NOTE TO BRENT: The timing on this request was problematic with all of the SC edits for 2.1 and the Passover and Easter Holiday. We need more time to get this in front of COGA and on their agenda to review.

Initial note from Shari: As you can see, I made quite a number of suggestions and revisions. While I understand why you combined cognitive and neurological it makes this section complicated very quickly. I looked at your other sections (physical, visual, hearing, and speech). Following how those are laid out, I suggest deleting neurological all together and just calling it cognitive. I haven't been able to come up with a neurological disorder that isn't addressed by covering physical, visual, hearing, speech and cognitive (this includes ASD, TBI, etc). Along the same vein, I suggest deleting the examples as well. There are too many differences in definitions from country to county. If the goal is to help designers create accessible websites/technology then I would focus on that and not create mass confusion by trying to define.

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Neurological disabilities involve disorders of any part of the nervous system, including the brain and the peripheral nervous system. d and like neurological disabilities, can impact how people process information and express themselves.For the purposes of this section, we are not address visual, auditory or physical…that information can be found in the section with that heading. Cognitive/ neurological disabilities do not necessarily affect the intelligence of a person.

# More about cognitive and neurological disabilities:

Computer technologies and the Web provide many opportunities for people with cognitive / neurological disabilities to interact with content and to process information in ways that are more usable to them. For example, people can navigate web content using different strategies, access information in text, audio, or other formats, and change the presentation of the content according to their individual needs or preferences.

Depending on the particular needs of an individual, people with cognitive and neurological disabilities may need:

* Clearly structured content that facilitates overview and orientation
* Consistent labeling of forms, buttons, and other content parts
* Predictable link targets, functionality, and overall behavior
* Different ways of navigating websites, such as through a hierarchical menu or search option
* Options to suppress blinking, flickering, flashing, or otherwise distracting content
* Text written in plain language that may be supplemented by symbols, images, graphs, or other illustrations

People with cognitive and neurological disabilities use different types of web browsing methods, depending on their particular needs. For instance, some people use text-to-speech software to hear the information while reading it visually, or use captions to read the information while hearing it. Some people use tools that resize text and white space and some may customize colors to assist with reading. Grammar and spelling tools may also be used to assist with writing. For these web browsing methods to work, developers need to consider web accessibility requirements which are often shared by people with hearing, physical, speech, or visual disabilities.

# Examples of Cognitive and Neurological Disabilities

This is the section that concerns me the most and the one that I think will need more edits and support from COGA. There is just too much here to rush through this. I would recommend posting it as is and giving people more time to review the document.

I know for sure that the comment about ADHD replacing ADD is inaccurate. ADD is technically a subtype of ADHD called, “ADHD, Predominantly Inattentive Type.” There are actually three different types of ADHD. [Understood.org has an article explaining this](https://www.understood.org/en/learning-attention-issues/child-learning-disabilities/add-adhd/the-3-types-of-adhd).

* **Attention deficit hyperactivity disorder (ADHD) is a chronic condition and includes a combination of persistent problems such as difficulty maintaining attention, hyperactivity and impulsive behavior.**
* **Autism spectrum disorder (ASD)** (includes "autism", "Asperger syndrome", and "pervasive developmental disorder (PDD)) - involves impairments of social communication and interaction abilities, and sometimes restricted habits and interests
* **Intellectual disabilities** (sometimes called "[learning disabilities](https://www.w3.org/WAI/intro/people-use-web/diversity#learning)" in Europe and some other countries, and "developmental disabilities" in other regions) - involves impairments of intelligence, learning more slowly, or difficulty understanding complex concepts. Down syndrome is one among many different causes of intellectual disabilities
* **Learning disabilities** - is a functional term rather than a medical condition, and is not uniformly defined. Learning disabilities impact a person’s ability to process information. This can impact learning reading, writing and/or math as well as higher-order level skills. In Europe and some other countries it refers to [intellectual disabilities](https://www.w3.org/WAI/intro/people-use-web/diversity#intellectual), while in Australia, Canada, the U.S., and some other countries it refers to [perceptual disabilities](https://www.w3.org/WAI/intro/people-use-web/diversity%22%20%5Cl%20%22perceptual).
* **Mental health disabilities** - includes anxiety, delirium, depression, paranoia, schizophrenia, and many other disorders. These conditions may cause difficulty focusing on information, processing information, or understanding it. In particular medication for these disorders may have side effects including blurred vision, hand tremors, and other impairments
* **Memory impairments** - involves limited short-term memory, missing long-term memory, or limited ability to recall language. Dementia is one among many different causes of memory impairments
* **Multiple sclerosis** - causes damage to nerve cells in the brain and spinal cord, and can affect auditory, cognitive, physical, or visual abilities, in particular during relapses
* **Perceptual disabilities** (sometimes called "[learning disabilities](https://www.w3.org/WAI/intro/people-use-web/diversity#learning)" in Australia, Canada, the U.S., and some other countries) - involves difficulty processing auditory, tactile, visual, or other sensory information. This can impact reading (dyslexia), writing (dysgraphia), processing numbers (dyscalculia), or spatial and temporal orientation
* **Seizure disorders** - includes different types of epilepsy and migraines, which may be in reaction to visual flickering or audio signals at certain frequencies or patterns

# Examples of Barriers for People with cognitive and neurological disabilities

* Complex navigation mechanisms and page layouts that are difficult to understand and use
* Complex sentences that are difficult to read and unusual words that are difficult to understand
* Long passages of text without images, graphs, or other illustrations to highlight the context
* Moving, blinking, or flickering content, and background audio that cannot be turned off
* Web browsers and media players that do not provide mechanisms to suppress animations and audio
* Visual page designs that cannot be adapted using web browser controls or custom style sheets