

**Clinical Question:** Does an integrated interdisciplinary team-based care approach have a positive impact on the healthcare experience of young adults with cerebral palsy (CP) compared with non-interdisciplinary care?

**Background:** Patients who have CP often have complicated healthcare needs requiring interdisciplinary care<sup>1</sup>. Often, these patients receive care in pediatric settings until they become adults, and are at high risk for a decline in health when they can no longer receive care from a pediatric interdisciplinary team and must transition to adult care settings<sup>2</sup>. Transition is a complicated process<sup>2</sup>, because the ideal time for a patient to transition varies from person to person<sup>3</sup>. The age at which patients are no longer eligible for pediatric services does not always coincide with the age they no longer require the services a pediatric setting provides<sup>3</sup>. Many adult subspecialties accept limited insurance types<sup>4</sup>, and adult equivalents of the services patients with CP received as children may not exist<sup>3</sup>. Transition is further complicated by the fact that once a patient turns 18, their parents no longer have access to their healthcare records<sup>4</sup>.

To improve transition, instituting a healthcare coordinator<sup>2</sup> or a transition team<sup>1</sup> has been suggested. It has also been suggested that patient needs are not being met both before and after transition<sup>5</sup> and that rehabilitation goals for patients with CP need to change<sup>6</sup>. This critically appraised topic aims to determine whether interdisciplinary healthcare improves the healthcare experience of young adults with CP compared to non-interdisciplinary care.

### Search Strategy:

**Databases Searched:** PubMed, CINAHL, and Web of Science

**Search terms:** (adult-care OR transition OR interdisciplinary OR young adult) AND (cerebral palsy OR CP)

**Inclusion/Exclusion Criteria:** English, published after 2000, peer-reviewed

**Synthesis:** Six studies<sup>1,5-9</sup> were identified that examined interdisciplinary care in young adults with CP. In five of the studies<sup>1,5,6,8,9</sup> participants had a diagnosis of CP. One study<sup>7</sup> surveyed physicians who treated patients with a diagnosis of CP. Two studies also included participants with other diagnoses such as spina bifida<sup>1,8</sup> and autism spectrum disorder<sup>1</sup>. Most studies<sup>1,5,6,8</sup> excluded participants with cognitive deficits or communication barriers, so those results cannot be generalized to patients with these characteristics. Half of the studies<sup>1,6,9</sup> may not reflect current standards of practice, because they collected data about recollected experiences of young adults which in some cases occurred decades ago. There was inconsistency in the way the studies assessed outcomes. Two<sup>1,8</sup> used validated measures, but others used ad hoc questionnaires<sup>5,9</sup> or conducted qualitative interviews<sup>6,7</sup>. This makes it difficult to compare results across studies as they may assess different constructs.

All six studies agreed that adults with CP would continue to benefit from interdisciplinary care. However, one study<sup>5</sup> did not find leaving pediatric care to have a significant effect on unmet healthcare needs, even though they found the transition period to be associated with an increase in unmet needs. Other studies found interdisciplinary care was associated with improved outcomes<sup>8</sup>, and an increase in participation<sup>1,6,9</sup>. Physicians believe that interdisciplinary communication positively effects the health care of young adults with CP<sup>7</sup>, and patients who did not have access to interdisciplinary care reported a decrease in functional mobility<sup>6</sup>. All six studies<sup>1,5-9</sup> recommended changes to the healthcare system to improve the experiences of young adults with CP, but there was no consensus on what changes would address the problem. Suggested changes included reassessing rehabilitation goals<sup>6</sup>, creating a set protocol for transition<sup>7</sup>, emphasizing healthcare teams<sup>1,8</sup> and follow up<sup>9</sup> during transition, and instituting a transition coordinator<sup>5</sup>.

**Clinical Message:** Existing evidence suggests that interdisciplinary team-based care is beneficial for young adults with CP. Interdisciplinary care does not guarantee an optimal healthcare experience because there are other factors which impact healthcare, particularly during transition. Further research is needed to determine how to ensure that patients with CP continue to receive interdisciplinary care as they move into adulthood.

