# Educational and Therapeutic Experiences of Children with Cornelia de Lange Syndrome and their Families 

Mary Beth Bruder, Ph.D.
Jessica Sims, M.Ed.
University of Connecticut Center for
Excellence in Developmental Disabilities

## Purpose

- To increase the amount of knowledge on children affected by CdLS; specifically their experiences with educational and therapeutic services.


## Background

- The CdLS-USA Foundation and the Center for Disabilities at the University of Connecticut collaborated to create a survey to increase the amount of knowledge on children affected by CdLS.
- This survey was a follow-up to a survey conducted two years ago that focused on health and medical care, and child development and learning.
- The information gathered will inform parents and other providers about this unique population about whom little is currently known and establish a baseline of knowledge on the range of services children with CdLS are receiving, and if these services are meeting their needs.


## Methodology

- Recruitment
- Collaboration with CdLSUSA Foundation
- November 2009-March 2010
- Emails (to ~830 families)
- Newsletter (to ~ 1280 families)
- CdLS and UCONN UCEDD websites
- Reminder emails in January and February
- Data Collection
- Online survey through Survey Monkey
- One paper copy was requested; not returned
- Participation was voluntary, and respondents had the option of bypassing any questions they did not want to answer.
- Parents of a child age birth through 21 with CdLS were eligible to participate
- 158 people participated


## Survey

- Designed collaboratively between CdLS Foundation Counsel and Committee members and researchers at the UCEDD
- Survey sections
- Background information on child
- Birth-Two
- 3-5
-6-13
- 14-2I (in school or not in school)
- Demographics
- All participants completed background and demographics; completed middle section in accordance with the age of their child


## Participants

- Of the 158 participants; 33 only completed six questions and were removed from the analyses ( $\mathrm{N}=125$ )
- 34 states and Canada represented
- $90 \%$ were the mother of a child with CdLS
- 75\% married
- 4 I \% employed full-time; $24 \%$ part-time
- Educational attainment
- Less than high school $=2 \%$
- High school =5\%
- Some college $=30 \%$
- 2 year degree $=14 \%$
- 4 year degree $=30 \%$
- Master's degree = $15 \%$
- Doctorate/Ph.D./M.D. = 5\%
- Household income
- < \$50,000 = 39\%
- $\$ 50,000-\$ 100,000=36 \%$
- $>\$ 100,000=25 \%$


## Child Characteristics

|  | $\%$ |  |  | $\%$ |
| :--- | :--- | :--- | :--- | :---: |
| Sex of child |  | Child's race/ethnicity |  |  |
| Male | 44.0 |  | White | 84.8 |
| Female | 56.0 |  | Latino/Hispanic | 10.4 |
| Child's general health |  | African-American | 4.8 |  |
| Excellent | 11.2 |  | Asian | 4.0 |
| Very good | 44.0 |  | Age of child |  |
| Good | 34.4 | $0-2$ years | 14.4 |  |
| Fair | 1.6 |  | $3-5$ years | $6-13$ years |
| Poor |  | $14-21$ years | 33.6 |  |
| Child's functioning | 12.8 |  | 32.0 |  |
| Is independent | 58.4 |  |  |  |
| Needs some assistance | 28.8 |  |  |  |
| Needs total assistance |  |  |  |  |

## Therapies/Services Received

|  | $0-2$ <br> $(\%)$ | $3-5$ <br> $(\%)$ | $6-13$ <br> $(\%)$ | $14-2 I$ <br> $(\%)$ |
| :--- | :---: | :---: | :---: | :---: |
| Speech-language therapy | 56 | 96 | 86 | 53 |
| Occupational Therapy | 78 | 84 | 74 | 28 |
| Physical therapy | 72 | 72 | 48 | 23 |
| Special instruction | 17 | 24 | 31 | 38 |
| Nursing | 11 | 8 | 10 | 18 |
| Oral motor therapy | 39 | 32 | 12 | 5 |
| Service coordination | 17 | 8 | 7 | 13 |
| Social work | 11 | 4 | 10 | 8 |

