Title: Medical Students' Perceptions, Knowledge, and Competence in Treating Neurodivergent, Disability, and Chronic Illness (NDCI) Populations: Results from a Cross-Sectional Study

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Authors Contribution Statement:

Contributor Role	Role Definition	Authors								
		1	2	3	4	5	6	7	8	9
Conceptualization	Ideas; formulation or evolution of overarching research goals and aims.	X	X	X	X	X	X	X	X	X
Data Curation	Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later reuse.	X								
Formal Analysis	Application of statistical, mathematical, computational, or other formal techniques to analyze or synthesize study data.	X		X						
Funding Acquisition	Acquisition of the financial support for the project leading to this publication.									
Investigation	Conducting a research and investigation process, specifically performing the experiments, or data/evidence collection.	X								X
Methodology	Development or design of methodology; creation of models	X	X	X	X	X	X	X	X	X
Project Administration	Management and coordination responsibility for the research activity planning and execution.	X								X
Resources	Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools.									X
Software	Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components.									
Supervision	Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team.	X	X							X
Validation	Verification, whether as a part of the activity or separate, of the overall replication/reproducibility of results/experiments and other research outputs.	X								
Visualization	Preparation, creation and/or presentation of the published work, specifically visualization/data presentation.									
Writing – Original Draft Preparation	Creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation).	X	X	X	X			X	X	
Writing – Review & Editing	Preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision – including pre- or post-publication stages.	X	X	X	X	X	X	X	X	X

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Discussion Points:

1. 15% of medical students at a large public university reported feeling comfortable taking care of patients identifying as neurodivergent, as having a disability, or as having a chronic illness.
2. How comfortable do you think medical students are with caring for patients with disabilities, chronic illnesses, or on the neurodivergent spectrum?
3. Medical student surveys suggest that there remain wide gaps in medical education around caring for individuals who are neurodivergent, with a disability, or have a chronic illness.
4. How can we reduce health disparities for individuals with neurodivergence, disability, and chronic illness? Are medical students ready to care for these individuals?
5. Lack of physician knowledge is an important factor contributing to health disparities for neurodivergent, disability, and chronic illness populations. What other factors might be contributing?

ABSTRACT.

Background: Globally, Neurodivergent, Disability, and Chronic Illness (NDCI) populations face significant health disparities. Lack of physician knowledge about NDCI is a key mechanism underlying these disparities. The current study aimed to describe medical students' perceptions, knowledge, and competence regarding NDCI.

Methods: A cross-sectional study was carried out using an online survey of medical students at a large public university with no NDCI-specific curriculum (*n* = 97; response rate = 18%). The survey asked about students' perceptions, knowledge, and competence pertaining to NDCI populations.

Results: Most (*n* = 93, 96%) indicated it is important for physicians to understand the influence of NDCI on patient health and clinical encounters. Yet, only 7 (7%) and 15 (15%) reported that the NDCI curriculum in their medical school was sufficient and they felt comfortable taking care of patients with NDCI, respectively. Most (*n* = 87, 90%) wanted their medical school to provide additional NDCI training. Few reported high knowledge about ableism (*n* = 12, 12%), self-determination (*n* = 7, 7%), coordinating care (*n* = 4, 4%) and accommodations (*n* = 10, 10%). Few indicated high competence in cognitive, physical, social-emotional, and other NDCI types (*n* = 7 – 32, 7-33%). Existing knowledge often came from personal experiences or the news and media.

Conclusion: Findings demonstrated the gaps in medical education, as exemplified by medical students surveyed in one U.S. public university. Results can inform efforts to ameliorate global health disparities associated with a lack of physician knowledge about NDCI.

Key Words: Medical School; Medical Students; Education; Medical education; Disabled Persons

INTRODUCTION.

