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Mary's Case: An Illustration of Interprofessional Collaborative Practice for a Child With Severe Disabilities

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Purpose: The principles of interprofessional collaborative practice (IPCP) are illustrated through the case of Mary, a child with severe disabilities.

Method: Mary's experiences from early childhood to young adulthood are highlighted by both optimal and less-than-ideal examples of clinical services and collaborative practice. The range of collaboration illustrates potential variations in service delivery. Thematic comments and

resources are provided by professionals experienced with and committed to IPCP who represent the following four disciplines: occupational therapy, physical therapy, special education, and speech-language pathology. **Conclusions:** Although potentially challenging, IPCP is a dynamic practice methodology appropriate for speech-language pathologists and others serving persons with severe disabilities.

To draw this special *American Journal of Speech-Language Pathology* clinical forum on interprofessional collaborative practice (IPCP) to a close, this article presents a practical example of IPCP with Mary, a child who has severe disabilities. Before presenting Mary's case, it may be helpful to provide a brief review of IPCP. As discussed by Ogletree in the introduction to this forum, IPCP is, at best, a practice ideal. The IPCP professional is patient and family centered and concerned with both community-based and relationship-focused service delivery (World Health Organization, 2010). He or she works with other disciplines, patients, and all stakeholders in process-oriented and outcome-driven practice settings (Ogletree, 2017). There, the IPCP professional practices collaboratively with others in an intentional and integrated fashion.

Interprofessional practice has been embraced by the American Speech-Language-Hearing Association (2013),

and speech-language pathologists (SLPs) increasingly find themselves working with other professionals across practice venues. Team models vary from those that traditionally lack collaborative opportunities (e.g., multidisciplinary) to those that can be very collaborative (e.g., interdisciplinary or transdisciplinary; Ogletree, 1999). Although it is fair to say that professionals have been working side by side and providing team-based services for decades, the continuous, reflective, and purposeful service provision described as IPCP is relatively new and only characteristic of the most collaborative and committed teams. Sylvester, Ogletree, and Lunnen (2017) put it best when they described IPCP as "a dynamic process that transcends various team structures."

Throughout this forum, IPCP has been proposed as an appropriate practice strategy for persons with severe intellectual and physical disabilities due to the complexities inherent in this population's care (this becomes abundantly clear in the case of Mary that follows). Simply stated, any one discipline representative will not possess the knowledge to meet the collective needs of a person with severe disabilities. Therefore, a call to increased collaborative efforts seems both reasonable and necessary.

Mary's Case

What follows is a case history that describes services received by Mary, a 16-year-old young woman with severe

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disabilities, from the time of her initial diagnoses to her anticipated entry into a new school district and high school. The case history is presented with commentary by experts representing four disciplines: occupational therapy, physical therapy, special education, and speech-language pathology. These were all disciplines that participated in a recent online conference sponsored by the National Joint Committee for the Communication Needs of Persons with Severe Disabilities and the American Speech-Language-Hearing Association titled *Improving Communication of People With Severe Disabilities: Interprofessional Strategies* (2014). Expert comments are intended to highlight both optimal examples of IPCP and missed IPCP opportunities at each stage in Mary's intervention history.

The reader should consider Mary's case as a narrative told by someone familiar with her history and services. It is the authors' hope that our real-world portrayal of IPCP, complete with commendable highs and questionable lows, will provide a starting point for interprofessional dialogue. Although readers with team experience will undoubtedly understand the IPCP ebb and flow of Mary's case, her story and the accompanying commentary are intended to provide both incentive and direction, as we all seek to be more in sync interprofessionally.

Mary Present Day

Mary's case begins in present day as she and her family sought services in a new community. A meeting with the local school district's Exceptional Children's (EC) director provided an opportunity for dialogue specific to Mary's education and care. Mary's parents reported that Mary presented significant communication needs and conveyed the desire that she receive team-based, coordinated care. The EC director suggested that Mary initially be evaluated by the school SLP. The director also recommended that a team assessment follow the SLP's evaluation to consider Mary's broader needs.