## Therapies/Services Received, cont.

|  | $0-2$ <br> $(\%)$ | $3-5$ <br> $(\%)$ | $6-13$ <br> $(\%)$ | $14-2$ I <br> $(\%)$ |
| :--- | :---: | :---: | :---: | :---: |
| Behavior management | -- | 12 | 19 | 20 |
| Art therapy | -- | 4 | 2 | 8 |
| Aqua therapy | -- | -- | - | 5 |
| Vision and mobility | -- | 12 | 5 | 5 |
| Sensory integration | -- | 16 | 12 | 3 |
| Hippotherapy | -- | 4 | 5 | 3 |
| Pet therapy | - | - | 2 | 3 |

## SESSION LENGTH AND FREQUENCY

Across all therapies/services

|  | $0-2$ <br> $(\%)$ | $3-5$ <br> $(\%)$ | $6-13$ <br> $(\%)$ | $14-2 \mid$ <br> $(\%)$ |
| :--- | :---: | :---: | :---: | :---: |
| More than 60 minutes | 6 | 18 | 15 | 25 |
| 3I-60 minutes | 68 | 40 | 40 | 32 |
| 30 minutes or less | 26 | 42 | 45 | 43 |
|  |  |  |  |  |
| Everyday | 9 | 9 | 23 | 29 |
| 2 or 3 times a week | 22 | 41 | 49 | 28 |
| Once a week | 19 | 36 | 20 | 26 |
| 2 or 3 times a month | 31 | 7 | 4 | 10 |
| Once a month | 9 | 6 | 2 | 4 |
| Every 2 to 3 months | 10 | -- | 1 | 3 |

## SESSION LOCATION

Across all therapies/services

|  | $0-2$ <br> $(\%)$ | $3-5$ <br> $(\%)$ | $6-13$ <br> $(\%)$ | $14-21$ <br> $(\%)$ |
| :--- | :---: | :---: | :---: | :---: |
| Home | 78 | 27 | 22 | 16 |
| School | 11 |  |  |  |
| Public preschool |  | 50 |  |  |
| Other preschool | -- | 9 |  |  |
| Child care |  |  | 56 | 56 |
| School - in classroom |  |  | 41 | 33 |
| School - out of classroom | 4 | 32 | 19 | 10 |
| Clinical setting | -- | -- | 3 | 8 |
| Community |  |  |  |  |

## SESSION SETTING AND PROVIDER

Across all therapies/services

|  | $0-2$ <br> $(\%)$ | $3-5$ <br> $(\%)$ | $6-13$ <br> $(\%)$ | $14-21$ <br> $(\%)$ |
| :--- | :---: | :---: | :---: | :---: |
| One-on-one | 86 | 88 | 74 | 53 |
| With one other child | 12 | -- | 2 | 6 |
| Group setting | 2 | 12 | 24 | 40 |
|  |  |  |  |  |
| Early intervention/school | 87 | 70 | 70 | 70 |
| Private | 9 | 22 | 23 | 18 |
| Other | 4 | 7 | 6 | 11 |

## ROLE OF PARENT AND PROVIDER

Across all therapies/services

|  | $0-2$ <br> $(\%)$ | $3-5$ <br> $(\%)$ |
| :--- | :---: | :---: |
| When my child receives services, I am not present | 8 | 56 |
| I watch the provider work with my child | 12 | 14 |
| Provider explains what she is doing with my child <br> to me | 35 | 15 |
| Provider show me how to do the interventions | 29 | 11 |
| Provider helps me learn how to do interventions <br> without her help | 16 | 4 |

