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# Evaluating the Cognitive Accessibility of Acute Care Occupational Therapy Discharge Materials for Individuals with Intellectual and Developmental Disabilities

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## Abstract

### Background

People with intellectual and/or developmental disabilities are more likely to have lower levels of health literacy than people without intellectual and/or developmental disabilities. As low health literacy exacerbates poor health outcomes, occupational therapy practitioners should provide cognitively accessible materials to people with intellectual and/or developmental disabilities. While there is evidence that discharge materials may not be cognitively accessible to other populations with cognitive impairments, there is a lack of research examining cognitive accessibility of discharge materials for individuals with intellectual and/or developmental disabilities.

### Methodology

We utilized the Patient Education Materials Assessment Tool, the Simple Measure of Gobbledygook, and a supplemental set of items designed specifically to evaluate cognitive accessibility for people with intellectual and/or developmental disabilities to examine the cognitive accessibility of acute care discharge materials for people with intellectual and/or developmental disabilities. 24 written discharge materials were collected from two acute care occupational therapy departments within a New England city. We assessed materials for cognitive accessibility from three perspectives, which include understandability, actionability, and readability.

### Results

Findings suggest that current materials may not be cognitively accessible to people with intellectual and/or developmental disabilities. Cognitive accessibility was found to be the highest in picture-based materials and materials that included a tool to assist the user.

### Discussion

Occupational therapy practitioners may use findings to adapt their discharge materials to enhance cognitive accessibility for clients with intellectual and/or developmental disabilities.



*Keywords*: accessibility, cognitive accessibility, developmental disability, discharge materials, health literacy, intellectual disability, patient education

## Introduction and Background

People with intellectual and/or developmental disabilities are more likely to experience poor health outcomes and are at higher risk for chronic conditions compared to those without intellectual and/or developmental disabilities (National Disability Services, 2016). In a 2019 study examining Medicare beneficiaries, approximately 73% of people with an intellectual and/or developmental disability receiving Medicare had at least one chronic condition; it is thus no surprise that people with intellectual and/or developmental disabilities subsequently utilize hospital and emergency room services more than the general population (Reichard et al., 2019). When admitted, evidence suggests that people with intellectual and/or developmental disabilities experience longer stays in intensive care units (Ailey et al., 2014), and have higher rates of hospital readmissions (Axmon et al., 2019). Some of these health disparities experienced by individuals with intellectual and/or developmental disabilities may be due to low health literacy, as people with low health literacy levels have been documented to experience higher rates of hospitalizations, challenges with medication, mortality, and overall have lower health status than people with higher levels of health literacy (Berkman et al., 2011; Boardman et al., 2014).

One way in which occupational therapy practitioners can support clients with low health literacy is by ensuring the information they provide is cognitively accessible. Cognitive accessibility is defined as “the extent to which products, systems, services, environments and facilities can be used by people from a population with the widest range of cognitive characteristics and abilities to achieve a specified goal in a specified context of use” (Steel & Janeslätt, 2017, p. 386). When the cognitive demands of health information are high enough to preclude an individual from being able to understand the

information, then the information will not be cognitively accessible to that individual. A lack of cognitively accessible health information, and subsequently, lack of understanding, leads to difficulties acting upon recommendations and information within the materials. Individuals who cannot act upon health information shared with them may have worse healthcare outcomes. Therefore, following an interaction with a healthcare provider, it is imperative that the information the client takes home with them is cognitively accessible.

Typically, hospital discharge materials are provided to a client by the healthcare practitioners they worked with during their stay. This information is intended to give the client instructions for managing their health once they leave the hospital (Zeng-Treitler et al., 2008). Materials may include informational handouts, checklists pertaining to post-surgical precautions, exercise programs, adaptive equipment options and uses, and/or task adaptations. Hospital discharge information may be given via verbal instruction, a handwritten or typed note in which a provider writes the information for the client, or a pre-made instructional sheet that is specific to one condition (Alberti & Nannini, 2012). While verbal instructions are often utilized alone, written, prewritten materials are considered best practice for communicating with clients at discharge (Alberti & Nannini, 2012). While best practice, written discharge materials are only useful insofar as they are understood by clients. For a written material to be considered accessible, the content, layout, and mode of delivery of the material must allow for the individual to demonstrate and act upon their knowledge of the construct, without extraneous cognitive demands (Beddow et al., 2013).