### Evidence Table

	<b>Bent 2002<sup>1</sup></b>	<b>Colver 2018<sup>8</sup></b>	<b>Roquet 2018<sup>9</sup></b>	<b>Solanke 2018<sup>5</sup></b>	<b>Moll 2012<sup>6</sup></b>	<b>Wright 2016<sup>7</sup></b>
<b>Population</b>	<u>Number of subjects:</u> 254  <u>Ages:</u> 17-28  <u>Genders:</u> male (134), female (120)  <u>Diagnoses:</u> cerebral palsy, spina bifida, traumatic brain injury, or degenerative neuromuscular disease  <u>Inclusion criteria:</u> no severe learning disability  <u>Control:</u> 124 college-age participants without physical disabilities.	<u>Number of subjects:</u> 374  <u>Ages:</u> 14-18.9  <u>Genders:</u> male (219), female (155)  <u>Diagnoses:</u> Type 1 Diabetes (150), Cerebral Palsy (106), Autism Spectrum Disorder (118)  <u>Inclusion criteria:</u> no cognitive deficits, pediatric health services.	<u>Number of subjects:</u> 512  <u>Ages:</u> 2-40+  <u>Genders:</u> male (309), female (200), unknown (3)  <u>Diagnoses:</u> Cerebral Palsy  <u>Inclusion criteria:</u> Diagnosis of cerebral palsy and living in Brittany, France	<u>Number of subjects:</u> 106  <u>Ages:</u> 11-19  <u>Genders:</u> male (60), female (46)  <u>Diagnoses:</u> Cerebral Palsy  <u>Inclusion criteria:</u> no cognitive deficits, receiving pediatric health services.	<u>Number of subjects:</u> 9  <u>Ages:</u> 26-70  <u>Genders:</u> male (3), female (6)  <u>Diagnoses:</u> Cerebral Palsy  <u>Inclusion Criteria:</u> Adults with CP who could read, write, and speak English	<u>Physician subjects only</u>  13 physicians who treated young adults with cerebral palsy
<b>Study Design</b>	Retrospective Cross-sectional Cohort study	Prospective Longitudinal Cohort study	Prospective Cross-sectional study	Prospective Longitudinal Cohort study	Prospective Cross-sectional Qualitative study	Prospective Cross-sectional Qualitative study
<b>Intervention / Topic of Interest</b>	Young Adult Team approach to healthcare	Features of transitional healthcare that are	Health care usage as a function of age in people with CP.	Unmet needs and effectiveness of services during transition.	Aging and rehabilitation experiences of people with CP.	Transition care pathways for young adults with CP.

	compared with ad hoc health services.	associated with better outcomes.				
<b>Methodology</b>	Participants were interviewed by research assistants who were blinded to the intervention.	Participants were visited at home and outcome measures were administered.	Participants or parents self-completed a survey at home and returned it by mail.	Participants were visited at home by a research assistant who administered the survey.	Participants were interviewed at home, workplace, or by phone	Participants were interviewed at their workplace or by videoconference
<b>Outcomes</b>	Participation: <ul style="list-style-type: none"> <li>Nottingham health profile</li> <li>General perceived self-efficacy</li> </ul> Mobility: <ul style="list-style-type: none"> <li>Barthel Index</li> <li>London handicap scale</li> </ul> Quality of Life: <ul style="list-style-type: none"> <li>EuroQoL</li> </ul> Mental Health: <ul style="list-style-type: none"> <li>Rosenberg self esteem</li> <li>Perceived stress scale</li> <li>Proactive attitude scale</li> </ul>	Participation: <ul style="list-style-type: none"> <li>Rotterdam Transition Profile</li> <li>Autonomy in Appointments</li> </ul> Mental Health: <ul style="list-style-type: none"> <li>Warwick-Edinburgh Mental Wellbeing Scale</li> </ul> Satisfaction: <ul style="list-style-type: none"> <li>Mind the Gap Scale</li> </ul>	A questionnaire created for the purposes of this study with questions related to health care usage.	A questionnaire created for the purposes of this study with questions related to unmet needs specific to cerebral palsy.	Structured interview surrounding the question, “What has it been like growing up and growing older with CP?”	Structured interview with questions about the transition process.
<b>Key Findings</b>	People who receive a team approach to healthcare have higher participation than people who	Meeting their new interdisciplinary healthcare team prior to transitioning to adult care	Transition to adult care was associated with a decrease in participation. Use of interdisciplinary care decreased with	Patients with CP have an increase in unmet needs during transition to adult care. However, leaving pediatric	Patients with CP did not have access to healthcare and rehabilitation they needed as they transitioned to	Physicians believe interdisciplinary communication has a positive impact on the health care of young people

	receive ad hoc healthcare services.	improved patient outcomes.	age, which suggests lack of access but could also be due to changing goals of aging individuals.	care did not have statistical significance correlated with unmet needs.	adulthood and lost functional mobility and independence, decreasing their participation.	with CP. Patients without access to an interdisciplinary team do not receive the same level of care as those who do.
<b>Study Recommendations</b>	Interdisciplinary healthcare teams should be instituted because they cost the same as ad hoc services and are beneficial for patients who have CP.	Patients with CP need to meet their new healthcare team prior to transition. Both adult care and pediatric care require changes at the organizational level to better meet the needs of patients who have CP.	Additional research is required to determine the most appropriate interventions for this population. During transition, better follow up is needed to meet the needs of patients who have CP.	It would be beneficial to have a transition coordinator and to increase the availability of rehabilitation professionals.	Interdisciplinary healthcare goals for patients with CP need to be reassessed to optimize sustainability of the interventions into adulthood.	There should be a set protocol which ensures that all young adult patients experience a coordinated transition.
<b>Study Limitations</b>	Not applicable to patients with cognitive deficits.  May not reflect current standards of practice.	Not applicable to patients with cognitive deficits  Low recruitment, possible underpowered results.	Healthcare is free in France, so results have poor external validity in US.  Possible selection bias.  Self-report may be unreliable.  May not reflect current standards of practice.	Low internal consistency scores for their outcome measure, which means it has poor reliability.  Not applicable to patients with cognitive deficits	Small sample size  Not applicable to patients with cognitive deficits  May not reflect current standards of practice.	Small sample size  Only takes physician perspectives into account

## References:

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