## ROLE OF PARENT AND PROVIDER

Across all therapies/services

|  | $6-I 3$ <br> $(\%)$ | $14-2$ I <br> $(\%)$ |
| :--- | :---: | :---: |
| When my child receives services, I am not involved | 4 | 14 |
| I receive quarterly updates from the provider | 31 | 18 |
| I receive regular updates that include what is being <br> worked on and any problems | 15 | 29 |
| I receive regular updates and consultation including <br> things I can do at home | 28 | 24 |
| I participate in therapy sessions by observing and/or <br> interacting with my child | 22 | 16 |

## Therapy/Service Provider Communication

The following results are the average percentages calculated across all four age groups

- Do your child's providers meet together and discuss your child's goals?
- Yes = 77\%
- If yes, how often are you (the caregiver) invited?
- Never = 14\%
- Sometimes = 32\%
- All the time $=5 \mathrm{I} \%$


## Therapy/Service Provider Communication

The following results are the average percentage calculated across all age groups except 0-2 (not asked these questions)

- How often do you receive updates on your child's progress from his/her service providers?
- Quarterly = 33\%
- Once month = 6\%
- Once a week = $11 \%$
- After each session $=25 \%$
- How do you typically communicate with your child's service providers?
- In person = 36\%
- Phone = 6\%
- Email $=12 \%$
- Communication notebook $=29 \%$


## EDUCATIONAL SETTING

Type of educational setting and time spent in a regular education classroom

|  | $3-5$ <br> $(\%)$ | $6-$ - 3 <br> $(\%)$ | $14-2$ I <br> $(\%)$ |
| :--- | :---: | :---: | :---: |
| Public school | 40 | 73 | 78 |
| Private school | 12 | 7 | 9 |
| Child care or Head Start | 36 | 20 | 13 |
| Other |  | 5 | 6 |
|  |  | 20 | 18 |
| All of time in regular classroom |  | 25 | 12 |
| Most of time in regular classroom |  | 18 | 18 |
| Half of time in regular classroom |  | 33 | 46 |
| A little bit of time in regular classroom |  |  |  |
| None of time in regular classroom |  |  |  |

## IFSP and Adaptations (0-2)

- Child has an IFSP
- Yes = 82\%
- I don't know = 6\%
- Adaptations in Use
- Sign language = 56\%
- Other special equipment (adapted toys and feeding utensils) $=33 \%$
- Auditory amplification $=22 \%$
- Special equipment for sitting, standing, or walking = 22\%
- Picture communication system $=17 \%$


## Educational Programming (3-2I)

- Child has IEP
- Yes $=82 \%$
- Child has label for eligibility
- Yes $=47 \%$
- I don't know = 37\%
- Educational disability
- Developmental delay = 59\%
- Speech-language impairment $=50 \%$
- Intellectual disability $=41 \%$
- Hearing impairment $=28 \%$
- Multiple disabilities $=25 \%$
- Other health impairment $=23 \%$
- Orthopedic impairment $=16 \%$
- Visual impairment = $15 \%$
- Specific learning disability =9\%
- Autism $=8 \%$
- Deaf-blindness $=5 \%$
- Emotional disturbance $=5 \%$


## EDUCATIONAL PROGRAMMING (3-2I)

## Adaptations and Modifications

- Communication notebook $=44 \%$
- Modified curriculum $=42 \%$
- Sign language $=36 \%$
- Individual classroom aide $=35 \%$
- Picture communication $=34 \%$
- Special equipment for sitting, standing, etc. $=29 \%$
- Individual programming $=24 \%$
- Adaptive PE = 22\%
- Resource room $=21 \%$
- Behavioral intervention plan $=19 \%$
- Other special equipment (adapted utensils) $=13 \%$
- Computer education programs $=$ 13\%
- Visual adaptations $=9 \%$
- Auditory amplification $=8 \%$
- Computer assisted communication = 6\%
- Tape recorder $=2 \%$