650 million individuals worldwide have a disability, including chronic conditions requiring accommodations, temporary or permanent physical or sensory disabilities, and/or cognitive, educational, and social differences.[1] In recognition of the broad spectrum of disability—and in alignment with the social model of disability—the current paper refers to these populations as Neurodivergent, Disability, and Chronic Illness (NDCI) populations.[2]

Despite representing the largest minority group (10% worldwide; 26% nationally), NDCI populations face significant health and healthcare disparities.[1,3] They have higher prevalence rates for chronic diseases and lower rates of preventive care utilization relative to non-NDCI populations.[4] According to the Centers for Disease Control and Prevention (CDC), one in three NDCI adults does not have a typical healthcare provider and experiences unmet healthcare needs.[3] Lower rates of healthcare access begin in childhood and continue across the life course.[5–8] The COVID-19 pandemic highlighted that having an NDCI condition was among the strongest independent risk factors for a COVID-19 diagnosis and COVID-19 mortality.[9]

Physician lack of knowledge about NDCI is one mechanism underlying health disparities. Overall, physicians report stress, lack of confidence, fear, and anxiety in providing care for NDCI patients.[10] Less than half report high confidence that they can provide quality care to NDCI patients and many hold biased perceptions of this population.[11] Physicians also struggle with navigating key aspects of NDCI patient care, including ableism, self-determination, coordinating care, and accommodations, which compromises healthcare quality.[12]

A lack of knowledge originates from shortcomings in medical education training worldwide.[13] For example, only half of U.S. medical school deans report having education curricula about biopsychosocial aspects of caring for patients with NDCI in their schools.[14] Indeed, there is a long history of excluding NDCI populations from conversations about diversity in medical education and society more broadly.[15] For example, medical education competencies do not specifically identify NDCI conditions[16] and in the instances where an NDCI-focused curriculum is available, content typically focuses on those with physical NDCI conditions.[14] Furthermore, competencies do not necessarily translate into changes in curricula. As a result, medical students often graduate without the capacities necessary to treat NDCI patients.

Improving physician knowledge and competence by exploring opportunities to provide education to medical students may address health disparities for this population. The purpose of this study is to describe current medical students' perceptions, self-reported knowledge, and competence related to treating NDCI patients. Findings have the potential to inform changes to medical school curricula that can ameliorate health disparities for NDCI populations.

METHODS

Overview

The current study was cross-sectional and featured the administration of a Qualtrics survey targeting all medical students at a diverse public university in Los Angeles, California (*n* = 531). The survey was disseminated via e-mail listservs and social media and was available for two weeks (05/14/21 – 05/31/21). Recruitment was concurrent with the survey administration during that period. Inclusion criteria included any student currently enrolled in the host institution as a medical student who was at least 18-years-old. This information was confirmed in two screening questions on the survey. Any student who did not meet these criteria was redirected to the end of the survey. A priori power analysis (80% 1- β, alpha = 0.05) indicated a recommended sample of approximately 100 participants. This research was approved by the host institution's Institutional Review Board (IRB#21-000798).

Survey development

Survey development was an iterative and collaborative process among a team of students and faculty affiliated with the host institution. This team included an NDCI focused- medical student organization, internal medicine residents, and physicians with expertise in NDCI. Psychology and public health researchers provided the content and methodological expertise. Several of the survey developers self-identified as having an NDCI or had a close friend or family member with an NDCI. All collaboration took place utilizing virtual tools such as Zoom and Google Docs. The survey domains—self-reported perceptions, knowledge, and competence—were derived from a series of team discussions identifying the key priorities pertaining to working with patients with NDCI. The team cross-checked surveys that assessed similar constructs and adapted items as necessary to align the work with ongoing efforts.[18] The challenges due to the COVID-19 pandemic required data collection with minimal burden on potential participants. As a result, the team prioritized a survey administration of less than 10 minutes.

NDCI survey

The final survey (see Supplemental Material) included 10 Likert Scale questions reflecting self-reported perceptions (Cronbach's alpha = 0.48), knowledge (Cronbach's alpha = 0.85), and competence (Cronbach's alpha = 0.97) as well as background and demographic questions.

Statistical analyses

Frequency and descriptive statistics were obtained for each survey item utilizing IBM SPSS Statistics, version 28. Perceptions were categorized based on the frequency of responses that indicated strongly or somewhat disagree, neither agree nor disagree; or strongly or somewhat agree. Knowledge was categorized based on responses that indicated the respondent was not or slightly knowledgeable, moderately knowledgeable, or very or extremely knowledgeable. Competence was categorized based on whether respondents indicated they were extremely or somewhat incompetent; neither competent nor incompetent; or extremely or somewhat component. Respondents were asked to select all knowledge sources that applied. Percentages were rounded to the nearest whole number.

