


Current State of Shared Decision-Making for CT Lung Cancer Screening and Improvement Strategies

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Paul Armstrong Hill, MD, MS, MPH¹

Abstract

Introduction: Lung cancer remains the leading cause of oncologic mortality in the United States. Computed tomography (CT) screening has begun to combat this prevalent health problem. Prior to enrollment, a shared decision-making conversation is required to ensure a patient preference decision. This is the first and only imaging study to hold this requirement and compliance has been suspected to be low, but there is limited literature proving this. **Methods:** At a single academic institution, 30 patients who declined and 38 patients who enrolled in CT lung cancer screening were interviewed about their shared decision-making provider conversation. All referring providers were surveyed regarding their methods of shared decision-making for CT lung cancer screening. Clinical notes were evaluated 9 months prior to 2 interventions and 6 months following the first intervention to improve clinical documentation. **Results:** 85% to 89% of the interviewed patients could not recall a decision aid used during the shared decision-making conversation. Zero percent of clinical notes met the Centers for Medicare/Medicaid Services (CMS) encounter requirements for shared decision-making despite interventions to improve knowledge and ease accessibility to decision aids and documentation templates. **Discussion:** Lack of compliance with CMS requirements has a low patient decision satisfaction. This also places the institution at risk for financial repercussions of reimbursement which may jeopardize the longevity of screening programs. Development of strategies to improve the patient experience and provider facilitation are nascent and require a dedicated leadership team with carefully constructed electronic health record support.

Keywords

shared decision-making, CT lung cancer screening, decision aid, patient preference

Introduction

Lung cancer remains the leading cause of cancer deaths in the United States with more than 150,000 deaths annually (1). Recently, the Lung Cancer Screening Trial demonstrated a survival benefit of computed tomography (CT; CAT scan) lung cancer screening for persons at high risk for lung cancer based on their age and smoking history (2). Centers for Medicare/Medicaid Services (CMS) requires all enrollees to complete a shared decision-making visit with their provider prior to enrolling in this screening (3). The rationale for this mandate stems from a myriad of evidence demonstrating the effectiveness of shared decision-making in improving the patient experience, augmenting provider-patient communication, lowering patient decisional conflict, and increasing patient satisfaction (4).

Currently, there is a paucity of literature and limited resources from CMS regarding the development of successful CT lung cancer screening shared decision-making

programs. This CMS mandate requires providers to engage patients about the implications of entering cancer screening, as there are inherent risks, including false positives, over-diagnosis, and anxiety, that could outweigh the potential health benefit for an individual (5). Most importantly, the shared decision-making conversation must use at least one decision aid (3). A decision aid is a tool typically in paper or electronic form that is constructed to improve patient understanding, elicit questions, standardize information delivery, and guide a patient-provider conversation in weighing a

¹ Department of Radiology, Dartmouth-Hitchcock Medical Center, Lebanon, NH, USA

Corresponding Author:

Paul Armstrong Hill, Department of Radiology, Dartmouth-Hitchcock Medical Center, 1 Medical Center Drive, Lebanon, NH 03756, USA.
Email: paularmstronghill@gmail.com



Requirement	Completed	Incomplete
Eligibility Criteria		
Asymptomatic		
Decision Aid(s) Used: Included risks & benefits		
Counseling on co-morbidities, ability to undergo diagnosis & treatment		
Counseling on the importance of smoking cessation & abstinence		
Provided by physician, nurse practitioner or physician asst.		

Figure 1. Centers for Medicare/Medicaid Services (CMS) shared decision-making encounter requirements.

health decision (6). Decision aids have been proven effective in achieving these goals and is a basic tenet in the CMS mandate (2,5,6).

Unfortunately, early evidence suggests that use of decision aids and shared decision-making prior to enrollment may not be occurring (7–9). We sought to investigate the current shared decision-making practices at our institution to evaluate how these requirements have influenced the patient and provider experiences. Secondly, we aimed to evaluate and improve the encounter documentation to ensure that it satisfied CMS requirements as this serves as the only replicable and evaluable metric of the encounter communication and screening decision.

Methods

Prior to initiation of the study, we received institutional approval from our Committee for the Protection of Human Subjects (CPHS/IRB). Our investigation of the current practices focused on the clinical encounter documentation in the electronic medical record (EMR), group discussions with the referring providers, and interviews with patients who enrolled and declined screening.

Clinical Documentation

A list of patients was furnished by the requisite institutional database for all CT lung cancer screening orders from January 1, 2016, to March 31, 2017, which includes the date and provider information of the shared decision-making encounter. This included an initial review from January 1, 2016, to September 30, 2016, and subsequent continued reviews until March 31, 2017, following 2 rounds of presentations to providers to evaluate for change in documentation. We reviewed solely the clinic note documenting the shared decision-making encounter. Each of the CMS requirements (Figure 1) were evaluated in the EMR note for satisfactory completeness by a single investigator. Data were compiled anonymously in Microsoft Excel for Mac version 15.33.