Given the referral concern and the EC director's recommendation, the SLP agreed to serve as Mary's team coordinator. She contacted the family and requested a preassessment staffing to discuss concerns and family involvement in the assessment process. She also requested developmental, medical, and educational records from prior school districts and Mary's family. After reviewing records and prior to the preassessment meeting, the SLP realized that Mary's issues were much greater than communication. With the family's approval, she invited her team's occupational therapist (OT), physical therapist (PT), audiologist, teacher of students with visual impairments (TVI), behavior specialist, and special education teacher (SPED) to join the preassessment meeting. She also invited a regular education teacher who was unavailable at the meeting time. The SLP informed the EC director that the team would function collectively to evaluate Mary—that is, they would evaluate her in concert. The case history, which follows initial commentary themes, was shared in the preassessment staffing.

Present-Day Commentary Themes

Positive IPCP Examples

A team existed in Mary's new school setting. The EC director had a team resource available, which expedited the transition process. The director also got the process started by listening to parent concerns and making an early referral to the SLP as the broader team-based assessment was being formulated. The director clearly had a family-centered orientation and was reflective about options for the process that would follow.

Mary's parents were engaged and ready for a team role in the new school setting. Mary's parents entered the situation as her advocates. They were also involved in the early team formation with the SLP.

Mary's SLP was knowledgeable about her team peers and called for an integrated assessment. The SLP's actions as case coordinator reflected IPCP ideals specific to knowing the roles of other professionals and appreciating the potential value in working together. She also engaged the regular education teacher, who was not available for the initial team meeting. One could argue that the meeting time could have been adjusted to be more accommodating to the regular education teacher's schedule.

Missed IPCP Opportunities

More team involvement from the outset? Perhaps a more collaborative example of practice would have involved the team from the beginning, rather than following this sequence of referrals and review. Although Mary's parents wanted to be sure that an SLP evaluation was completed, their comment about integrated interventions leads one to think that the team and parents could have discussed some of Mary's other needs that might require attention as the referral was initiated. It would have been a good opportunity for the director to suggest that other team members begin observations or initiate interprofessional services, given the nature of a new school environment. Concerns, in addition to communication needs, would have likely arisen.

Could a unified assessment framework have been discussed to guide the proposed collaborative assessment? Mary's team could have used the International Classification of Functioning, Disability and Health (World Health Organization, 2001) as their frame of reference for providing assessment and intervention. The International Classification of Functioning, Disability and Health could have provided a common language that extended habilitation and rehabilitation efforts beyond traditional disease processes and impairments to facilitating improvement in Mary's quality of school-based experiences. (Jette, 2006; Stucki, Ewert, & Cieza, 2003; Whiteneck, 2006).

Mary's Case History With IPCP Commentary

The Early and Preschool Years

Mary was born small for date and was initially diagnosed as failure to thrive. After 3 months of slow growth

and development, Mary's neonatal follow-up team suggested that she presented with significant developmental delays. By 6 months, Mary was diagnosed with both spastic cerebral palsy and bilateral moderate hearing loss. Mary received bilateral hearing aids at 7 months. By 1 year, Mary was diagnosed with visual impairment with corrected vision described as *functional*. Mary was involved in home-based early intervention (EI) led by an interventionist who interacted regularly with Mary's initial neonatal follow-up team for suggestions and feedback. Mary's mother, father, and older brother all participated in EI by attending sessions and working with the early interventionist.

