From Classroom to Counter: Neuro-Affirming Care and Learning in Pharmacy

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1

Speakers Conflict of Interest

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Dr. Brittany Hoffmann-Eubanks, PharmD, MBA declares no conflicts of interest with ineligible companies to disclose

Dr. Olajumoke (Jummy) Amuwo, PharmD, MPH, BCPS declares no conflicts of interest with ineligible companies to disclose

Learning Objectives

At the conclusion of this activity pharmacists and pharmacy technicians will be able to:

1. Differentiate between neurotypical, neurodivergence, and neuro-affirming care, and describe their implications for pharmacy practice, patient communication, and learner support.
2. Identify common sensory, communication, and processing barriers that neurodiverse individuals may encounter in healthcare and educational environments.
3. Apply practical strategies to adapt patient counseling, workflow processes, and learning environments to better support neurodiverse individuals.
4. Discuss inclusive and strengths-based approaches to mentoring and teaching neurodiverse learners, as well as strategies for providing respectful, patient-centered care to neurodiverse patients.

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3

AI Disclosure Statement

Artificial intelligence (AI) tools were used in the development of this presentation. Microsoft Copilot was used for slide design. ChatGPT was used to generate images. Claude was used to support case development. All AI-generated content was reviewed and edited by the presenters. Both presenters attest to the accuracy of the information presented.

Agenda

1. Neurodiversity Overview
2. Importance of Neuro-affirming care
3. Neurodiversity in Pharmacy Learning Environments

Neurodiversity Overview

Terminology: Recognizing the Difference

Neurotypical

Individuals whose neurocognitive functioning falls within what a society currently considers the "typical" or statistically standard range.

Neurodivergent

An umbrella term for individuals whose brain and cognitive development falls outside, or 'diverges' from the typical range.

Neurodiversity

The natural variation of brains and minds across a population emphasizing cognitive diversity vs deficit

Doyle N. Br Med Bull. 2020;135(1):108-125.
Goldberg H. *Encyclopedia.* 2023; 3(3):972-980.
Pantazakos T, Vanaken GJ. *Front Psychol*. 2023;14:1225152
Walker N, Raymaker DM. Autism Adulthood. 2021;3(1):5-10.

A Brief History of Neurodiversity

1970s — Disability Rights Roots

Self-advocates reject the idea that disabled minds and bodies need "fixing."

1990s — First Use

Emerges across the Autistic online community; widens to ADHD and Dyslexia.

2013 — Debate to Data

First data asking Autistic people how they see themselves; different, not deficient.

Today — Still a Gap

Neuro-affirming care advocacy; not yet standard; education and training limited.

Blakely ML. Am J Pharm Educ. 2022 Nov;86(8):ajpe8876. Botha M, et al. Autism. 2024;28(6):1591-1594. Bury SM, et al. Neurodiversity. 2026;4. Dopheide JA, et al. Am J Pharm Educ. 2017;81(7):5925 Doyle N. Br Med Bull. 2020;135(1):108-125. Kapp SK, et al. Dev Psychol. 2013;49(1):59-71. Sinclair J. Our Voice. 1993;1(3). Zaneva M, et al. eLife. 2024;13:e102467

Neurodivergent Conditions

- Autism Spectrum Disorder (ASD)
- Attention-Deficit/Hyperactivity Disorder (ADHD)
- Combined diagnosis of ASD and ADHD (AuDHD)
- Dyscalculia (difficulty with math)
- Dysgraphia (difficulty with writing)
- Dyslexia (difficulty with reading)
- Dyspraxia (difficulty with coordination)
- Intellectual disabilities
- Tourette Syndrome
- Mental Health conditions (e.g. bipolar disorder, OCD, etc.)
- Others

Cleveland Clinic – https://my.clevelandclinic.org/health/symptoms/23154-neurodivergent

Why Should Pharmacy Care?

15-20%

Includes co-occurring conditions

≈ 1 in 5 adults

~6%
have ADHD

~15-20%
have Dyslexia

~2.5%
have Autism

CDC. MMWR Surveil Summ. 2025;74(2)1-28; . Dietz PM, et al. J Autism Dev Disord. 2020;50(12):4258-4266; Doyle N. Br Med Bull. 2020;135(1):108-125. Staley BS, et al. MMWR Morb Mortal Wkly Rep. 2024;73(40):890-895; Yale Center for Dyslexia & Creativity. Dyslexia FAQ. Accessed Aug 2026; YouGov. Neurodiversity and neurodivergence in the United States. Accessed Aug 2026.