RESULTS.

Study participants

The sample featured 97 medical students, yielding a response rate of 18%. As displayed in Table 1, the sample was diverse with respect to race and ethnicity (White: *n* = 41, 42%; Black: *n* = 6, 6%; Native American/Alaska Native: *n* = 1, 1%; Middle Eastern or North African: *n* = 3, 3%; Two or more races: *n* = 5, 5%; Hispanic/Latinx: *n* = 15, 16%) and year in medical school (1: *n* = 36, 37%; 2-3: *n* = 29, 30%; 4+: *n* = 17, 18%). The majority reported a close friend or family member with an NDCI condition (54%). Self-reported perceptions, knowledge, knowledge sources, and competence related to working with patients with NDCI are presented in Table 2 and Figure 1.

Perceptions

Few indicated they strongly or somewhat agreed that the NDCI-focused curriculum in their medical school is sufficient (*n* = 7, 7%) and that they feel comfortable taking care of patients with NDCI (*n* = 15, 15%). Most strongly or somewhat agreed that they would like their medical school to provide additional training about NDCI (*n* = 87, 90%) and physicians need to understand the influence of NDCI on patient health and clinical encounters (*n* = 93, 96%).

Self-Reported Knowledge

Few indicated that they were knowledgeable about ableism and using anti-ableist language (*n* = 12, 12%), self-determination for patients with NDCI (*n* = 7, 7%), coordinating care (*n* = 4, 4%), and accommodations or benefits (*n* = 10, 10%) for individuals with NDCI.

Students indicated that the news/media and personal experiences were their primary sources for knowledge on ableism and using anti-ableist language (news/media: *n* = 53, 55%; personal experience: *n* = 53, 55%). They were also the primary sources for self-determination (news/media: *n* = 23, 24%; personal experience: *n* = 34, 35%) and accommodations and benefits (news/media: *n* = 30, 30%; personal experience: *n* = 53, 55%). Most received their knowledge about coordinating care for patients with NDCI from personal experience (*n* = 40, 41%), followed by medical school education (*n* = 20, 21%).

Self-Reported Competence

Few reported that they were extremely or somewhat competent in caring for individuals with Attention Deficit Hyperactivity Disorder (ADHD, *n* =32, 33%), other social/ emotional/ mental illness or disability (*n* = 28, 29%), hearing loss (*n* = 27, 28%), NDCI related to using a wheelchair (*n* = 27, 28%), autism spectrum disorder (*n* = 20, 21%), other physical disability (*n* = 20, 21%), obsessive compulsive disorder (*n* = 19, 20%), schizophrenia (*n* = 18, 19%), other cognitive disability (*n* = 15, 15%), and cerebral palsy (*n* = 7, 7%).

DISCUSSION.

This paper describes medical students' self-reported perceptions, knowledge, and competence related to working with NDCI populations. The study aligns with previous research that reports a lack of NDCI-specific training in medical school in the U.S. and worldwide.[13,19,20] Findings can inform efforts to promote NDCI knowledge and competence among health care workers.

Medical students endorsed the importance of physicians' understanding of NDCI on patient health and clinical encounters. At the same time, most felt that NDCI is insufficiently covered in the curriculum, and they do not feel comfortable caring for patients with NDCI. Most would like their medical school to provide additional training about NDCI. Results support previous findings that medical students require more NDCI training as well as provide new insight into their motivation to receive more substantial training.

In particular, students reported low knowledge about ableism, self-determination, and coordinating care, accommodations, and benefits for individuals with NDCI. Existing knowledge on these topics predominantly came from personal experiences or the news and media rather than education or training, which reinforces previously identified gaps in medical training.[13,19,20] Few reported high competence for any of the NDCI conditions asked about on the survey, indicating the need for medical education to provide training on individuals with all NDCI conditions, regardless of support needs or prevalence of the condition.

Gaps in education may be partially due to an under-representation of individuals with NDCI employed in healthcare professions. Three to five percent of medical students disclose an NDCI, which is significantly lower than the U.S. NDCI prevalence of 26%.[3] It is unclear if this is due to barriers causing underrepresentation in the field or barriers in disclosure and requesting accommodations. Nonetheless, this underrepresentation limits the eventual number of physicians with lived experience managing long-term health conditions, navigating the healthcare system, and requesting accommodations. This, in turn, makes it less likely that NDCI conditions are prioritized in efforts to train the next generation of physicians.