Readability is another critical component of cognitive accessibility. The National Institute of Health recommends that patient materials be written at a 6-7th grade reading level (Hutchinson, Baird, & Garg, 2016). However, studies have found that most patient materials do not adhere to this standard (Lipari et al., 2019, Rahman et al., 2020). Although this 6th-7th grade reading level has been posed to a standard for the general population, evidence suggests that people with intellectual and/or developmental disabilities may benefit from written materials at a 2nd grade level, given the lower average reading level within this population (Boardman et al., 2014; Trenholm, & Mirenda, 2006; Jones, Long, & Finlay, 2006).

Evidence suggests that overall, many materials provided to clients are inaccessible to individuals with low health literacy, including those with diagnoses impairing cognition. Yet, previous research has not evaluated cognitive accessibility specifically with clients with intellectual and/or developmental disabilities in mind. For these clients, there may be additional considerations for cognitive accessibility.

The aim of the present study was to evaluate the cognitive accessibility of acute care discharge materials. In this study, we evaluated three components of cognitive accessibility: understandability, actionability, and grade reading level utilizing both evidence-based health literacy evaluation tools (Patient Education Materials Assessment Tool (PEMAT); Simple Measure of Gobbledygook (SMOG)) and a new set of items, designed to address additional components of cognitive accessibility that may be additionally relevant to clients with intellectual and/or developmental disabilities.

## Methodology

We collected discharge materials from acute care occupational therapy departments within a major New England city. We contacted six different acute care departments via email requesting written occupational therapy materials typically given to clients upon hospital discharge. Additionally, we requested discharge materials specifically intended for people with intellectual and/or developmental disabilities, or for people who may have lower levels of health literacy.

We then evaluated the materials for cognitive accessibility, with a specific focus on readability, actionability, and understandability. *Readability* refers to the grade level that a document is written at; *understandability* describes the extent to which information may be comprehendible by users with a range of literacy levels; *actionability* refers to the extent to which people with different literacy levels are able to act upon the given information (Mc Laughlin, 1969; Shoemaker et al., 2014). If an individual cannot understand the material well enough to be able to act upon the information provided and demonstrate their knowledge of the construct, then the content of the material is not accessible to that individual.

### Instruments

#### *Patient Education Materials Assessment Tool (PEMAT)*

The Patient Education Materials Assessment Tool (PEMAT) is an assessment that was developed to evaluate the understandability and actionability of patient/client education materials (Shoemaker, 2014). The PEMAT consists of 19 items that assess understandability, and seven items that assess actionability. The items that assess understandability pertain to the content, word choice and style, use of numbers, organization, layout and design, and use of visual aids. The items that assess

actionability address the extent to which someone may be able to utilize the material being analyzed (Shoemaker et al., 2014). Psychometric testing suggests the PEMAT has strong internal consistency (α= .71), strong inter-rater reliability (average Gwet's AIC=.74), and moderate inter-rater agreement (average Kappa=.57) (Shoemaker et al., 2014). The PEMAT has been used previously to assess the understandability and actionability of materials shared online by healthcare institutions and to assess understandability and actionability of emergency room discharge materials for clients with traumatic brain injuries (Lipari et al., 2019; Rahman, 2020).

### *Supplemental Cognitive Accessibility Inventory*

To supplement the PEMAT and evaluate additional factors of cognitive accessibility, we created additional items to evaluate the cognitive accessibility of discharge materials specifically for people with intellectual and/or developmental disabilities. The additional items were based on a literature review of guidelines for "cognitive accessibility" specific to individuals with intellectual and/or developmental disability. The items and their rationale for inclusion are described below (Table 1, Supplemental File 1). These items were all conceptualized as addressing understandability.

