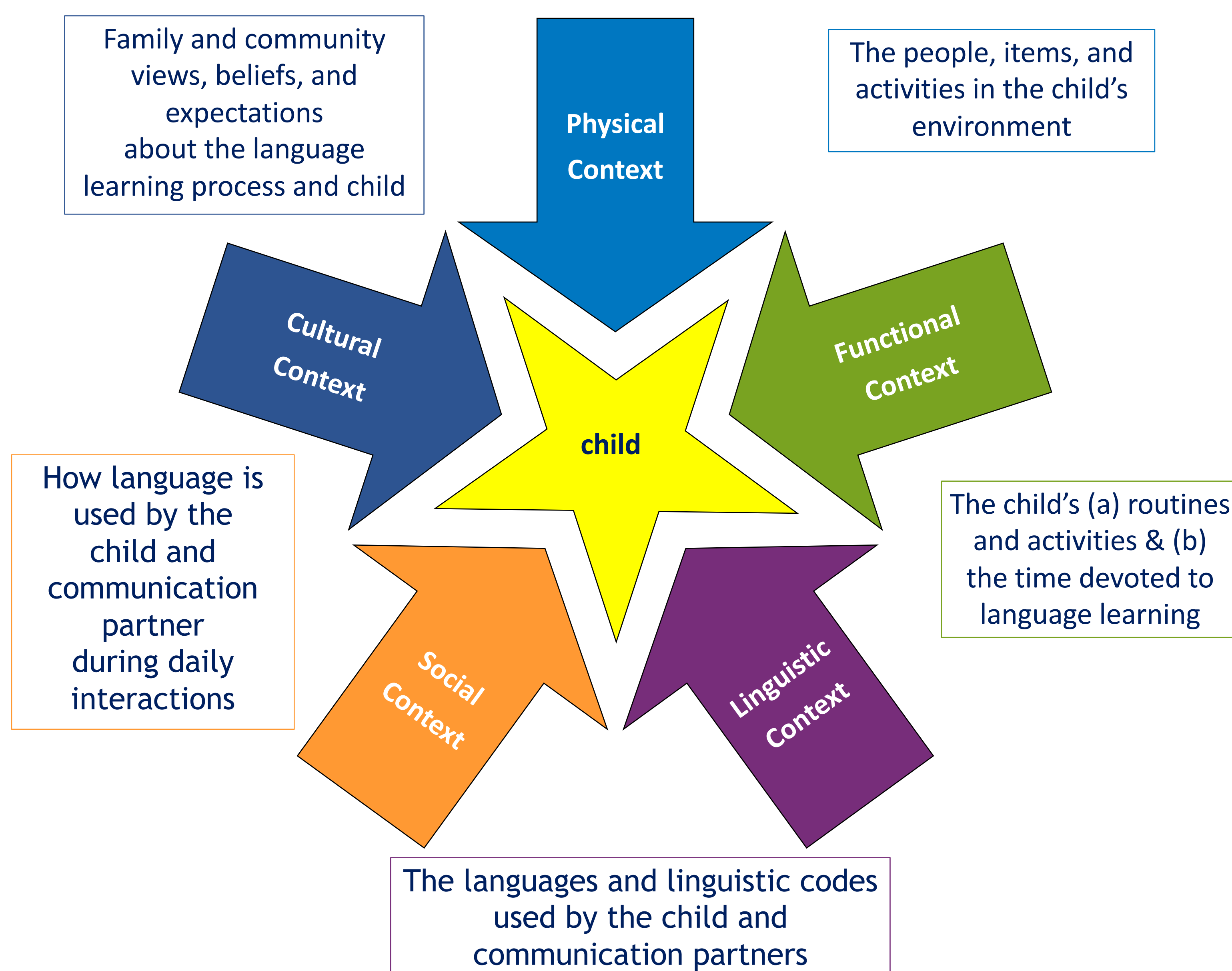


Rationale

- An increase in the number of young children with complex medical needs has been documented in the U.S. since 1991 (Burns et al., 2010).
- These children (a) are at high risk for **experiencing complex communication needs** (CCN; unable to use speech to meet daily needs) and (b) often experience **extensive or frequent hospitalizations** during crucial periods of language development (Burns et al., 2010).
- Augmentative and alternative communication (AAC) strategies** may be beneficial to support the unique **communication needs** of these children and to **promote language development** (Light & McNaughton, 2012)
- Little empirical evidence exists to understand the salient features of the hospital environment and how it may affect a child's communication experiences (Hemsley & Balandin, 2014) or promote language development.