Mary continued in EI until transitioning to a developmental preschool at age 3 years. There, she received pull-out, once-a-week treatment for communication and motor delays. Services were provided by an itinerant SLP and PT. By age 3 years, Mary communicated intentionally through grunts and reaches to request. Although her movements were labored, she was capable of grabbing desired objects with her right hand. Mary presented vocal behaviors characterized by vowel sounds and squeals. She used behavior to draw attention to herself. For example, she banged objects and bit herself. In the preschool, Mary's SLP and PT worked separately. They did not share notes and only met at large planning meetings. Mary's SLP attempted to train vocal imitation and consonant production. She chose not to introduce augmentative and alternative communication (AAC; aided or unaided) due to the lack of what she referred to as *prerequisite skills* and the notion that speech efforts had not been given enough *time to work*.

Mary's SLP did not work with the family but sent monthly notes home describing treatment. Mary's PT worked on supported weight-bearing and activities to minimize spasticity. She used weekly staffings with full-time preschool staff to discuss treatment ideas and propose positioning or range-of-motion suggestions. Mary's SLP did not attend these sessions due to her commitments elsewhere. By age 4 years, Mary could stand and take steps with support. She could also pick up and generally manipulate objects with her right hand. Mary was now receiving services from an OT at the preschool, who also worked with teachers on fine motor control and daily living tasks.

Mary's early educational and developmental services were fragmented and focused on isolated skill acquisition. Little coordination occurred among her family, teachers, and related service providers. Weekly staffing times were generally used to report on school activities and policies and were poorly attended—Mary's family was never invited. Mary's mother and father became increasingly discouraged and decided to relocate their family to a nearby university community known for progressive and exceptional services for children with disabilities.

Commentary Themes

Positive IPCP Examples

Some aspects of Mary's services were consistent with Individuals With Disabilities Education Act's Part C. EI

services for infants and toddlers with disabilities (birth–3 years) have been a part of the Individuals With Disabilities Education Act (IDEA) since 1986 and are described in Part C of the law (IDEA, 2004). Part C promotes many IPCP principles, including family engagement, team-based collaboration, and coordinated practice. Whereas a great deal of the initial services provided for Mary were not ideal, there was early team coordination and family involvement. These more ideal early services occurred when Part C is the relevant part of IDEA. In addition, EI occurred in the family home. (As Mary aged, turned 3 years old, her services should have reflected IDEA Part B ideals, which, though still largely consistent with IPCP, focused more on the school setting.) It could be that some of the service fragmentation in Mary's case resulted from the demands and complexities inherent in the quality delivery of Part C services.

Very early services were team based. Mary's neonatal team appears to have assisted with early diagnoses and worked in conjunction with Mary's early interventionist, facilitating a seamless flow of services.

Mary's family was involved in EI. Consistent with IPCP, Mary's very early services engaged stakeholders. Children with family members who participate in EI have better educational outcomes (Miedel & Reynolds, 2000) and language development (Moeller, 2000).

Mary's preschool PT used staffings to extend treatment ideas to classroom staff. For many, the idea of coteatment may not be possible given the lack of personnel or scheduling conflicts. The staffing provided by Mary's preschool PT was another way to share discipline knowledge and extend treatment efforts.

Mary's services were expanded to include an OT. Although this occurred, there was no suggestion that occupational therapy was provided in interprofessional contexts (other than the OT sharing information with day care staff), and one might question why an OT was not involved earlier.

Missed IPCP Opportunities

Were mandates of IDEA Part C followed fully in Mary's case? Overall, Mary's case fails to illustrate ideal services under Part C. In particular, there was insufficient family engagement beyond Mary's initial diagnosis and treatment. The case also provides no information about the individualized family service plan, a cornerstone of integrated EI services. Also, processes to support service and life transitions seemed to be lacking.

Should Mary's visual and hearing concerns have targeted a broader team response? It appears that Mary could have benefited from greater involvement by teachers of the deaf and hard of hearing and visually impaired. A teacher of the deaf and hard of hearing could have conducted a functional hearing evaluation, while a TVI could have located more precise information about Mary's visual acuity and visual fields, as well as the etiology of her visual impairment. The TVI would have considered signs of cortical visual impairment (CVI), which is common in children

with severe disabilities. Learners with CVI have physiologically typical eyes, but have visual impairment. The severity of CVI can be improved with appropriate services. Strategies, such as slightly moving objects to draw visual attention and the use of specific colors as background or borders, may support the functional use of vision in learners with CVI (Schwartz, 2010, on CVI).