Table 1

*Supplemental Cognitive Accessibility Inventory Item Description*

| Item | **Description and Supporting References** |
|---|---|
| Item 1:<br>The material utilizes a minimum of one image per idea | Adding an image to accompany written information may help to enhance reader comprehension [a, b, c, d, e, f, g] |
| Item 2:<br>Text is placed adjacent to the image it is describing | Placing text adjacent to images helps link the text and image and reduces ambiguity about what the relationship between the text and words [h, i, j] |
| Item 3:<br>Material only uses positive language when possible | Negative words such as “not”, “do not”, “avoid” and “except” have the potential to cause readers to misunderstand the information in the text [k, i, j] |
| Item 4:<br>Font is 14-point or larger | Typed text bodies, image captions, and tables (i.e., all written text) should utilize a font size no smaller than 14-point to allow for the text to be easily readable [b, i, j] |
| Item 5:<br>The material utilizes bullet points when creating lists | Bulleted lists may aid in the ability to remember items [j] Lists may help readers identify key information [b] |
| Item 6:<br>The material does not utilize italics | Italics may make the text more difficult to read and should be avoided to emphasize a word or phrase [b, i, j] |
| Item 7:<br>The material utilizes a San Serif font | Sans serif fonts reduce visual processing demands [b, i] |
| Item 8:<br>The material is available to access in at least one additional mode to accommodate different needs of the learners | Multiple modalities accommodate a range of cognitive and sensory functions and support needs [d, l] |
| Item 9:<br>The material utilizes colors to meaningfully convey information | Color can assist readers to understanding the text’s message. For example, when used meaningfully, colors that are well known for being associated with certain actions such as green for “go” or red for “stop”, can promote understanding.<br><br>When colors are utilized without purpose, such as using brightly colored text for aesthetics only, it may distract the reader from the intended purpose [b, k] |
| Item 10:<br>The material utilizes a one-inch margin or larger to create more white space | Overcrowded documents increase the cognitive load required by the reader to comprehend the information being provided Guidelines suggest using a minimum of a 1-inch page margin and 0.5 inches between different content on the page [i] |

*Note*. [a] Boardman Bernal, & Hollins, (2014), [b] Department of Health (2010), [c] Jones, Long, & Finlay (2006), [d] Samuels-Kalow, Stack, & Porter (2012), [e] Schubbe, Cohen, Yen, Muijsenbergh, Scalia, Saunders, & Durand (2018), [f] Winokur, Rutledge & McGowan (2019), [g] Zeng-Treitler, Kim, & Hunter (2008) [h] Karreman, van der Geest, & Buursink (2007), [i] Kramer & Schwartz (2017), [j] Centers for Disease Control and Prevention (CDC) (2009), [k] Diagram Center (2016), [l] Waterfern, Heck, Rule, Baldwin, & Boydell (2019).

### *Simple Measure of Gobbledygook (SMOG)*

The Simple Measure of Gobbledygook (SMOG) assesses the readability of written materials by identifying the grade level at which a material is written at based on the complexity of the words within the material (Mc Laughlin, 1996). Although the SMOG's use is not limited to health information, this instrument has been widely used to examine health information provided to clients (Fitzsimmons et al, 2010; Leonard Grabeel et al., 2018; Lipari et al, 2019; Szmuda et al., 2020). Hand-scoring methods such as the SMOG have been documented in the literature to have higher levels of reliability (ICC=.95) compared to computer-generated readability scoring techniques implemented by other commonly used readability tools such as the Flesch-Kincaid (Leonard Grabeel et al., 2018).

## Data Analysis

For all instruments, we rated all materials as described below and met to resolve discrepancies. To ensure consistent rating of items, we discussed the ratings and rationale for each item collectively and developed guidelines for decision making.

### *PEMAT and Supplemental Cognitive Accessibility Inventory*

To score the PEMAT and Supplemental Cognitive Accessibility Inventory, raters indicated if they "agree" (1) or "disagree" (0) with the item's description. Items relating to visuals aids have a "not applicable" option (Shoemaker et al., 2013). To calculate percent adherence to guidelines within the understandability and actionability domains we divided the total amount of "agree" (1) ratings by the total number of items rated (Shoemaker et al, 2013; Lipari et al., 2019). While past studies have considered a score of 70% on the PEMAT to be acceptable (Lipari et al., 2019), we did not select a cutoff

score as indicative of cognitive accessibility for individuals with intellectual and/or developmental disabilities, because there is no evidence for this particular client group (Lipari et al., 2019). Rather, we explored present trends in the types of health literacy features that were and were not present across materials.

To ensure consistent rating of items that were initially interpreted differently between us raters (PEMAT items 1, 12, 22, and 23), we discussed the ratings and rationale for each item collectively and developed guidelines. For item 1 (the material makes its purpose completely evident) there was lack of consensus as to whether the first several of sentences in the document could be considered as “up front text.” We reanalyzed item 1 across all the materials with the shared definition that the first paragraph of a material could be considered “up front text.” For item 12 (the material uses visual cues -e.g., arrows, boxes, bullets, bold, larger font, highlighting to draw attention to key points), we coded “agree” (1) if there was no information that was necessary to draw attention to via visual cues. For item 22 (the material breaks down any action into manageable, explicit steps), we coded items as “disagree” (0) if terms used in the steps were ambiguous. Initially for item 23 (the material provides a tangible tool-e.g., menu planners, checklists- whenever it could help the user take action), we coded materials as “disagree” (0) if they did not have a tool. In our consensus process, we decided that “agree” (1) could be coded if there was no tool and that a tool was not necessary.

