

# Developing Evaluation Measures for Telehealth Medical Homes Serving Neurodiverse Populations

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## Background

- Patient-centered medical home models emphasize multidisciplinary and continuous care
- A growing evidence base demonstrates **superior effectiveness** compared to traditional practices, especially for neurodiverse patients<sup>1,2</sup>
- The **UC-LEND clinic** provides interdisciplinary care with this model, but is unique in its telehealth delivery
- Telehealth may reduce barriers around access to high-quality care for neurodivergent individuals but also has new challenges around technology, privacy, and financing

## Objectives

- To identify and assess **evaluation measures** for telehealth medical home models serving neurodiverse patients
- Identify an **evaluation framework** for the LEND clinic and literature gaps

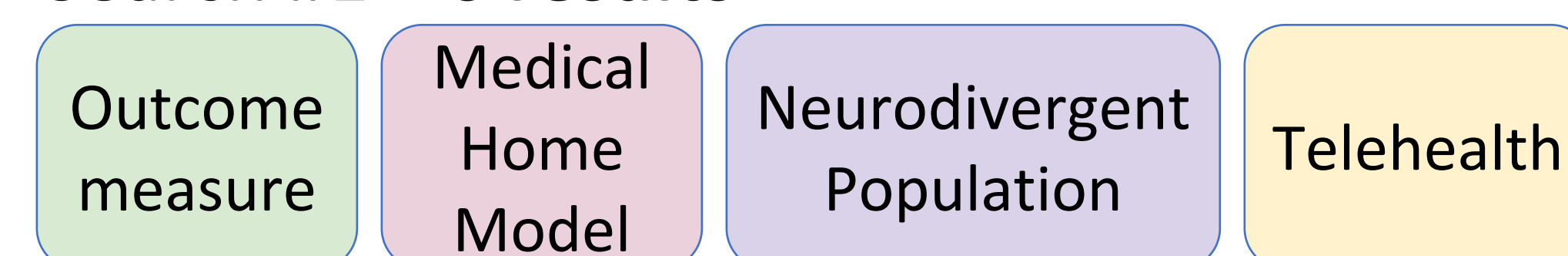
## Methods

Four criteria for relevant Medical Subject Headings (MeSH) terms were identified for a **systematic review** of PubMed database (Table 1)

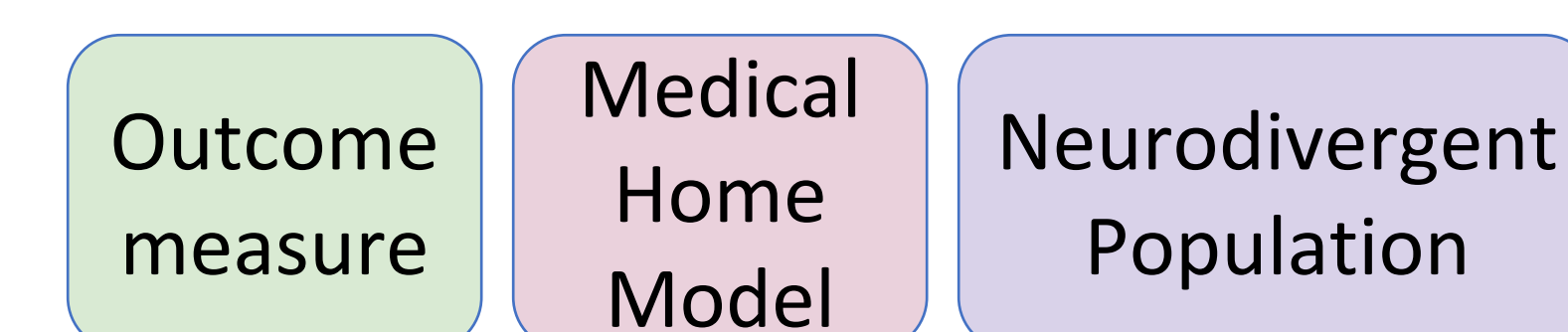
Topic/MeSH Terms	Key Words
Neurodiverse populations "Neurodevelopmental disorders" [MeSH]	"Autistic populations," "Autistic patients," Autism, Autistic, Autism spectrum disorder, "Neurodiverse populations," "Neurodiverse patients," Neurodiversity, "Neurodevelopmental disorders," Disabled, Disability, "Intellectual disability," "Developmental disability," "Children with special healthcare needs," CSHCN
Telehealth "Telemedicine" [MeSH]	Telehealth, Tele-health, Telecare, Tele-care, eHealth, Telemedicine, Technology, Videoconferencing, "Digital health," "Virtual medicine," "Tele care," "Mobile health"
Medical Home Model "Primary Health Care" [Mesh] "Patient-centered care" [MeSH]	"Patient-centered care," "Patient care planning," "Patient-centered medical home," "Medical home model," "Medical home"
Outcome Measure "Quality of Health Care" [MeSH]	"Quality measure," "Patient health outcomes," "Health outcome measure," "Outcome assessment," Evaluation, "Evaluation framework," "Quality indicators," "Patient satisfaction"

Table 1. MeSH terms.