Language Learning Contexts (Light, 1997)



Purpose

To describe the language learning contexts of a child with complex communication needs during an inpatient rehabilitation stay according to Light's (1997) framework

Setting

A 20-bed inpatient pediatric unit in the Mid-Atlantic region of the U.S.

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Methods & Data Analysis

- Following informed consent, naturalistic video-recordings were collected over 2 days.
- Video-recordings (a) were obtained between 7:00AM and 7:00PM, (b) occurred during medical encounters, therapy sessions, and feeding sessions, and (c) involved the child and at least one provider
- Recording started upon the medical provider's entrance into the child's room and was discontinued if (a) an unconsented individual entered the shared space, (b) the provider exited the room, or (c) client privacy was required
- A trained research assistant coded each video-recording according to variables associated with each context
- Reliability coding on 38% of the videos was completed by the first author with an average of 99% agreement (97-100%)

Child - Leo

- A 3-year old boy with three-year-old African American and Latino boy with a history of global developmental delays, seizures, and failure to thrive.
- Reason for admission:** To treat multiple respiratory infections.
- Communication Skills:** Intentional yet presymbolic communication characterized by primary use of facial expressions, vocalizations, and contact gestures
- Motor Skills:** Severe fine & gross motor delays

Adult Participants

7 healthcare providers

- 1 nurse (RN)
- 1 certified nursing assistant (CNA)
- 1 speech-language pathologist (SLP)
- 1 occupational therapist (OT)
- 2 physical therapists (PT)



References

References are available upon request from the first author at jeg56@psu.edu

Results & Clinical Recommendations

Physical Context:

- Leo interacted with 8 unique communication partners (7 unfamiliar providers and his mother)
- Leo's mother was present for ~2 hours but no providers interacted with Leo during her visit.
- Limited access to toys: Leo had access to 1+ toys for only 38% of interactions
- Television noise was present for 87.5% of sessions

Recommendations: Create a physical environment supportive to language learning by (a) scheduling consistent staff to interact with a child, (b) reduce background noise (e.g., turn off tv), (c) provide the child consistent access to toys

Functional Context:

- Limited time to interact with adults (6 of 16 hours)
- Lengthy time periods without linguistic stimulation due to infection control protocols (alone in crib 10 out of 16 hours)

Recommendations: (a) Adapt hospital routines that are similar to the child's home routines and (b) ensure that the child has access to adult communication partners frequently throughout the day

Linguistic Context:

- Leo used multimodal communication (e.g., gestures + vocalizations) during all interactions
- No aided AAC systems or modeling were presented to Leo to support communication
- 2 providers (i.e., nurse, SLP) provided at least one unaided AAC model in their interactions

Recommendations: Provide the child with frequent models of vocabulary through multimodal means (e.g., aided/unaided AAC)

Social Context:

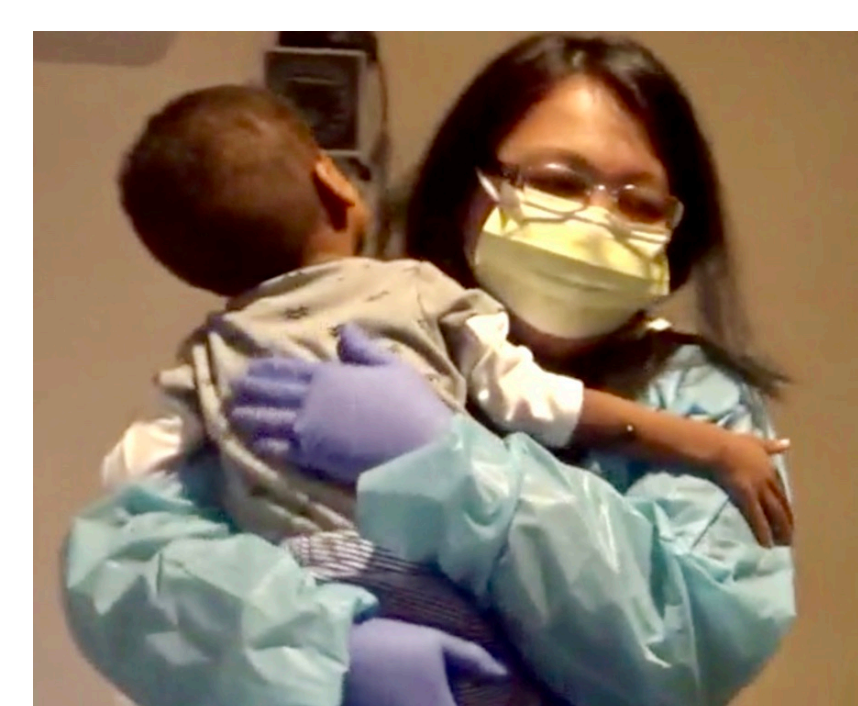
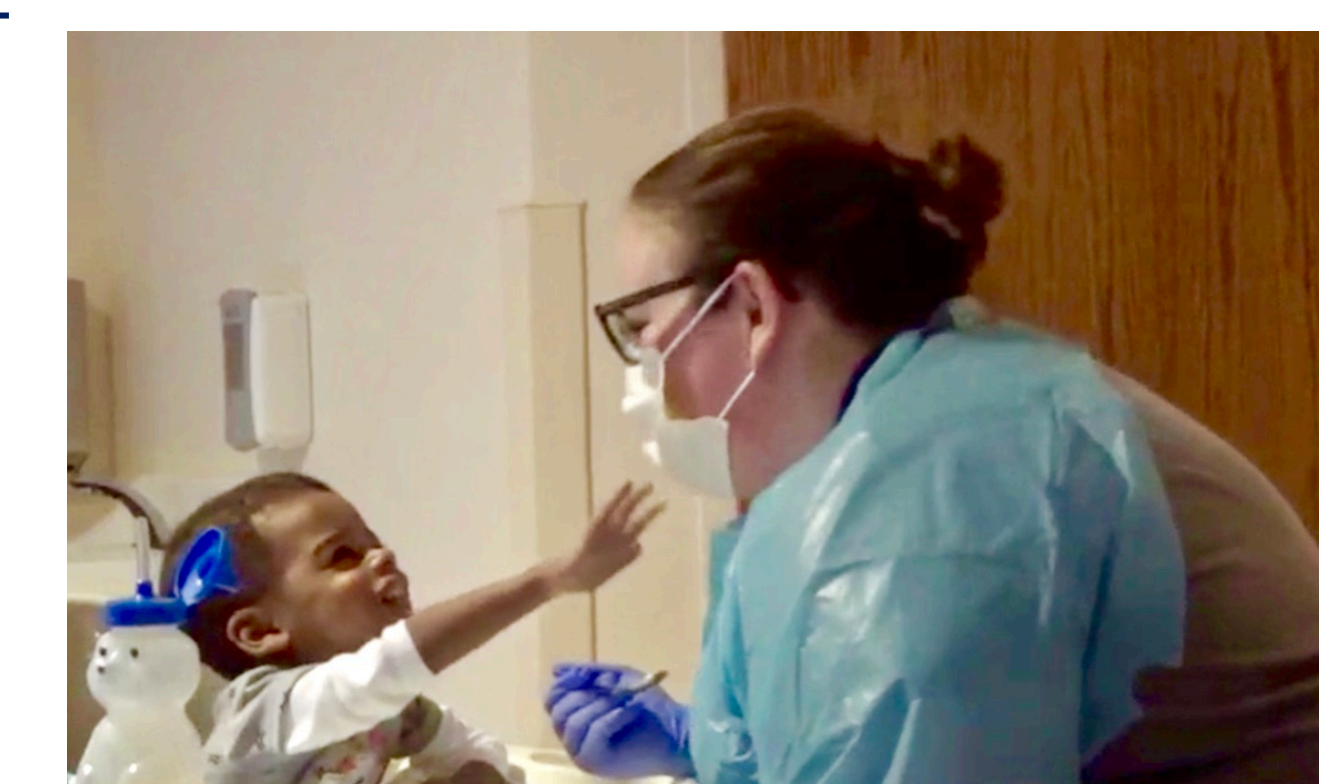
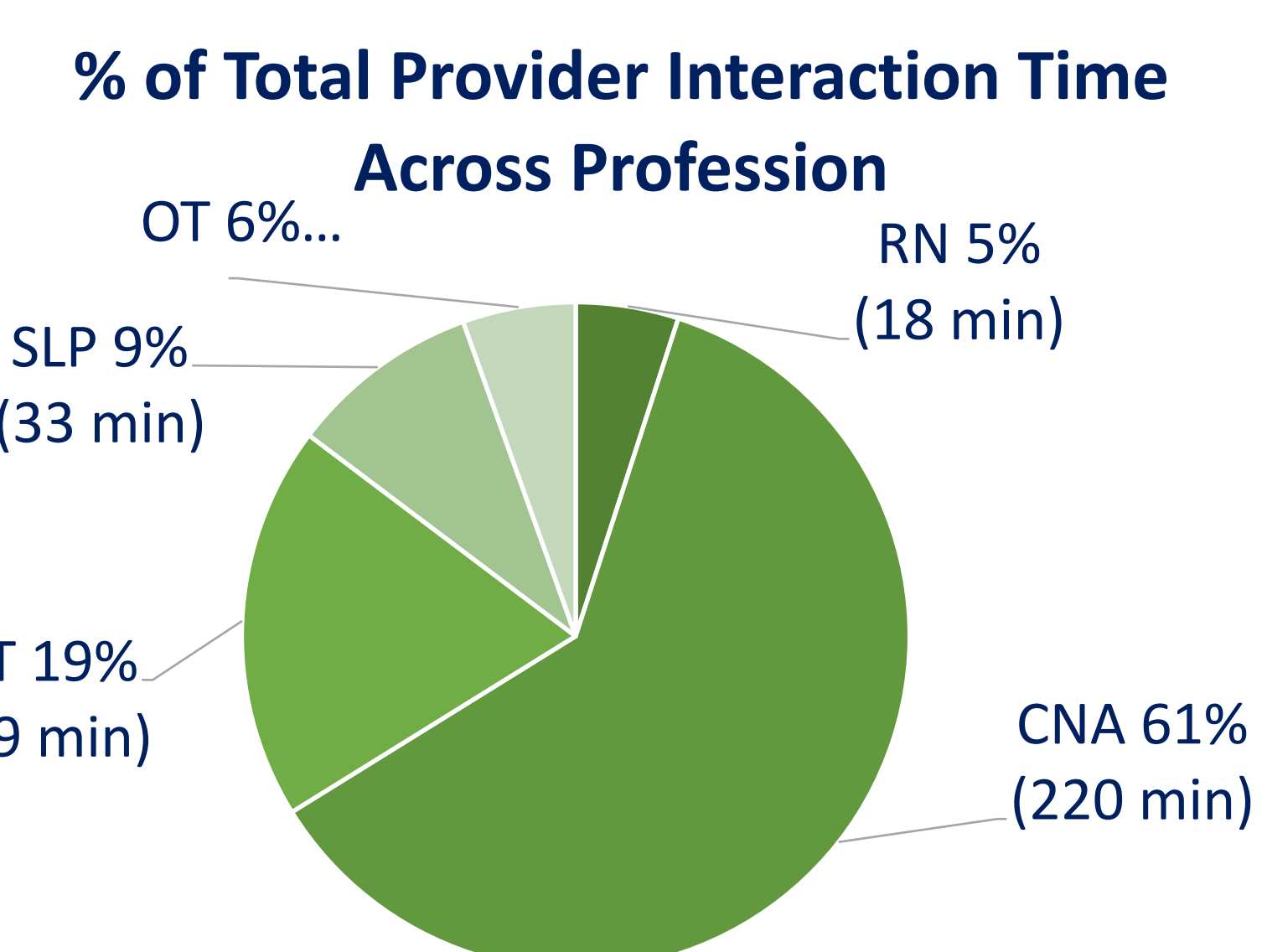
- Healthcare providers inconsistently verbally responded to Leo's communication
- All interactions were scheduled and initiated by providers

Recommendations: (a) Ensure that staff are aware of the child's communication signals through a communication signal inventory (Siegel & Cress, 2002) or communication passport (Blackstone et al., 2015), (b) create opportunities for the child to engage in play and lead interactions throughout the day

Cultural Context:

- Leo's mother was not present for a large proportion of the day due to her work schedule
- The majority of Leo's interactions occurred with hospital staff during adult-directed activities to achieve a goal (e.g., administer medication)

Recommendations: Collaborate with the child's family to understand (a) home routines, (b) the child's communication signals, and (c) the family's availability to visit the child. If family is not often able to stay with child, identify and train a hospital volunteer to play with child during "down time"



Future Directions

- Develop and evaluate healthcare provider trainings and aided AAC materials that support effective communication and language learning in hospitals for children with CCN