Importance of Neuro-Affirming Care

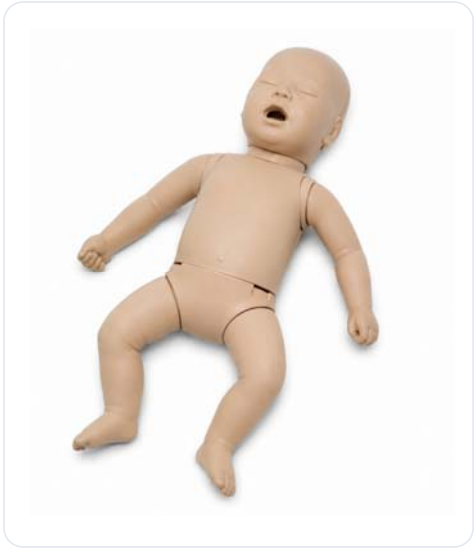
What Is Neuro-Affirming Care?

No single agreed-upon definition exists in the literature yet

Meet People Where They Are	Respect Difference	Preserve Dignity
Adapt communication, environment, and pacing to the person not the reverse.	Being neurodivergent does not diminish personhood.	Support informed decisions and speak directly to the patient, not just caregivers.

Doyle N. *Br Med Bull*. 2020;135(1):108-125. Hamilton LG, Petty S. *Front Psychol.* 2023; 14, 1093290 Kapp SK, et al. *Dev Psychol.* 2013;49(1):59-71. Hamilton LG, Petty S. *Front Psychol.* 2023; 14, 1093290. Lerner MD, Gurba AN, Gassner DL *J Consult Clin Psychol.* 2023:91(9): 503–504. Walker N, Raymaker DM. *Autism Adulthood*. 2021;3(1):5-10.

Visual Activity



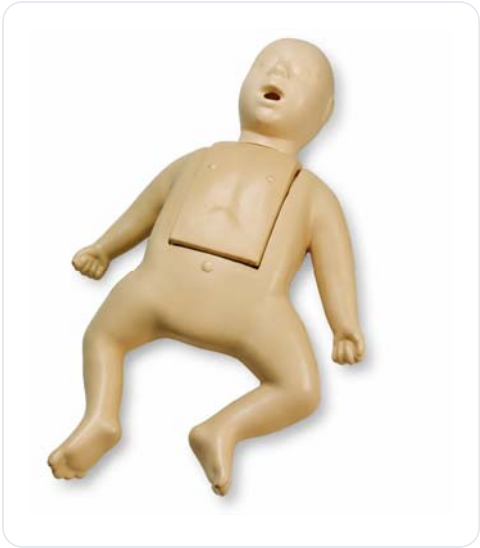


Photo Source: OpenAI. Generated June 2026

Why Words Matter

"Alien babies. So, we'll just call them special needs."

Difference is not deficiency

Small Group Activity

Think *(1 min)*	**Pair** *(2 min)*	**Share** *(4 min)*
Think of a moment when casual language shaped how a patient or student was seen. What did you do, or wish you had done?	Share your example with your neighbor and why it landed the way it did	We will share as a group one or two anonymous examples Just the moment and its impact

Common Barriers to Care Delivery

Sensory	Bright fluorescent lighting, overhead pages, alarm-heavy rooms, shared-room privacy limits, and unfamiliar textures (e.g., gowns)
Communication	Literal interpretation, clinical jargon, open-ended questions, rapid-fire history taking, lack of alternative communication pathways
Routine & Change	Unpredictable rounding times, unit transfers, shift changes, loss of routine (e.g., patient's own schedule, food, meds, etc.)
Executive Function	Verbal detail beyond the written discharge summary, coordinating provider follow-ups, and medication changes

Cominotti A, Green C. Health Serv Insights. 2026;19:11786329261465576. Moreno-Duarte I, et al. EClinicalMedicine. 2024;76:102846. Strömberg M, et al. Autism Adulthood. 2022;4(1):66-75. Talley M, et al. Front Pediatr. 2024;12:1427433.