The TVI would have been uniquely prepared to conduct a functional vision assessment to determine how Mary was using her remaining vision and a learning media assessment to identify how Mary used her sensory channels (visual, auditory, or tactile) for learning (Ferrell, Bruce, & Luckner, 2014). These two assessments are administered at least every 3 years, or more often, if the child experiences changes in vision and/or hearing.

In addition, the TVI would have advised the team about the need for a consultation from a certified orientation and mobility specialist, who could have helped the team to understand the impact of Mary's visual impairment on her body awareness and other early developmental milestones that may affect later orientation and mobility (including wheelchair mobility).

Mary's combined visual impairment and hearing loss qualified her to be identified with deaf-blindness. Over 90% of individuals who meet the federal definition of deaf-blindness have functional vision and/or hearing. The impact of deaf-blindness cannot be understood by adding the effects of the visual impairment and the effects of the hearing loss, because vision and hearing are two of the primary senses we rely on for learning. Deaf-blindness results in dramatic effects on access, engagement, and incidental learning (Ferrell et al., 2014). Mary's team, including the family, required at least a consultation from a professional with expertise in deaf-blindness. The federally funded state deaf-blind project could have suggested a specialist in deaf-blindness to the team. This individual could have then provided the team with information about the National Center on Deaf-Blindness (<https://nationaldb.org>) and other resources.

Could Mary's therapy sessions have been more integrated? First, pull-out therapies are counterproductive to encouraging inclusive educational experiences from both communication and mobility perspectives. Second, if Mary's therapists had collaborated, they could have enjoyed many of the benefits of IPCP mentioned throughout this forum. For example, it is likely that when Mary attempted to communicate, her spasticity increased, which, in turn, may have made it more difficult for her to express herself or pay attention. If Mary's SLP and PT had worked interprofessionally, strategies for minimizing spasticity may have facilitated Mary's ability to communicate more effectively. Furthermore, collaboration among the SLP, PT, OT, TVI, and the classroom teacher could have supported solid decision making about Mary's positioning, placement of mounts for communication materials, optimal size, contrast and presentation of visual materials, the role of tactile skills in Mary's communication, and potential indicating responses that would ensure efficient communication (Erin

& Topor, 2010). Also, if Mary's team had been supported to function as an IPCP team, Mary may have realized a broader generalization of skills. Individuals with severe disabilities struggle to generalize what they learn (Westling, Fox, & Carter, 2015). Interprofessional collaboration can facilitate team planning and implementation of strategies that support generalization.

Should Mary's team have considered a functional assessment of behavior? The use of behavior should have cued the team to the need for a functional assessment to consider the possible communicative functions expressed through behavior. Mary, quite possibly, had no option to exercise self-determination other than using behaviors. Individuals with severe disabilities need the opportunity to exercise and communicate choices, while having sufficient supports to do so (Developmental Disabilities Bill of Rights Act, 2000; Ryan & Deci, 2000).

Did the SLP's reluctance to introduce AAC for Mary model appropriate and informed intervention for the team at large? Mary had a bilateral moderate hearing impairment and was showing evidence of vocal and gestural intentional communication. It is distressing that the SLP suggested that she needed to develop prerequisite skills and have more time with speech intervention before considering AAC. The AAC literature strongly suggests that the introduction of AAC early in development can give the child a way to communicate while developing speech skills (Ronski, Sevcik, Barton-Hulsey, & Whitmore, 2015). It is also clear that AAC does not hinder but rather facilitates speech (Ronski et al., 2010).

Was Mary's team family friendly? Perhaps weekly meetings were not a reasonable expectation for the family, but we cannot know this, as they were not invited to participate. Through interprofessional collaboration, the team should have determined a frequency of meetings that was appropriate to Mary's needs and that was reasonable for the professionals and the family.