***SMOG***

Per previously established scoring guidelines, we independently counted how many words in the first, middle, and last 30 sentences of each material had three or

more syllables (McLaughlin, 1969). We also utilized an alternative scoring option that exists for materials less than 30 sentences. For this option, the rater multiples the conversion number associated with the number of sentences in the material and the number of words with three or more syllables. We considered the material to meet standards of cognitively accessibility for individuals with intellectual and/or developmental disabilities if they met the criteria of 2nd grade reading level or lower, given available evidence about the average reading level of adults with intellectual and/or developmental disabilities (Jones, Long, & Finlay et al., 2006; Ratz, 2013; Trenholm & Mirenda, 2006).

**Identifying relationships between variables**

After rating all materials, we grouped the materials into categories based on their content to evaluate if there were any patterns pertaining to topic. The content categories were “ADL/IADL adaptations,” “post-orthopedic procedure instructions, “body mechanics,” and “therapeutic exercises.” To examine the relationship between the variables of grade level and understandability, and grade level and actionability, we calculated Pearson’s correlations between these variables.

## Results

Two different hospitals provided a total of 19 different materials. One of those materials was divided into 6 separate documents (i.e., individual materials) due to the material being a compilation of documents from different sources. One of those materials was not evaluated due to it not being a client education material, resulting in 24 materials for analysis.

### PEMAT and Supplemental Cognitive Accessibility Inventory-Understandability and Actionality

Inter-rater reliability for the PEMAT items was 84.4%. Understandability scores ranged from 33% to 88%, with a median of 46% and a mean of 51%. Actionability scores ranged from 40% to 100%, with a median of 60% and a mean of 65% (Table 2). There were several areas of consistent strength: no materials required the user to perform calculations, and all materials that included tables had clear rows and headings (100% of materials met criteria for these items). 96% of materials utilized active voice, used clear numbers, and avoided including information that distracted from the material's purpose.

Overall, the materials scored the lowest on the Supplemental Cognitive Accessibility Inventory items (*M*=31%), compared to the standard PEMAT understandability (*M*=64%) and actionability items (*M*=65%). With regards to supplemental cognitive accessibility inventory items, there were no materials that used a 14-point font or greater, and there were no materials that utilized color to support the reader's understanding (e.g., green for actions they should take and red for those they should not). Only one material was available in an additional mode to accommodate different learning styles.

**Table 2**

*PEMAT Understandability and Actionability Scores*

| Material # | Topic | Understandability (PEMAT + cognitively accessibility) | Understandability (Additional cognitive accessibility items) | Understandability (original PEMAT items) | Actionability |
|---|---|---|---|---|---|
| 1 | Brain injury | 44% | 22% | 56% | 60% |
| 2 | Double vision | 33% | 29% | 42% | 40% |
| 3 | Low vision | 39% | 0% | 69% | 40% |
| 4 | Post-brain surgery | 43% | 25% | 54% | 60% |
| 5 | Post-spinal surgery | 48% | 25% | 62% | 60% |
| 6 | ADL with one hand | 58% | 33% | 73% | 80% |
| 7 | Hand exercises | 72% | 50% | 82% | 83% |
| 8 | Adaptive equipment | 46% | 44% | 47% | 80% |
| 9 | Diaphragmatic breathing | 58% | 56% | 60% | 100% |
| 10 | Upper body exercises | 88% | 67% | 93% | 80% |
| 11 | Energy conservation | 43% | 13% | 62% | 40% |
| 12* | Spinal fusion | 45% | 14% | 67% | 60% |
| 13* | Cervical spinal fusion | 45% | 14% | 62% | 60% |
| 14* | Laminectomy | 45% | 14% | 62% | 60% |
| 15* | Ergonomics | 44% | 44% | 44% | 60% |
| 16* | Positioning | 46% | 38% | 50% | 100% |
| 17* | Adaptive car mirrors | 63% | 50% | 69% | 40% |
| 18 | Post-hip surgery | 52% | 22% | 69% | 40% |
| 19 | Pursed lip breathing | 54% | 33% | 71% | 80% |
| 20 | Adaptations for sensory | 37% | 22% | 50% | 60% |
| 21 | Post-shoulder surgery | 43% | 22% | 58% | 80% |
| 22 | Sleep | 50% | 22% | 69% | 80% |
| 23 | Post-knee replacement | 48% | 33% | 56% | 60% |
| 24* | Bed mobility | 79% | 50% | 100% | 100% |
| **Average** | | **51%** | **31%** | **64%** | **65%** |
| **Median** | | **46%** | **27%** | **62%** | **60%** |

