symptoms and arrival at the emergency department.

The stories these women told suggested that they wanted to remain in control and were not willing to let others make decisions for them; the women openly acknowledged that they did not like to ask others for help. One woman’s daughter saw her in bed with symptoms and strongly advised her to go to the hospital, and the woman replied, “No, I don’t want to go to the hospital.” The woman acknowledged, “I guess I want to do everything myself.”

Knowing and Waiting. The 4 women in the knowing-and-waiting group decided that they needed help but did not call during the night or on the weekend. Usually they delayed seeking treatment because they did not want to disturb others; so they waited until the morning or Monday to seek help.

One woman, an 86-year-old widow living in an assisted living facility, first experienced symptoms while she was getting ready for bed. The pain persisted all night. In her story, the woman focused on her reasons for not calling the facility manager or her children. She related that the residents were to contact the manager when they had an emergency so that the manager could call 911. The woman said, “I didn’t want to wake those people.” She also listed the specific reasons she decided not to call her children. Thus, she had decided she needed help, but waited until 6 AM to call.

Summary. The common pattern that tied the 4 knowing trajectories together lies in the evaluation element of each narrative: the recognition of the symptoms as serious, although not necessarily as indicative of a heart attack. The 4 knowing trajectories differed in the actions or sequence of events and symptoms and in the resolution, the various paths taken to seeking treatment.

Managing Group

Women in the managing group had a steady or smooth pattern of decision making. Women with managing stories decided on a course and followed it until a trigger prompted action. A common resolution in this group was to wait to seek help “until she’s in trouble or admits something’s wrong.” The managing group includes 2 patterns: managing an alternative hypothesis (often a gastrointestinal problem such as gastroesophageal reflux disease) and minimizing.

Managing an Alternative Hypothesis. A total of 11 women had stories that fit into the pattern described as managing an alternative hypothesis; 7 of the 11 attributed the cause of their symptoms to gastrointestinal problems. Many started their story by saying, “I thought I had . . .” Thus, these women had developed a working hypothesis or explanation for their symptoms, resulting in the actions they took. These actions involved treating the presumed cause with products such as antacids, baking soda and water, food, and carbonated beverages. Many of the women said they did not realize that their symptoms were related to a cardiac problem: “Having a heart attack never once entered my head,” was a typical response. Others, however, actively ruled out myocardial infarction as the source of their symptoms. One woman who had a family member in the medical profession was told her symptoms could be reflux or a heart attack; she said she’d “go with reflux.”

Although women with stories with other patterns expressed similar thoughts, they moved on to seek help. The actions taken by women with managing stories were steady, in the sense that the women continued to act on their explanation until their symptoms became unbearable or changed. In many instances, the symptoms were severe. Thus, as in the knowing group, severity of symptoms did not always determine the path of behavior.

One African-American woman attributed her symptoms to gallstones. She said she had gas, pain, and hurting in her chest and had been gasping for air. Her total decision time was 30 hours, during which she tried several remedies, including baking soda and water, 7-Up, beer, and food. The last night she vomited all night long and consulted with her mother, who had had gallstones in the past. The woman then asked a friend to drive her to the doctor’s office. The friend decided to drive her to the hospital instead because of the vomiting. This woman stated, “So if I would have known it was my heart, I would have been in a long time ago.”

Several women with stories of managing an alternative hypothesis spoke about worries related to calling 911, a theme we heard in stories from women of all trajectory types. One woman said, “You feel half afraid . . . there’s nothing wrong and you’re going to feel like a fool.” Another woman described her reluctance to go to the emergency department for fear of being told that she was “wasting their [hospital staff’s] time.” A third stated, “I just thought it was serious indigestion, and they were going to laugh at me by the time I got to the doctor’s office,” a statement that describes both her alternative hypothesis and her worry related to seeking care.

Women with managing stories decided on one course and followed it until a trigger (eg, symptoms became unbearable) prompted action.
Minimizing. A total of 12 women had stories that were categorized as minimizing. Women with these stories tried to ignore their symptoms or hoped the symptoms would go away. For example, 1 woman had discomfort in the left side of her chest and in her left arm when she got up in the morning, but she showered, got dressed, and went to work, hoping “maybe it will go away.” Most of the women with minimizing stories did not recognize that their symptoms were related to a cardiac problem. For example, 1 woman with sharp, tight pain in her jaw, ears, and neck said, “To me they did not typify a heart attack.” Most of the women reported that they sat in a chair or went to bed for the time they waited, “If I positioned myself a certain way, it would ease the pain. So I managed that way until the evening.”

Women with minimizing stories tried to ignore their symptoms or hoped they would go away.

A married woman had pain in her neck and jaw, under her arm, and down the arm and hard breathing for a week. When her granddaughter asked whether she should tell the woman’s husband, the woman responded, “No, honey. I’m letting it pass. I’m better now.” Finally, just after putting supper on the table, the woman felt heaviness in her chest and was perspiring, and she decided, “Something is wrong.” So she told her husband she needed to go to the hospital right away, and he drove her. She had had a myocardial infarction the week before and another one at the time she went to the hospital.

The stories in the minimizing group ended in 1 of 2 ways: the woman made the decision to seek help because the symptoms worsened or she decided something was wrong, or a family member decided for her. The steady pattern leading up to the resolution of these stories is what distinguishes stories of minimizing.

Summary. Women’s stories in the 2 trajectory types in the managing group were distinguished by a steady course of actions, or rather “nonactions,” that initially did not include obtaining outside help. Women with stories of managing an alternative hypothesis chose a noncardiac explanation and pursued its management. Several of these women had previously diagnosed noncardiac conditions with similar symptoms, perhaps adding to their difficulty in recognizing the current symptoms as cardiac in origin. The minimizing stories differed from the managing-an-alternative-hypothesis stories in that the women who told the minimizing stories did not acknowledge their symptoms until the symptoms became unbearable or someone else decided to act on them.