Elementary School Years

After the family relocation, Mary was quickly transitioned into an innovative elementary school setting. Her new team met quickly and invited Mary and her family to lead early discussions about aspirations for Mary. The Making Action Plans (Westling et al., 2015) format was used to create a collaborative blueprint for Mary's services based upon her needs and her family's expectations and hopes. Team members, including the SLP, audiologist, OT, PT, SPED teacher, and regular education teacher, worked with Mary's family to generate assessments, where needed. The audiologist conducted her assessment, generating findings and recommendations for the family and other team members. New hearing aids were ordered and fit within 2 weeks. While waiting for the aids to arrive, Mary's new school arranged for her to be evaluated by the vision specialist, who made specific recommendations to the team regarding Mary's sight and how it might affect testing and treatments (e.g., need for lighting, stimulus

enlargement). Subsequent assessments occurred in arena formats in the school setting, where team members met and worked together with Mary's family to generate representative findings. For example, the PT and SLP conducted one assessment, and the OT and SPED teacher participated in a second assessment session. Findings were discussed with Mary's mother and father as the assessment process progressed, and Mary's mother played an active role in eliciting optimal responses from Mary during testing. Assessment findings were integrated, leading to a collaborative individualized education program (IEP) to be implemented across Mary's school day. Consistent with IEP guidelines, this process was replicated every 3 years for the next 6 years, as Mary progressed through elementary school. Most years, she received modifications to her hearing aids and glasses. She participated in regular and special education classes and received cotreatment with the SLP, OT, and PT.

Simple voice output AAC devices were introduced within predictable classroom routines almost immediately. Objects and photographs were used as symbols with print. By third grade, Mary could use her right hand to select symbols to request from an array of six. She continued to use behavior (squealing) to draw attention to herself if partners were not responsive. Mary now used several early consonants to generate consonant-vowel syllable shapes, as she accessed her devices. Devices were only used expressively and stayed at school for safety purposes. Mary's SLP, PT, OT, and SPED or regular education teachers all met weekly to discuss positioning, access, vocabulary, and curricular interface needs (i.e., new overlays consistent with class content). By third grade, one AAC dynamic display device was primarily being used by Mary. It was selected by her team due to its growth potential.

Each month, Mary's mother met with the school team to assure programmatic continuity in the home setting. As Mary was increasingly exposed to print in the regular and special education classrooms, all stakeholders noticed her growing interest in letters and numbers. By age 9 years, Mary was using her right hand to eat and participate in several daily living tasks. She was also walking slowly with a walker. Mary's family was thrilled with her progress and encouraged her team to "think and plan forward." Mary's brother was now in the same school building (several years ahead) with Mary and often served as her interpreter, when her device was not present.

Commentary Themes

Positive IPCP Examples

Mary's team applied interprofessional collaboration principles to assessment. Arena-style assessments support school professionals as they consider how the complex needs of children with severe disabilities interact and how best to provide comprehensive programming. Arena assessments are dynamic in nature, with the professionals adapting their behaviors to suit the child's interests and responses (Bruce, Sacks, & Brum, 2016).

The team introduced a speech-generating device for Mary's use. Mary and her communicative partners, unfortunately, spent a number of years without a way to communicate, except through squealing. Mary's case highlights a number of challenging issues regarding speech-generating devices, including the type of symbols used, the understanding of symbols, and use of the device across settings. At this point in Mary's case, however, the team was onboard with AAC, and Mary and her communicative partners were the beneficiaries.

Mary's family was very involved in the services she was receiving. Monthly meetings with the family supported ongoing assessment and implementation of interventions across environments. Although they were a big time commitment, time was saved in other areas. Assuring that some monthly meetings occur in the home can allow for parent coaching on contextually relevant ways to conduct intervention (Dunn, Cox, Foster, Mische-Lawson, & Tanquary, 2012).