## Educational Programming (0-2)

|  | Not at all <br> $(\%)$ | Somewhat <br> $(\%)$ | As expected <br> $(\%)$ |
| :--- | :---: | :---: | :---: |
| Assessments of my child accurately reflect his/her level <br> of functioning | -- | 29 | 7 I |
| I am involved in deciding what my child's goals should be | -- | 1 I | 89 |
| My child's goals are objective and measurable | -- | 6 | 94 |
| My child is making progress towards his/her goals | 6 | 22 | 72 |
| I am satisfied with the amount of progress my child is <br> making | 6 | 50 | 44 |
| My child's behavioral challenges are being addressed (if <br> applicable) | 36 | 18 | 46 |
| My child participates in groups/activities outside the <br> home | 53 | 24 | 24 |
| My child participates in activities with both children with <br> special needs and typically developing children | 53 | 12 | 35 |
| There is a transition plan in place for when my child <br> turns 3 | 50 | 17 | 33 |
| I am satisfied with the transition process (if applicable) | 25 | 38 | 38 |

## Educational Programming (3-2I)

|  | Not at all <br> $(\%)$ | Somewhat <br> $(\%)$ | As expected <br> $(\%)$ |
| :--- | :---: | :---: | :---: |
| Assessments of my child accurately reflect his/her <br> level of functioning | 9 | 38 | 52 |
| I am involved in deciding what my child's goals <br> should be | 3 | 23 | 74 |
| My child's goals are objective and measurable | 3 | 35 | 63 |
| My child is making progress towards his/her goals | 4 | 40 | 56 |
| I am satisfied with the amount of progress my child <br> is making | 8 | 44 | 48 |
| My child's behavioral challenges are being addressed <br> (if applicable) | 2 | 39 | 59 |
| My child participates in groups/activities outside the <br> home | 20 | 32 | 48 |
| My child participates in groups/activities with both <br> children with special needs and typically developing <br> children | 21 | 33 | 46 |
| There is/was a transition plan in place | 32 | 32 | 35 |

## Educational Programming (3-2I), cont.

|  | Not at all <br> $(\%)$ | Somewhat <br> $(\%)$ | As expected <br> $(\%)$ |
| :--- | :---: | :---: | :---: |
| My child is/was adequately prepared for the transition | 37 | 38 | 25 |
| I am/was satisfied with the transition process | 33 | 34 | 33 |
| My child's classroom promotes social skills | 8 | 26 | 65 |
| My child's school provides activities outside of school <br> time to develop social relationships | 33 | 36 | 32 |
| My child has a way to communicate both at home and <br> at school | 8 | 35 | 57 |
| My child's therapies involve social interactions with <br> peers | 22 | 37 | 42 |
| The skills my child is learning in therapy promote <br> independence | 6 | 32 | 63 |
| My child has a I-on-I paraprofessional at school | 48 | 19 | 32 |

## Care Coordination (all)

- Care coordination needed
- Yes = 56\%
- Frequency of care coordination
- Never = 55\%
- Sometimes $=22 \%$
- Usually = 5\%
- Always = 10\%
- Care coordination received
- Yes = 43\%
- Satisfaction with care coordination
- Very Satisfied = 27\%
- Somewhat satisfied $=25 \%$
- Somewhat dissatisfied = II\%
- Very dissatisfied = $18 \%$


## Health Care Provider Communication (all)

|  | Communication between <br> health care providers (\%) | Communication between <br> health care providers and <br> educators (\%) |
| :--- | :---: | :---: |
| Excellent | 9 | 4 |
| Very good | 19 | 15 |
| Good | 22 | 10 |
| Fair | 19 | 13 |
| Poor | 20 | 27 |
| Not needed | 8 | 22 |