We propose several next steps to address disparities for individuals with NDCI attributable to a lack of physician knowledge. First, we propose that medical schools develop NDCI-focused curricula to foster knowledge and understanding of NDCI and ensure that future doctors can effectively support this population. In accordance with principles of universal design, curricula should be multi-modal and integrate discussion-based sessions, didactic materials, and case studies.[21] Faculty, administrators, and students should identify practical strategies for implementing this curriculum among the numerous other topics that must be covered in medical school.

Second, there is a need to address barriers to medical school for students with NDCI conditions. Medical student recruitment efforts should prioritize outreach to this population. Concerted efforts should be made within medical schools to ensure all curricula are accessible and provide flexible options for clinical requirements. It should be standard practice that faculty receive NDCI-specific training and collaborate to create a medical school culture that proactively accommodates all students. Third, there is a need to prioritize NDCI-specific education before and after medical school. Efforts before medical school should begin early in development when stigma about

NDCI originates, be tailored to children's developmental capacities, and be integrated into general educational curricula.[22] Efforts after medical school should be integrated into training as Continuing Medical Education. Across all curriculum development efforts, there is a need to collaborate with individuals with NDCI themselves. This is critical to ensure learning objectives, course content, and target outcomes align with their needs, experiences, and priorities.

There were several limitations of this research. Our survey yielded a low response rate relative to the recommended 30% for online surveys.[23] Survey administration coincided with the many challenges associated with the ongoing COVID-19 pandemic. Most students reported having a close family member or friend with an NDCI, so responses may have favored those with personal investments in the topic. Response bias may have also favored less comfortable or more dissatisfied with the available NDCI training.[24] In addition, the pandemic highlighted and reinforced disparities for NDCI populations and students may have experienced renewed awareness of these issues.

Further, this research may not be representative of all medical students worldwide. This research was conducted with a small sample of students at a single U.S. institution. Future research should capture a larger and more representative sample and glean cultural and geographic differences. Moreover, there are several emerging medical school initiatives to bolster education pertaining to NDCI populations and results may not apply to institutions that already offer NDCI training.[25] In addition, the current study was descriptive and did not rule out the possibility that medical students, in general, may feel less competent in any area of medicine or patient group. NDCI may be one of many inadequately addressed topics in medical education. Future research should investigate whether students' capacities differ significantly for NDCI conditions relative to other conditions.

It should also be noted that this survey was meant to be exploratory and spur additional research; given the constraints presented by the pandemic, we prioritized expedient research methods and design. Future efforts should build on this study by creating a validated tool with robust psychometric properties. Finally, a strength of the survey was that it was developed via a collaborative process among interdisciplinary faculty and students; this survey, however, might not represent the priorities of all faculty and students. Future efforts should involve more extensive collaborations.

CONCLUSION.

This research demonstrates the gaps in medical education pertaining to NDCI populations, as reported by medical students surveyed in one U.S. public university. Results can inform changes to medical school curricula and efforts to ameliorate health disparities associated with a lack of physician knowledge about NDCI.

SUMMARY - ACCELERATING TRANSLATION

Title: Medical Students' Perceptions, Knowledge, and Competence in Treating Neurodivergent, Disability, and Chronic Illness (NDCI) Populations: Results from a Cross-Sectional Study

Main Problem to Solve: 650 million individuals worldwide have a disability, including chronic conditions requiring accommodations, temporary or permanent physical or sensory disabilities, and/or cognitive, educational, and social differences. In recognition of the broad spectrum of disability—and in alignment with the social model of disability—the current paper refers to these populations as Neurodivergent, Disability, and Chronic Illness (NDCI) populations. NDCI populations face significant health and healthcare disparities. Indeed, having an NDCI condition was among the strongest independent risk factors for a COVID-19 diagnosis and COVID-19 mortality. Physician lack of knowledge about NDCI—originating from shortcomings in medical training worldwide— is an important mechanism underlying health disparities.

Aim of Study: The purpose of this study is to describe current medical students' perceptions, self-reported knowledge, and competence related to treating NDCI patients. Findings have the potential to inform changes to medical school curricula that can ameliorate health disparities for NDCI populations.