Missed IPCP Opportunities

Did Mary's acquisition of new skills and abilities raise new team issues? Now that Mary was walking, the team should have considered the impact of her visual impairment on safe ambulation. The TVI and SLP would have had recommendations for environmental modifications, such as the use of brightly colored tape, to warn Mary of changes in terrain. As Mary's ambulation became more stable, the team could have collaborated about the potential benefits of a precane device (if appropriate to her visual and motor needs).

Mary's team also needed to recognize that Mary's brother obviously could not be present to interpret for Mary at all times. The team should have considered classroom strategies to assist teachers, peers, and others with reading Mary's less conventional communication. A classroom communication poster or gesture dictionary could have served this purpose (Ogletree, Bruce, Finch, Fahey, & McLean, 2011).

Not allowing Mary's device to go home with her kept her from having a voice in settings other than school. This is not permissible under the Free and Appropriate Education provision of IDEA and certainly limited Mary's ability to participate or collaborate with those around her who might be involved in her services.

At this point, and really earlier in the case, Mary's team needed to be continuously thinking about how to enhance Mary's quality of life and related personal characteristics. One question of importance is the following: What opportunities did Mary have to express her self-determination? The development of communication skills and improved mobility and motor skills are important but only to the extent that they allow for typical life experiences. Thus far in the case, there was the practice of inching Mary's development forward, but no one seemed to be discussing forward toward what goals. The answer to that question could have helped determine the communication skills,

social skills, motor skills, and academic skills that would be appropriate outcomes for Mary.

Middle School to Current Day

School personnel loved Mary and enjoyed her school involvement in later elementary and middle school years. As Mary transitioned into middle school, related service providers changed, and Mary's program seemed to stagnate. Over time, her services became more consultative and less collaborative. Mary was often pulled out of her classroom for speech and physical therapy. Her hearing and vision were not evaluated as frequently (not since fifth grade) due to her providers' thoughts that she was functioning adequately.

By eighth grade, Mary was primarily communicating with 10 to 15 intelligible words, unintelligible vocalizations, reaches and points, and a static communication board with an eight-symbol grid, consisting of photographs and simple line drawings with print. Her dynamic display device was broken and no longer functional. Mary continued to use behavior to draw attention to herself. Her sight word reading vocabulary was 20 words. Ninth grade was a total loss for Mary. Her family moved due to a job opportunity, and Mary's new IEP was not written and implemented until December. Mary's brother finished high school and was no longer present to assist with her communication.

As the ninth grade school year came to a close, Mary's team met and recommitted to a more productive and collaborative process. Then, the family moved to their current home (in the local school district initiating this referral).

Mary's case now progresses to present day. Her current team (assembled for planning at the outset of this case presentation) moves forward with assessment and intervention actions to transition Mary to her new high school setting.

During the preassessment staffing, the SLP served a coordinating role. Together, the assessment team and Mary's family reviewed questions that had arisen from Mary's history. The family offered several additional prior assessment reports and recommendations. They also provided specifics about previous treatment approaches and AAC devices. With Mary present, the group discussed Mary's interests and attempted to engage her with questions. Hopes for Mary's future were reviewed, and plans for an assessment were created. Mary's parents offered to be of assistance in any way possible during testing. They also requested that findings be shared as the process progressed. The assessment was scheduled to occur across school and home settings over the course of 1 week.

The PT and OT assessments were scheduled first, and they invited other team members to observe. They evaluated Mary in the district's SPED classroom for children with more significant needs. Notes and illustrations were created and disseminated to the broader team for posture and positioning. The TVI specialist sat in on the initial PT and OT testing and conducted vision assessments that suggested 20/100 corrected vision in the better eye.