Why Provider Behavior Matters

Patient experiences point to three levels of influence:

Patient Level	Provider Level **The Deciding Factor**	System Level
Communication style, sensory sensitivities, processing speed	Knowledge, assumptions, accessible language, accommodations offered	Availability of supporters, complexity, facility accessibility

The takeaway: patients and systems vary, but provider knowledge and behavior are the levers you can control with each patient encounter.

Nicolaidis C, et al. Autism. 2015;19(7):824-831. Moreno-Duarte I, et al. EClinicalMedicine. 2024;76:102846.

Practical Strategies

Mindset

Assume competence. Stay curious, not corrective. Avoid signaling frustration or impatience

Communication

Clear, direct language. Allow extra processing time. Offer alternatives like written or visual instructions

Environment

Reduce sensory triggers: lighting, noise, wait times, and people in/out of the room

Ask, Don't Assume

Ask the patient directly what works for them – not just the caregiver, if present

Moreno-Duarte I, et al. EClinicalMedicine. 2024;76:102846. Cohen AB. Milbank Q. 2023;101(4):1003-1008.

Case Study: Meet Jordan

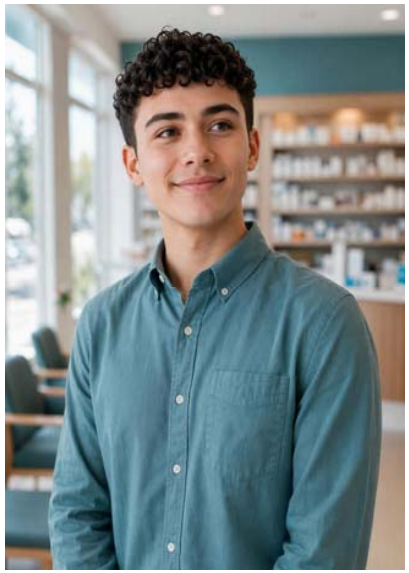


Photo source: Open AI. Generated August 2026.

The pharmacist joins morning rounds and finds Jordan, a 20-year-old male patient, visibly agitated, fidgeting, and giving short, frustrated answers to routine questions.

Rounds almost moves on, chalking it up to a difficult morning - until the pharmacist asks what's going on.

Jordan explains he has already answered these exact questions twice today - once for a resident and once for a nurse - and no one seems to be checking what is already documented before asking again, and the incessant beeping is bothersome.

Case Study: Meet Jordan

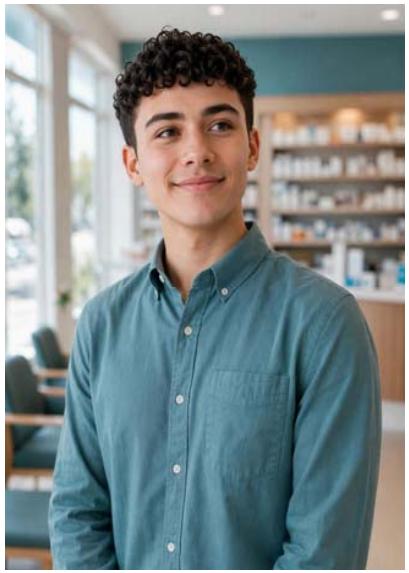


Photo source: Open AI. Generated August 2026.

Group Discussion:

1. What assumptions might the team have made about Jordan before learning the real cause?
2. What care barriers may be contributing to Jordan's agitation and discomfort?
3. What strategies could be implemented next time to help improve his experience?

Neurodiversity in Pharmacy Learning Environments

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Neurodivergent Conditions

- Autism Spectrum Disorder (ASD)
- Attention-Deficit/Hyperactivity Disorder (ADHD)
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- Dyslexia (difficulty with reading)
- Dyspraxia (difficulty with coordination)
- Intellectual disabilities
- Tourette Syndrome
- Mental Health conditions (e.g. bipolar disorder, OCD, etc.)
- Others

Cleveland Clinic – https://my.clevelandclinic.org/health/symptoms/23154-neurodivergent

Prevalence of Neurodivergent Pharmacy Learners

~43%

≈ 2 in 5 people*

* Either a formal diagnosis or self-diagnosed neurodivergent condition

20-30%
have ADHD¥

~10%
have OCD

~6%
have Autism

¥16% in graduate/professional students, per ACHA-NCHA

Over 50% of pharmacy students reported that their neurodivergence has negatively impacted their academic performance

Crawford AN, et. al. *Am J Pharm Educ*. doi:10.1016/j.ajpe.2026.1019977
Lapointe M, at. al. *Am J Pharm Educ*. doi:10.1016/j.ajpe.2024.100970
American College Health Association-National College Health Assessment (ACHA-NCHA). 2025.