Methodology: The current study was cross-sectional and featured the administration of an online survey targeting all medical students at a diverse public university in Los Angeles, California. Survey development was an iterative and collaborative process among a team of students and faculty affiliated with the host institution. The final survey included 10 Likert Scale questions reflecting self-reported perceptions, knowledge, and competence, as well as background and demographic questions. The sample featured a diverse sample of 97 medical students.

Results: Few medical students surveyed indicated that the NDCI-focused curriculum in their medical school was sufficient and reported feeling comfortable taking care of patients with NDCI. Most wanted additional training about NDCI. Few indicated that they were knowledgeable about ableism and using anti-ableist language, self-determination for patients with NDCI, coordinating care, and accommodations or benefits for individuals with NDCI. Existing knowledge about these topics primarily came from the news, media, and personal experiences. When asked about specific NDCI conditions, few students reported that they were extremely or somewhat competent in caring for individuals with each condition.

Conclusion: Findings from this research demonstrate the gaps in medical education, as exemplified by medical students surveyed in one U.S. public university. Results can inform efforts to develop NDCI curricula and ameliorate global health disparities associated with a lack of physician knowledge about NDCI conditions.

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1 **FIGURES AND TABLES.**

2 **Table 1. Sample Characteristics**

Variable	n = 97	%
Race		
White American	41	42%
Asian American, Native Hawaiian, or Pacific Islander	26	27%
Black or African American	6	6%
Two or more races	5	5%
Native American or Alaska Native	1	1%
Middle Eastern or North African	3	3%
I do not wish to answer.	*7*	*7%*
No response	*8*	*8%*
Ethnicity		
Not Hispanic/Latinx	66	68%
Hispanic / Latinx	15	16%
No response	*16*	*17%*
Close friend or family member with an NDCI		
Yes	52	54%
No	28	29%
No response	17	18%
Year in medical school		
1	36	37%
2-3	29	30%
4 +	17	18%
No response	15	16%

3

1

Table 2. Perceptions, knowledge, and competence related to working with patients with NDCI

Variable	Strongly / somewhat disagree		Neither agree nor disagree		Strongly / somewhat agree		No response	
Perceptions	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
The disability-focused curriculum in my medical school is sufficient.	74	76%	16	17%	7	7%	0	0%
I feel comfortable taking care of patients with disabilities.	74	76%	8	8%	15	15%	0	0%
I would like my medical school to provide additional training about disabilities.	4	4%	6	6%	87	90%	0	0%
It is important for physicians to understand the influence of disability on patient health and clinical encounters.	1	1%	1	1%	93	96%	0	0%
	Not /slightly knowledgeable		**Moderately knowledgeable**		**Very / extremely knowledgeable**		**No response**	
Knowledge	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Ableism and using anti-ableist language[1]	44	45%	34	35%	12	12%	7	7%
Self-determination for patients with disabilities [2]	58	60%	26	27%	7	7%	6	6%
Coordinating care for patients with disabilities [3]	71	73%	16	17%	4	4%	6	6%
Accommodations and benefits for individuals with disabilities [4]	53	55%	28	29%	10	10%	6	6%
	Extremely /somewhat incompetent		**Neither competent nor incompetent**		**Extremely / somewhat competent**		**No response**	
Competence	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Autism spectrum disorder	46	47%	16	17%	20	21%	15	16%
ADHD	29	30%	21	22%	32	33%	15	16%
Other cognitive disability	42	43%	25	26%	15	15%	15	16%
Cerebral palsy	59	61%	16	17%	7	7%	15	16%
NDCI requiring the use of a wheelchair	36	37%	19	20%	27	28%	15	16%
Other physical disability	38	39%	24	25%	20	21%	15	16%
Obsessive compulsive disorder	43	44%	20	21%	19	20%	15	16%
Schizophrenia	41	42%	23	24%	18	19%	15	16%
Other social, emotional, or mental illness/disability	27	28%	27	28%	28	29%	15	16%
Hearing loss	36	37%	19	20%	27	28%	15	16%