*Note*. *Materials that were originally a part of a larger compiled document that were disaggregated for analysis

We observed that materials that included pictures had higher overall understandability and actionability scores. Of the 24 materials analyzed, five were picture-based documents with minimal text. The average understandability (PEMAT understandability and Supplemental Cognitive Accessibility Inventory) of these was 66%, compared to 41% for the materials that were not picture-based. The average actionability of the five picture-based materials was 85%; compared to 65% for those that were not picture-based. Of the nine materials with actionability scores $\geq$80%, four out of the eight were picture-based, and six out of eight did include at least one picture. Seven of these materials also incorporated a tool to assist the user with action when appropriate. We did not observe any differences in understanding or actionability across content covered.

**SMOG**

On the SMOG, we had 63% agreement when scoring, with 100% of discrepancies being within one grade level. Grade levels ranged from 5$^{th}$ grade to 14$^{th}$ grade, with a mean and median of 9$^{th}$ grade (Table 3). We observed that the five picture-based materials had an average grade level of 7.2, compared to the overall average of 9.3 for all other materials. When we examined materials grouped by content, we observed that across all content, materials exceeded our standard for grade level (ADL/IADL adaptation: 9.4, post-orthopedic procedure instructions: 8.6, body mechanics: 7.67, therapeutic exercises: 7.8).

**Table 3**

*SMOG Grade Levels*

| Material | Topic | Grade Level |
|---|---|---|
| Material 1 | Brain injury | 11 |
| Material 2 | Double vision | 10 |
| Material 3 | Low vision | 14 |
| Material 4 | Post-brain surgery | 11 |
| Material 5 | Post-spinal surgery | 8 |
| Material 6 | ADL with one hand | 8 |
| Material 7 | Hand exercises | 7 |
| Material 8 | Adaptive equipment | 8 |
| Material 9 | Diaphragmatic breathing | 9 |
| Material 10 | Upper body exercises | 6 |
| Material 11 | Energy conservation | 10 |
| Material 12* | Posterior spinal fusion | 8 |
| Material 13* | Cervical spinal fusion | 8 |
| Material 14* | Laminectomy | 9 |
| Material 15* | Ergonomics | 11 |
| Material 16* | Positioning do's and don'ts | 7 |
| Material 17* | Adaptative car mirrors | 10 |
| Material 18 | Post-hip surgery | 9 |
| Material 19 | Pursed lip breathing | 8 |
| Material 20 | Adaptations for sensory | 9 |
| Material 21 | Post-shoulder surgery | 9 |
| Material 22 | Sleep | 9 |
| Material 23 | Post-knee replacement | 9 |
| Material 24* | Bed mobility | 5 |
| **Average** | | **9** |
| **Median** | | **9** |

*Note*.*Materials that were originally a part of a larger compiled document that were disaggregated for analysis

### Relationship between Grade Level and Understandability and Actionability

A *post hoc* analysis was completed to examine the relationship between reading grade level and (a) understandability and (b) actionability. Upon visual examination, it appeared that there may be an inverse relationship between grade level, and both understandability and actionability. To further evaluate this relationship, we calculated the correlation between grade level and both understandability and actionability. We identified significant, moderate inverse relationships between grade level and understandability ($r = -.66$, $p < .01$), and between grade level and actionability ($r = -.65$, $p < .01$).

## Discussion

The ability for people with intellectual and/or developmental disabilities to be involved in their own healthcare fosters self-determination and health promotion. As people with intellectual and/or developmental disabilities experience more chronic conditions and interact with healthcare systems more frequently than those without intellectual and/or developmental disabilities, it is essential to have cognitively accessible hospital discharge information. The findings of this study suggest that, on average, acute care occupational therapy discharge information may not be cognitively accessible to people with intellectual and/or developmental disabilities.