Barriers Neurodivergent Learners May Face

Classroom/Didactic, Experiential (IPPE/APPE), Residency

Sensory	Bright fluorescent lighting, clinic's smell, temperature, comfort of furniture, stimming, hospital monitors beeping, lack of designated sensory-free space (e.g. on hospital rotation)
Communication	Inability to "read the room", dense verbal instructions, unwritten social rules with preceptors, hesitancy to speak in new settings, fear that disclosure of neurodivergent condition may affect evaluation of competence
Routine & Change	Inflexibility with schedule changes – e.g. rounding times, last minute change in task, inconsistent patient load depending on the service
Executive Function	Time management with high-stakes exams, rapid/quick responses (e.g. Code Blue, rapid-fire cold calling), difficulty getting/staying organized to get through task, frequent breaks, different learning style - visual, auditory, kinesthetic, etc.

What is Universal Design for Learning (UDL)?

UDL is a proactive, inclusive educational framework that aims to improve and optimize teaching and learning for all people based on scientific insights into how humans learn. UDL provides a blueprint for creating materials that **work for everyone, not a single, one-size-fits-all solution** but rather flexible approaches that can be customized and adjusted for individual needs.

The CAST UDL Guidelines help educators address the diversity in learning in three main categories:

Engagement	Representation	Action & Expression
the **why** of learning	the **what** of learning	the **how** of learning

CAST (2024). CAST Universal Design for Learning Guidelines version 3.0. Retrieved from https://udlguidelines.cast.org

Universal Design for Learning (UDL) Guidelines

A simplified overview - adapted from the CAST UDL Guidelines 3.0 framework

GOAL: Learner Agency - purposeful, resourceful, strategic & action-oriented

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ENGAGEMENT The **WHY** of learning	REPRESENTATION The **WHAT** of learning	ACTION & EXPRESSION The **HOW** of learning
Foster Interest & Effort · Choice, autonomy & relevance · Joy, challenge & support · Collaboration & belonging *Guidelines 7 & 8*	**Perceive & Understand** · Multiple ways to perceive info · Clarify language & symbols · Represent diverse perspectives *Guidelines 1 & 2*	**Act & Communicate** · Flexible response & navigation · Multiple media & tools · Access to assistive technology *Guidelines 4 & 5*
Build Self-Regulation · Awareness of self & others · Reflection & empathy · Manage emotions & mindset *Guideline 9*	**Build Knowledge** · Connect prior knowledge · Highlight patterns & big ideas · Support transfer of learning *Guideline 3*	**Build Strategy** · Set meaningful goals · Plan for challenges · Monitor & organize progress *Guideline 6*

CAST (2024). CAST Universal Design for Learning Guidelines version 3.0. Retrieved from https://udlguidelines.cast.org

26

Applying UDL in the Pharmacy Learning Environment, Examples

Educational Setting	CAST UDL Guideline	Examples
Didactic classroom	Action & Expression	Offer a variety of menu options for smaller formative assessments, e.g. when giving a presentation, offer creative liberties with format – traditional presentation slides, mock trial, poetry, drawing, photovoice, video recording, etc.
Skills-based laboratory	Representation	Provide written, stepwise procedure with photos, if possible. Offer pre-recorded video demos of the technique ahead of class time so students can be prepared.
Experiential	Engagement	Co-create learning goals and schedule at the beginning of the rotation to facilitate a predictable daily routine.
	Representation	Model the "think-aloud" process where the preceptor verbalized their cognitive process to reach a clinical decision.