Note: Sources are not mutually exclusive

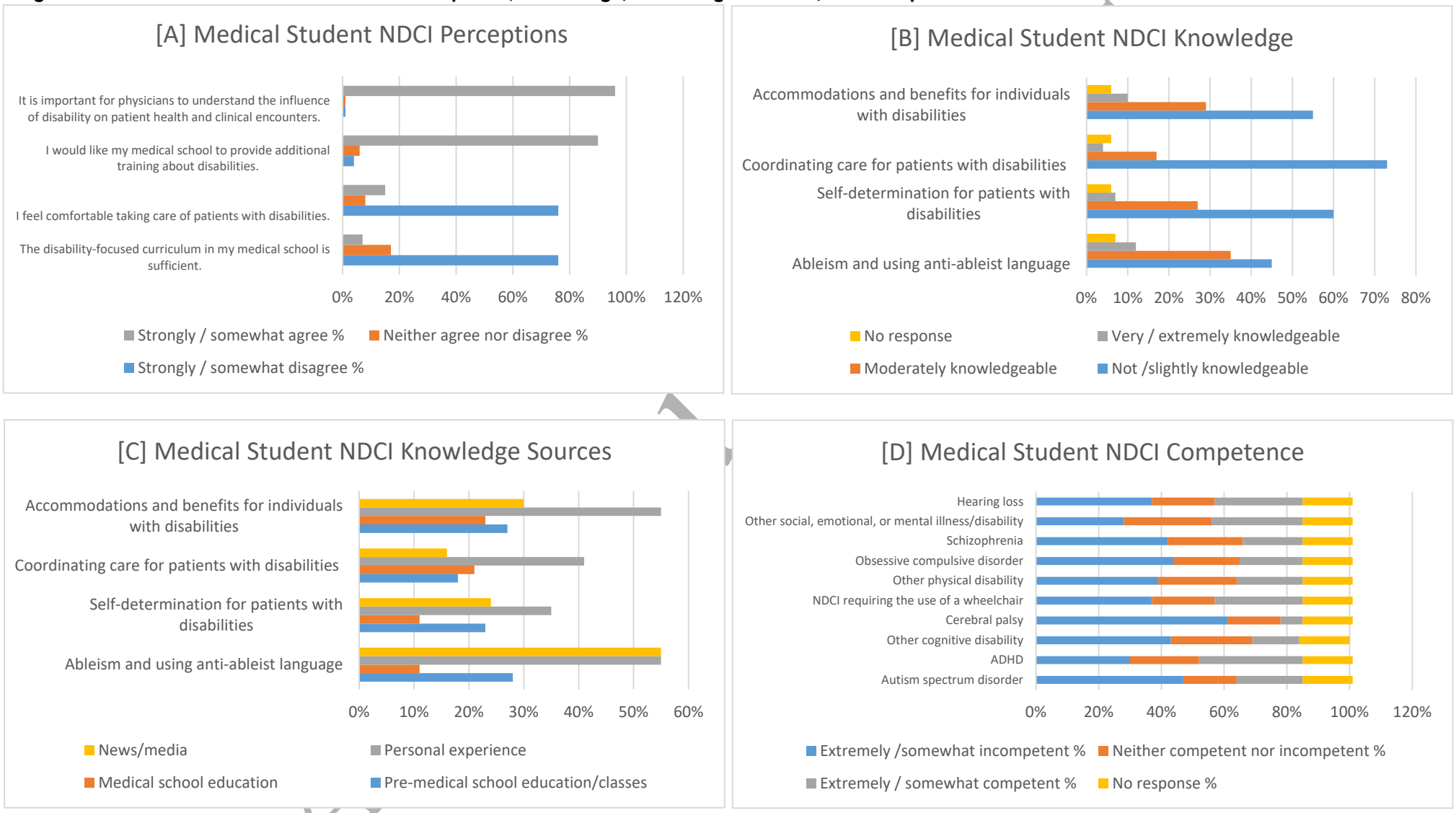
[1] Source: Pre-medical school education/classes (n = 27, 28%); Medical school education (n = 11, 11%); Personal experience (n = 53, 55%); News/media (n = 53, 55%); Other (n = 16, 17%).

[2] Source: Pre-medical school education/classes (n = 22, 23%); Medical school education (n = 11, 11%); Personal experience (n = 34, 35%); News/media (n = 23, 24%); Other (n = 17, 18%).

[3] Source: Pre-medical school education/classes (n = 17, 18%); Medical school education (n = 20, 21%); Personal experience (n = 40, 41%); News/media (n = 15, 16%); Other (n = 16, 17%).