The TVI specialist also created notes (describing this degree of visual impairment) and illustrations to assist with the presentation of stimuli to Mary. Touch cues were recommended as a means of initiating assessment activities. Findings from the PT, OT, and TVI were shared with Mary's parents as the process progressed. The evaluators consistently checked with Mary's parents about the representativeness of Mary's performance. All findings were disseminated to team members through chart notes as they were obtained. The OT also created a password-protected shared drive folder for Mary's assessment notes and interactive comments. Mary also had a hearing evaluation, and adjustments were made to her hearing aids. All assessment findings were shared with the audiologist via chart notes and the shared drive folder prior to testing.

The SLP's assessment took place in Mary's home. She was assisted by the OT and PT, who happened to serve on the district's assistive technology (AT) team. The behavior specialist and SPED teacher observed the session. The SLP conducted structured communication sampling, placing Mary in near-obligatory contexts to promote communication (e.g., eating in front of Mary without offering food). Mary's parents and brother presented items to Mary in an effort to make the assessment socially valid and authentic. Two of her old AAC devices were present, serviceable, and programmed with items potentially useful in the sampling protocol. These were presented one at a time for comparative purposes. From time to time, team members accessed Mary's devices to demonstrate their value. Several times, the OT and PT adjusted positioning of Mary and the devices. Mary communicated with words, gestures, independent accessing of single icons on her device, and behaviors such as slapping or pinching (deemed by the behavior specialist as possibly communicative). As the session progressed, Mary's family, the SLP, the SPED teacher, and the behavior specialist discussed contexts in which behaviors occurred, speculating what preceded and followed behaviors. It was hypothesized that behaviors served requesting and protesting functions. The OT, PT, and SLP observed Mary's device access closely, identifying the index finger of her right hand as optimal for device access. The SPED teacher made grids for one of the communication devices so that it was consistent with frequent choices in one of his classrooms. Mary, the teacher, and Mary's brother completed several simple academic activities, with Mary's brother modeling device use. The session ended with the team (including Mary's family) completing a Communication Matrix (Rowland, 2004), which confirmed that Mary was a symbolic communicator who used and understood multiple communicative modes. Team members were asked to consider communication feature matching for Mary to determine what devices might be most appropriate. The team reassembled 2 days later to consider treatment planning. Chart and shared drive notes were updated regarding Mary's case.

After assessments were completed, Mary's team gathered regarding their findings. Mary's family was present, and all contributed as active team members. Potential voice

output communication devices were identified that met desired feature-matching standards. An integrated report detailing sensory, motor, and communication goals and recommendations was created, and an IEP was planned involving all stakeholders. Prior to the IEP meeting, the team completed the AAC portion of Mary's assessment by conducting trial runs with three devices borrowed from a local AT lending library. One was selected, and the funding process was initiated by the family and the SLP, with assistance from the district's AT team.

The IEP meeting occurred the week prior to the start of school. All members of the team, including Mary and her family, attended. The group began spending considerable time generating a person-centered plan for Mary. The plan emphasized increased opportunities with non-disabled peers as well as in the community. The plan also targeted supported living and work as desirable outcomes. IEP goals were then generated that emphasized integrated cotreatment for communication and motor specialists. Interventions were planned that would support IPCP outcomes. Plans were made to disseminate all findings (including TVI and hearing) to school personnel who would be involved with Mary.