Discussion

The descriptions of women’s patterns of cognitive, affective, and behavioral responses from the time of onset of the symptoms of myocardial infarction to entry into the medical system—their decision trajectories—revealed common themes of behavior and action across individual stories, which we categorized into 6 decision trajectories. We also found common components (awareness and interpretation of symptoms, actions, role of others) among the trajectory types. Our findings have important implications for how nurses educate patients about how to respond to cardiac symptoms.

Our results suggest that educating women and their physicians about interpreting the symptoms of myocardial infarction remains a significant obstacle in reducing decision time. Schoenberg et al33 described women’s confusion about the symptoms of myocardial infarction as central to the women’s delay in seeking treatment, as did Finnegan et al,34 who studied survivors of myocardial infarction and bystanders who witnessed the infarctions. The interpretation of symptoms posed challenges for many of the women in our sample as well, and our findings lend context to the longer delay times observed in women.4

“I never thought it was a heart attack,” was expressed in stories with a variety of patterns. Even the knowing-and-going fast-track stories described a lack of clarity about symptoms (“What if it turned out to be gas again?”). And although the stories categorized as managing an alternative hypothesis did not describe uncertainty, the women with these stories fixed on noncardiac origins for their symptoms (“I thought it was just serious indigestion”). McKinley et al35 found that attributing symptoms to a noncardiac cause contributed to delay in seeking treatment.

Similarly, uncertainty about symptoms was evident in stories of knowing and letting someone take over (1 woman thought she was suffering from some kind of airborne toxic agent) and in stories of minimizing (“I
thought it was a toothache”), but resolutions to the narratives differed, partly because of the role of others. The crucial difference is that those women with knowing-and-going stories decided that their symptoms were serious despite uncertainty and took action, and thus these stories may provide key information for teaching women to act in the face of uncertainty.

In addition to uncertainties about the symptoms of myocardial infarction, reluctance to call 911 was a major theme in stories across the patterns of decision making. Previous investigators found that embarrassment about calling 911 may lead to increased delay in seeking treatment. Our results highlight the fact that even some women who told stories of fast-track behavior, deciding to access care quickly and acting on that decision, shared this feeling.

As difficult as recognizing the symptoms and calling 911 were for women, we heard stories that suggested that these factors were not the only obstacle to overcoming delays in seeking treatment. Individual characteristics also played an important role in women’s treatment-seeking decisions and actions. Some women told stories of wanting to remain in control of decision making and actions related to their symptoms, even in the face of advice from a doctor, nurse, or trusted family member. This sort of behavior, rooted not in a lack of knowledge or certainty but in personal characteristics and psychosocial processes, may be difficult to change. Our findings support those of Dempsey et al., who identified control as central to the treatment-seeking process, and add new insight about the need to target educational messages.

We used an inductive approach to describe women’s patterns of decision making and thus did not use an a priori conceptual framework. However, other studies in our program of research are designed on the basis of social cognitive and self-efficacy theories. We chose these approaches because of their potential to provide guidelines for interventions to modify behavior. Many researchers have used Leventhal’s common-sense model of self-regulation as a framework for studying delays in seeking treatment. Our findings are not inconsistent with this theory, which proposes that persons form hypotheses about the meaning of symptoms and then decide on coping actions. The success of those actions is evaluated, and appraisals of their effectiveness are formed. Community-based interventions partially based on Leventhal’s theory have not been successful to date. Our findings suggest that individual, tailored interventions may have more success in producing behavioral changes that would reduce delays in seeking treatment.

Our descriptions of the women’s narratives have limitations, including potential recall bias and the homogeneity of the sample. We were not able to obtain all possible stories, specifically, stories of women who did not survive a myocardial infarction. However, we were able to obtain a range of narratives of women who differed in their delay in seeking treatment, their symptoms, and their resolution of the problem. This study provides useful descriptions of what occurs during the decision time that can be used to develop educational interventions to reduce treatment-seeking delay that are based on women’s experiences of the symptoms of myocardial infarction. Such interventions may be more effective than interventions based on content dictated by healthcare professionals because the interventions are based on what women actually feel, think, and do in these situations.

Rather than trying to explain why women delay seeking treatment for the symptoms of myocardial infarction, we sought to describe what happens during the decision delay period. Researchers to date have elucidated sociodemographic and clinical factors associated with delay in seeking treatment or have focused on discrete aspects of the decision time, such as emotional arousal. In our qualitative descriptive study, we used narrative analysis techniques to detect and categorize commonalities in women’s experience of the entire decision time. We plan to use these descriptions to discuss with women the kinds of situations, behaviors, and responses that result in treatment-seeking delay and thus which paths to avoid with future cardiac events.

Despite all the resources devoted to reducing transport time and therapy time for myocardial infarction, areas in which marked technological advances have been made during the past 2 decades, little progress has been made in reducing patients’ decision time, where most of the minutes, hours, or days of delay are concentrated. We hope that an individualized intervention tailored to women’s experiences will be more effective than previous community-based trials in decreasing decision time. Our narrative analysis of women’s own stories of decision time, resulting in descriptions of 6 decision trajectories (patterns of behavior), describes the course of the myocardial infarction decision time. Our findings therefore provide knowledge women can use to identify factors, responses, or situations that can decrease decision time and ultimately improve women’s cardiac health.

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Commentary by Mary Jo Grap (see shaded boxes).
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Understanding Treatment-Seeking Delay in Women with Acute Myocardial Infarction: Descriptions of Decision-Making Patterns
Anne G. Rosenfeld, Allison Lindauer and Blair G. Darney

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