## FRIENDSHIP

Friends invited to child's birthday party

|  | 0-2 (\%) | 3-5 (\%) | 6-13 (\%) | 14-2 1 (\%) |
| :---: | :---: | :---: | :---: | :---: |
| Total: 0 friends | 36 | 27 | 32 | 41 |
| Total: l-4 friends | 14 | 24 | 30 | 19 |
| Total: 5-10 friends | 21 | 29 | 30 | 22 |
| Total: > 10 friends | 29 | 19 | 8 | 19 |
| 0 friends with disabilities | 71 | 72 | 52 | 46 |
| I-4 friends with disabilities | 14 | 22 | 41 | 33 |
| 5-10 friends with disabilities | 7 | 6 | 7 | 13 |
| > 10 friends with disabilities | 7 | -- | -- | 8 |
| 0 friends without disabilities | 36 | 30 | 19 | 40 |
| I-4 friends without disabilities | 14 | 20 | 52 | 28 |
| 5-10 friends without disabilities | 29 | 35 | 22 | 16 |
| > 10 friends without disabilities | 21 | 15 | 7 | 16 |

## FRIENDSHIP

Friends who attended child's birthday party

|  | 0-2 (\%) | 3-5 (\%) | 6-13 (\%) | 14-2\| (\%) |
| :---: | :---: | :---: | :---: | :---: |
| Total: 0 friends | 36 | 29 | 32 | 39 |
| Total: 1-4 friends | 14 | 29 | 30 | 19 |
| Total: 5-10 friends | 29 | 29 | 30 | 23 |
| Total: > 10 friends | 21 | 14 | 8 | 19 |
| 0 friends with disabilities | 77 | 78 | 48 | 50 |
| I-4 friends with disabilities | 8 | 22 | 44 | 29 |
| 5-10 friends with disabilities | 8 | -- | 7 | 13 |
| >10 friends with disabilities | 8 | -- | -- | 8 |
| 0 friends without disabilities | 54 | 30 | 19 | 40 |
| 1-4 friends without disabilities | 8 | 30 | 50 | 32 |
| 5-10 friends without disabilities | 23 | 30 | 23 | 8 |
| > 10 friends without disabilities | 15 | 10 | 8 | 20 |

## FRIENDSHIP

|  | 0-2 (\%) | 3-5 (\%) | 6-13 (\%) | \|4-2| (\%) |
| :---: | :---: | :---: | :---: | :---: |
| Birthday parties invited to |  |  |  |  |
| None | 33 | 32 | 26 | 38 |
| 1-4 | 17 | 36 | 62 | 33 |
| 5-10 | 28 | 24 | 13 | 8 |
| Birthday parties attended |  |  |  |  |
| None | 39 | 36 | 28 | 38 |
| 1-4 | 22 | 44 | 61 | 35 |
| 5-10 | 17 | 12 | 10 | 5 |
| Social gatherings attended |  |  |  |  |
| None |  |  |  | 43 |
| 1-4 |  |  |  | 20 |
| $5-10$ |  |  |  | 13 |
| $>10$ |  |  |  | 5 |

## Community Participation

Children (|4-2|) no longer attending school ( $N=7$ )

- All live with parents
- 2 work in the community
- Both in special workshops doing assembly work
- One is in small group setting (1-5) with supervisor; other in large group setting (> 5) with supervisor


## Community Participation

## Children (|4-2|) no longer attending school ( $\mathrm{N}=7$ )

|  | Not at all <br> $(\%)$ | Somewhat <br> $(\%)$ | As expected <br> $(\%)$ |
| :--- | :---: | :---: | :---: |
| My child participates in groups/ activities in <br> the community | 71 | 14 | 14 |
| My child has opportunities to participate in <br> activities/groups with his/her peers with <br> and without disabilities | 43 | 57 | -- |
| There was a transition plan in place for <br> transitioning to adult life after high school | 57 | 14 | 29 |
| Higher education and/or technical schools <br> were discussed as options for my child <br> during the transition process | 86 | 14 | -- |
| I was satisfied with the transition process | 17 | 33 | 50 |



## CONCLUSIONS, NEXT STEPS,AND QUESTIONS

## Contact Information

Mary Beth Bruder, Ph.D. Professor \& Director 860-679-1500<br>bruder@,nso1.uchc.edu

This presentation as well as the complete data report for this study can be found on our website: http://www.uconnucedd.org/projects.html