Practical Strategies for Educators & Preceptors

Strength-Based Mentorship

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Instructions

- Pair verbal directions with written/visual checklists; preview the day's structure at rotation start

Sensory Environment

- Allow noise-reducing headphones during independent work; flexible lighting where feasible

Assessment

- Give credit for different (not just faster or louder) ways of contributing to team-based care.
- Offer alternative formats where rigor allows; extended processing time

Feedback

- Structured, specific, written follow-up to verbal debriefs

Culture

- Normalize asking “how do you learn/work best?” for every learner, not just those with a disclosed diagnosis, and not just when something goes wrong

Hard Lines & Flex Points

Built on the CAST/UDL principle: "firm goals, flexible means." Useful for learners and patients

Category	What It Means	Example Decisions
Hard Lines (Non-Negotiables)	Tied to patient safety, licensure, accreditation competency, or legal requirement. The goal itself cannot flex.	HIPAA compliance; independently verifying an order; sterile compounding technique; demonstrating the required ACPE competency
Flex Points	The delivery method or format can vary without changing the underlying goal or standard.	Class recordings; noise-cancelling headphones or a quiet space; fidgets; alternate formats to demonstrate the same competency
Case-by-Case (Negotiables)	Reasonable people could land differently - decide based on why the rule exists.	Due dates (e.g. firm if tied to live patient care; flexible if administrative); what counts as participation; live vs. asynchronous attendance; break timing

The guiding question: "If I change this, does it change what the learner needs to know or do safely?"

- **Yes → non-negotiable.**
- **No → flex point.**
- **Not sure → case-by-case.**

CAST (2024). CAST Universal Design for Learning Guidelines version 3.0. Retrieved from https://udlguidelines.cast.org

From Learning to Practice

Pharmacy education must reflect the care we expect pharmacists to deliver.

1. UDL teaches us to design instruction that flexes to the learner - not a single fixed approach for every pharmacy learner

2. The same principle applies the moment learners step into practice: patients don't fit one communication style either

3. If we prepare pharmacy learners through flexible, learner-centered education, we should equip them to provide flexible, patient-centered care

That care has a name: neuro-affirming care

Case Study: Meet Mary G

Photo source: Open AI. Generated August 2026.

Mary G is a P4 student on a community/inpatient APPE has not disclosed a diagnosis. The preceptor notices excellent chart review, but the student freezes during rapid verbal patient counseling, needs extra time switching tasks, and seems overwhelmed during high-volume hours.

Discuss in small groups (5-7 mins)

1. What are some practical strategies you can implement to help this student succeed on this rotation?
2. Using the hard-line/flex-point framework, which parts of this rotation are truly non-negotiable, and which are flex points?

Key Take-aways

1. Neurodivergence is common – among your patients, coworkers, and students
2. Neuro-affirming care is not an optional soft skill; it is clinical competence
3. Small changes carry real weight – adjust one thing in your next encounter
4. Firm goals, flexible means - in the classroom and at the counter

Assessment Question 1

Since neuro-affirming care is evidence-based, applying the same accommodation to every neurodivergent patient (for example, always providing written instructions) ensures consistent, high-quality care.

A TRUE

B FALSE

Assessment Question 2

A patient becomes visibly distressed by the fluorescent lighting and background noise in a pharmacy waiting area. This is an example of which type of barrier?.

A Communication

B Executive function

C Routine & change

D Sensory

Assessment Question 3

When preparing for the APPE student assigned to you, you want to ensure you are considering your neurodivergent learners when developing learning materials. Which of the following represents the most common neurodivergent conditions experienced by pharmacy students?

A. ASD and ADHD

B. ADHD and Dyscalculia

C. Dyslexia and ASD

D. Dyspraxia and Tourette Syndrome

Assessment Question 4

A PGY1 resident on your rotation is autistic and disclosed this to you at the start of the block. He is excellent at literature review and catches drug-interaction details other residents miss, but during rounds he gives brief, direct answers and doesn't add extra small talk with the team. Another preceptor mentions to you that the resident "seems disengaged" and suggests you note it in his evaluation.

A Give him extra coaching on "reading the room" so his communication style during rounds matches the rest of the team's.

B Document in his evaluation that he needs to improve team engagement and communication skills.

C Recognize his direct communication and analytical rigor as clinical assets and privately ask how he prefers to contribute during rounds.

D Reduce his rounds presentations going forward, since verbal communication appears to be a challenge for him.

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