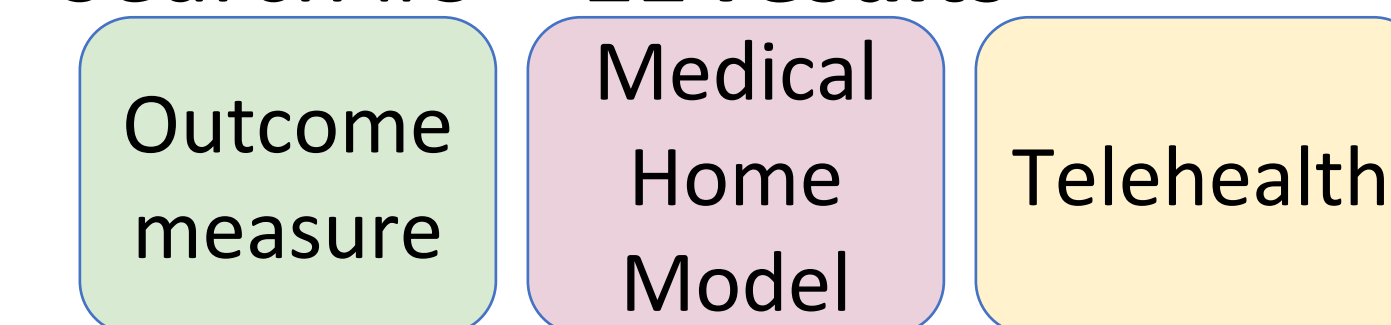
Search #1 = 0 results



Search #2 = 29 results



Search #3 = 11 results



- Web browsers and references were utilized to locate **toolkits** related to both of the target searches
- Searches were synthesized to establish comprehensive evaluation recommendations

## Results

Search #2: Child and Adolescent Health Measurement Initiative (CAHMI) **indicators**<sup>3</sup> are a useful framework for evaluating whether medical homes for neurodivergent individuals are achieving patient-centeredness<sup>4-8</sup>

### 5 CAHMI Indicators

1. Child has personal doctor/nurse
2. Child has usual source for both sick and well care
3. No problems obtaining referrals needed
4. Family-centered care
5. Coordinated care

Search #3: An evaluation framework from the American Medical Association Telehealth Implementation Playbook can be used to organize the neurodivergent-specific findings and outcome measures (Table 2)

Domain	Evaluation Variables and Findings
Clinical Outcomes, Quality, and Safety	<ul style="list-style-type: none"> <li>↓ ER visits<sup>9</sup></li> <li>↓ Complications and adverse events<sup>10</sup></li> <li>↓ Re-admissions<sup>11</sup></li> <li>↓ Missed days of school<sup>12,13</sup></li> <li>↓ Challenging behaviors<sup>12</sup></li> <li>↑ Continuity of care (particularly transitions)<sup>14</sup></li> <li>↑ Medication adherence<sup>12,10,14</sup></li> <li><i>Compliance with standards of care, Quality of life</i></li> </ul>
Access to Care	<ul style="list-style-type: none"> <li>↓; ↑ Access to mental/behavioral health care<sup>12,15,13,10</sup></li> <li>↑ Appropriate utilization of services<sup>16</sup></li> <li>↑ Preventative care utilization<sup>11</sup></li> <li>↑ Comprehensive care<sup>16</sup></li> <li><i>Wait time to receive care, Unmet needs, Connection to specialists</i></li> </ul>
Patient, Family, and Caregiver Experience	<ul style="list-style-type: none"> <li>↑ Patient satisfaction/engagement<sup>11</sup></li> <li>↑ Family centered care<sup>4,16</sup></li> <li>↑ Coordination of care<sup>10,4</sup></li> <li>↓ Financial impact of care<sup>10,17</sup></li> <li>↓ Caregiver unemployment<sup>10</sup></li> <li>↑ Family functioning<sup>16,12</sup></li> <li><i>Shared decision making, Patient retention, Convenience of care, Care plan compliance</i></li> </ul>
Clinician Experience	<ul style="list-style-type: none"> <li><i>Burnout, Turnover rate, Appointment length, Efficiency of care delivery, Care team/patient communication</i></li> </ul>
Financial and Operational Impact	<ul style="list-style-type: none"> <li>↓ Costs per case<sup>14</sup></li> <li><i>Costs due to readmissions, Cancellations/No shows, Labor costs, Non-reimbursable care, ER visits, Patient reach, Rate of health insurance</i></li> </ul>

Table 2. Evidence from neurodevelopmental-specific medical home evaluations mapped on a telehealth evaluation framework. Arrows indicate published findings; italics indicate no publications on this measure

## Conclusions

- Recommendations:
  - **Utilize the CAHMI indicators**<sup>3</sup> to assess whether or not patients/their families feel they have a medical home
  - **Select outcomes** from the framework based on:
    - Research questions
    - Data accessibility
    - Research gaps
- **Future research** could focus on:
  - Clinician experience
  - Financial/operational impact
  - Access to mental/behavioral health care
- **Limitations** include missing papers not available on PubMed

## References



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