Provider Experience

Following completion of our initial review of the EMR encounter documentation from January 1, 2016, to September 30, 2016, the lead investigator gave 2 town hall style presentations in October 2016 and January 2017. We shared our ongoing data and requested feedback from the audience of referring generalist providers. We demonstrated how to find the homegrown institutional decision aid on the intranet and the paper form in the clinic. Additionally, a background of the importance of decision aid use, shared decision-making documentation, and the elements of the CMS mandate were discussed. A brief survey using SurveyMonkey was sent to the providers immediately following the group presentation anonymously asking if they used a decision aid, used documentation style, and had confidence in achieving shared decision-making.

In January 2017, the institutional decision aid was linked to the CT lung cancer order to aid in efficiency in access. Smart phrase documentation in the EMR meeting the requirements for CMS was also instituted for easier compliance. These elements were accessible through a best practice alert for those patients who were eligible for CT lung cancer screening.

Patient Experience

Using a random number generator (www.random.org) and the number listed for each patient in the Excel database as an identifier, patients were contacted for telephone interviews. A total of 30 patients who declined screening and 38 patients who enrolled in screening completed the interview. All patients had a shared decision-making encounter at our institution between January 1, 2016, and September 30, 2016. Phone calls were made during the week of November 28 to December 2, 2016. Each patient was cold called by a single investigator via telephone on their listed preferred phone number in the EMR. The investigator identified himself and the purpose of the research to improve shared decision-making delivery at the institution. All patients called verbally agreed to participate in the study. All information was anonymously gathered in Excel and no conversations were recorded. Each patient was asked to recall their shared decision-making encounter and the elements in Figure 1 were described in laypeople terms and asked if they remembered this as a component of the discussion. Each patient was asked if they reached a shared decision with their provider and what that meant to them.

Results

Clinical Documentation

A total of 197 shared decision-making encounter clinical documentation notes were reviewed. Zero clinical notes sufficiently documented all mandated requirements (listed in Figure 1). From January 2016 to September 2016, less than

Table 1. Patient Experiences of Shared Decision-Making.

Patient Responses	Declined Screening	Completed Screening
Recalled a decision aid during shared decision-making encounter	11%	15%
Agreed that choosing screening was a true shared decision with their provider	39%	62%

2% of the clinical notes documented that a decision aid was used during the encounter. From October 2016 through December 2016 following the first round of the primary care provider presentations, this average rose to 3.3% which was not statistically significant. From January 2017 to March 2017 after the second round of presentations, the documentation remained plateaued at 3.5%.

Provider Interview/Experience

A total of 12 referring providers responded to the Survey-Monkey survey, 20% of those electronically sent the survey responded but a total of 50% of those engaged at the October monthly meeting responded. Style of clinical encounter documentation varied with 45% using an independent style, 27% using a smart phrase version, and 28% no documentation. Fifty percent of providers stated that they use a decision aid during the conversation. Seventy percent of providers stated they spend between 1 and 5 minutes discussing lung cancer screening. Zero percent of patients are provided a decision aid or information regarding lung cancer screening prior to the visit. Fifty percent of providers felt that a shared decision occurred with less than 50% of patients they ultimately refer for lung cancer screening. Thirty-three percent felt that a shared decision occurs in 75% to 100% of the patients they refer for lung cancer screening.

Patient Interviews/Experience

A total of 38 patients who enrolled in lung cancer screening were interviewed over the phone. In their recall of the shared decision-making conversation with their provider, only 15% stated that a decision aid was used (Table 1). Reflecting on their experience, 62% of enrollees felt that they made a shared decision with their provider (Table 1). A total of 30 patients who declined lung cancer screening were interviewed over the phone. In their recall of the shared decision-making conversation with their provider, only 11% stated that a decision aid was used (Table 1). Reflecting on their experience, 39% of those who declined screening felt they made a shared decision with their provider (Table 1).

Discussion

Our investigation demonstrated that 0% of our documentation satisfied current mandates. This was reflective of

current practices divulged in our interviews and surveys with low usage of decision aids and mixed inconsistent patient and provider experiences. As a result, the subsequent risks of screening may detrimentally impact our patients and enrollment is not uniformly aligned with patient preferences.

Computed tomography lung cancer screening is the only modality that requires shared decision-making. This unique feature, provider inexperience, and demands of busy clinical practice may have resulted in the observed inadequate performance. Despite attempts to draw attention to deficiencies and educate and modify access to decision aids and documentation tools, we were unable to impact the encounter.

Our study design was limited in that we were unable to provide a streamlined decision aid delivery system or educational materials prior to the encounter. We were also unable to directly sample or educate all referring providers at our educational sessions limiting our leverage to create universal change. Our study design also depended on a small volume of patients remembering an encounter several months prior to our telephone interviews, which allows for significant recall bias.

Reflecting on the initiatives and clinical demands of our providers, the most promising future intervention would be a dual decision aid-EMR documentation tool. Future research could assess if this tool could ease requirement fulfillment, accommodate higher levels of decision access/delivery, and efficiently integrate into the clinical visit. We will utilize the education gained to press forward with stewardship and collaboration to continue to improve the patient experience in CT lung cancer shared decision-making.

Declaration of Conflicting Interests

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Author Biography

Hill is a diagnostic radiologist specializing in abdominal imaging. His research interests are focused on patient outcomes and education/counseling.