[4] Source: Pre-medical school education/classes (n = 26, 27%); Medical school education (n = 22, 23%); Personal experience (n = 53, 55%); News/media (n = 30, 30%); Other (n = 21, 22%)

Figure 1. Medical Students' NDCI-Related Perceptions, Knowledge, Knowledge Sources, and Competence



Supplementary Material

Supplemental Material: NDCI Survey

Are you a current [medical school] student?

- ○ Yes (1)
- ○ No (2)

Q2 Are you at least 18 years or older?

- ○ Yes (1)
- ○ No (2)

Q3 Please indicate the extent to which you agree/disagree with the following statements.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
The disability-focused curriculum in my medical school is sufficient. (1)	○	○	○	○	○
I feel comfortable taking care of patients with disabilities. (2)	○	○	○	○	○
I feel comfortable conducting all portions of the physical exam and history for a patient with a disability. (3)	○	○	○	○	○
I would like my medical school to provide additional training about disabilities. (4)	○	○	○	○	○
I believe it is important for physicians to understand the influence of disability on patient health and clinical encounters. (5)	○	○	○	○	○
My medical school is supportive of medical students with disabilities. (6)	○	○	○	○	○

Q4 Rate your knowledge on the following topics.

	Not knowledgeable at all (1)	Slightly knowledgeable (2)	Moderately knowledgeable (3)	Very knowledgeable (4)	Extremely knowledgeable (5)
Ableism, and using anti-ableist language (1)	○	○	○	○	○
Self-determination for patients with disabilities (2)	○	○	○	○	○
Coordinating care for patients with disabilities (3)	○	○	○	○	○
Health disparities for individuals with disabilities (4)	○	○	○	○	○
Accommodations and benefits for individuals with disabilities (5)	○	○	○	○	○

Q5 Indicate the source of your knowledge on the following topics (select all that apply).

	Pre-medical school education/classes (1)	Medical school education (2)	Personal experience (3)	News/media (4)	Other (5)
Ableism, and using anti-ableist language (1)	☐	☐	☐	☐	☐
Self-determination for patients with disabilities (2)	☐	☐	☐	☐	☐
Coordinating care for patients with disabilities (3)	☐	☐	☐	☐	☐
Health disparities for individuals with disabilities (4)	☐	☐	☐	☐	☐
Accommodations and benefits for individuals with disabilities (5)	☐	☐	☐	☐	☐

Q6 Rate how competent/comfortable you feel treating/providing care for an individual with the following disabilities within your intended specialty.

	Extremely incompetent (1)	Somewhat incompetent (2)	Neither competent nor incompetent (3)	Somewhat competent (4)	Extremely competent (5)
Autism spectrum disorder (1)	○	○	○	○	○
ADD/ADHD (2)	○	○	○	○	○
Other cognitive disability (3)	○	○	○	○	○
Cerebral palsy (4)	○	○	○	○	○
Impairment requiring the use of a wheelchair (5)	○	○	○	○	○
Other physical disability (6)	○	○	○	○	○
Obsessive compulsive disorder (7)	○	○	○	○	○
Schizophrenia (8)	○	○	○	○	○
Other social, emotional, or mental illness/disability (9)	○	○	○	○	○
Hearing loss (10)	○	○	○	○	○
Other (rate/specify if there are other conditions you would like to rate your competence/comfort with) (11)	○	○	○	○	○

End of Block: Block 3

Q7 Do you or a close friend/family member have a disability?

- ○ Yes (3)
- ○ No (4)
- ○ I don't know. (6)

Q8 Please indicate your year in medical school.

- ○ 1 (1)
- ○ 2 (2)
- ○ 3 (3)
- ○ 4 (4)
- ○ >4 (5)

Q9 Are you Hispanic/Latinx?

- ○ Yes (1)
- ○ No (2)

Q10 Please indicate your race (select all that apply).

- ☐ White American (1)
- ☐ Black or African American (2)
- ☐ Native American or Alaska Native (3)
- ☐ Asian American, Native Hawaiian, or Pacific Islander (4)
- ☐ Middle Eastern or North African (5)
- ☐ Two or more races (6)
- ☐ I do not wish to answer. (7)