While there is a prevailing belief that people with intellectual and/or developmental disabilities will often have a caregiver accompanying and supporting them in healthcare interactions, this is not always accurate, and this belief can justify inaction by healthcare professionals to increase accessibility. We assert that all individuals have the right to direct access to healthcare information, and that

occupational therapy practitioners can lead the way in ensuring such access. Occupational therapy practitioners have the skills to address many of the strategies that were notably absent in the analyzed materials. For example, occupational therapy practitioners can ensure materials use multiples modalities (e.g., visual, audio, written) to accommodate diverse learners and communicators, ensure large enough font sizes, plain language, and effectively use color and clear visuals to convey information. These strategies will support understanding for any individual receiving materials (including client supporters, people with low literacy due to other causes, etc.)

Findings of the present study highlight several trends in cognitive accessibility of acute care discharge materials, one of which was a relationship between grade level and understandability and actionability. Our observation of a moderate inverse relationship between grade level and understandability and grade level and actionability suggests that as grade level decreases, actionability and understandability increases. However, we note, two understandability items directly address plain language and jargon, and thus this measure may not be mutually independent from reading grade level. Therefore, when materials are purposefully written in simpler language they are more likely to adhere to several criteria related to understandability (e.g., use of common, everyday language; active voice, etc.). Client materials that included a tool were overall more actionable, and picture-based materials overall had higher understandability and actionability scores. Incorporation of these features may also have impact or drive other features of understandability and actionability, resulting in more cognitive accessible materials.

Current literature examining the cognitive accessibility of health information has yielded similar findings. Health information that was intended for clients with specific chronic conditions as well as clients with cognitive impairments have been found to not meet criteria for readability, actionability, and understandability (Lipari et al., 2019; Rahman et al., 2020). With current health information being inaccessible to people with cognitive impairments, such as people with intellectual and/or developmental disabilities, there is a need to increase the accessibility of healthcare materials. The findings of this study and others support the need for more accessible materials. Occupational therapy practitioners and other healthcare providers may draw upon the growing literature describing how to create cognitively accessible discharge materials for people with intellectual and/or developmental disabilities (Boardman, Bernal, & Hollins, 2014; Jones, Long & Finlay, 2007; Karreman, van der Geest, & Buursink, 2007).

The findings have several implications for occupational therapy practitioners. In the acute care setting, client education at discharge is critical to realizing long-term outcomes and reducing readmissions (Alberti & Nannini, 2012; Rogers et al., 2016; Zeng-Treitler et al., 200.8). As health promotion is one of the basics tenets of occupational therapy practice, occupational therapy practitioners have an obligation to ensure that the information we provide is cognitively accessible to all clients so that they may adequately manage their health. This is especially pertinent to clients with cognitive impairments as they over represent acute care client populations (Ailey et al., 2014; Axmon et al., 2019). To enhance cognitive accessibility of discharge materials, occupational therapy practitioners may utilize tools such as the PEMAT and the

Supplemental Cognitive Accessibility Inventory (see Supplemental file) as they develop materials and then, to evaluate them prior to sharing with clients. They may also evaluate readability by utilizing a readability instrument such as the SMOG or other tools built into word processing software. Occupational therapy practitioners may also incorporate pictures and tools in discharge materials, as materials with those features were the most cognitively accessible in the present study. Finally, occupational therapy practitioners should actively seek feedback from people with intellectual and/or developmental disabilities to improve the cognitive accessibility of discharge materials.

**Limitations and Future Considerations**

There are several limitations related to the generalizability of this study. First, we only evaluated client education materials from occupational therapy departments within one city. The findings of this study are not representative of all acute care occupational therapy departments within the United States or the region. Second, ten new items were developed to evaluate the cognitive accessibility of the materials for people with intellectual and developmental disabilities; the extent to which these items are valid and reliable is unknown. However, these items were derived from the literature on cognitive accessibility for individuals with intellectual and developmental disabilities, and our team had 88.75% inter-rater reliability for these items. Further research should include people with intellectual and/or developmental disabilities to understand what features would optimize cognitive accessibility of discharge materials. Future research may examine the extent to which cognitively accessible materials are associated with positive post-discharge outcomes.

## Conclusion

The cognitive accessibility of discharge materials allows for people with intellectual and/or developmental disabilities to be more self-determined in managing their health. The findings of this study highlight the cognitive inaccessibility of current occupational therapy discharge information from acute care settings. Occupational therapy practitioners should carefully examine their written discharge materials for incorporation of features that support cognitive accessibility. This may include materials that are written at 2nd grade reading level or lower, materials that are picture-based, and materials that include tools to assist clients in the health promoting action they are being asked to perform.

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