As the school year began, Mary was enrolled in high school as a 10th grader. She attended two regular education classes (chorus and physical education) and had lunch in the school's cafeteria with her peers. Mary spent the remainder of her day in the district's classroom for students with more significant disabilities and in a supported work setting in the community. Her SLP met with her in regular education, special education, and in community settings a total of three times weekly. The SLP also cooperated with teachers and work personnel weekly to add new vocabulary to Mary's device to support instruction and daily living. Mary's paraprofessional worked with the SLP during classroom interventions and was charged with carrying out treatment plans in between speech therapy sessions. The SLP cotreated twice monthly with the OT and PT who continuously worked to improve Mary's seating and device access. Mary's parents were invited to attend these sessions. Twice during Mary's first academic term, the TVI specialist attended cotreatment sessions and collaborated on symbol displays and presentation. Because Mary is ambulatory, her device access while on the move was limited. Mary expressed interest in using a vest with symbols during these times. The SLP, PT, and OT continued the use of the shared folder and notes about Mary's progress. Access was created for Mary's regular education teachers, who were encouraged to make entries specific to Mary's communication in class. Also, the SLP and behavior specialist worked together to conduct a functional analysis of Mary's behavior. Mary's voice output device and communication vest were targeted as replacement options for behaviors that still occasionally occurred as expressions of protesting. Data and tips regarding behavior replacement were put on the shared drive folder. In addition, with the family's permission, short video-modeling clips featuring Mary optimally using her device and vest were posted on the shared drive.

At the end of her first term, Mary was well adjusted in 10th grade. She communicated with about 30-word approximations, her voice output communication device (dynamic display device using four screens with eight symbols per screen), and nonsymbolic gestures and vocalizations. Her behaviors decreased markedly over the term. Mary's family expressed satisfaction with how things progressed after the move. They looked forward to Mary's IPCP reporting and planning meeting to occur as the new semester was beginning.

Commentary Themes

Positive IPCP Examples

A recommitment on the part of Mary's team as she moved from ninth grade. This clinical focus article opened by stating that Mary's case was a real-world example. In the real world, teams occasionally miss opportunities. As the reader will see in a separate comment in the following, Mary's late middle school years and her very early transition to high school were not ideal with respect to services or IPCP. Her team pulled together, however, after Mary's ninth grade year to commit to better services and outcomes for Mary. Team commitment is absolutely critical in IPCP. Thus, in ninth grade, Mary could have benefited from a champion and a collaborative planning process, such as Making Action Plans or Person-Centered Planning (Westling et al., 2015).

Mary's current team takes a very collaborative stance on her services. Mary's present-day team is working interprofessionally and considering assessments that are more situational, including contextually relevant assessments in Mary's home. Situational assessment is key to determining what sorts of postsecondary experiences will best meet Mary's needs and desires. The current team is also working to resolve or update old issues (e.g., hearing loss) and keep communication open and assessment findings accessible. These efforts should improve the overall view of Mary, while promoting openness and collaboration. The use of Person-Centered Planning (Westling et al., 2015) by Mary's team kept discussions about Mary focused and forward thinking.

Mary's treatment is exceptionally integrated using cotreatment, a practice encouraged in this forum (Sylvester, Ogletree, & Lunnen, 2017). The TVI and behavior specialist were also more involved than earlier in the case, possibly averting potential future problems. Furthermore, the SLP's work with the PT provided options for more mobile communication not previously considered.

Mary's family is highly engaged in her present-day assessment and treatment processes. The family's commitment to providing information in the preassessment staffing expedited team discussions and decision making. Later, Mary's family opened their home to the assessment process, and her brother assisted with AAC device modeling. Mary's parents partnered with therapists in Mary's treatment by learning and providing ideas to facilitate communication and other development.

Missed IPCP Opportunities

Why did Mary's services lose momentum in the eighth and ninth grade years? As often happens when cases are followed over time, there was a lull in Mary's services just before and as she transferred to high school. Teams must work to not become too comfortable with services and to anticipate future needs, even when things seem positive. The impact of the family's moves to new locales was dramatic. Because the professionals involved in Mary's education change regularly, it is critical for the team to consider how best to ensure smooth transitions. The collaborative team could develop a communication and developmental profile that gives a holistic picture of Mary to current and future team members. A short video that features Mary could also be effective. The current team will want to support the family being able to share the most important aspects of Mary's communication and other programming with new providers.

What else could have happened to reflect ideal IPCP? Mary's SLP could have extended assessment to settings other than Mary's home, by possibly using other team members as informants and observers. She could have also trained a broader range of communicative functions and promoted the use of these among other team members. In 1992, the National Joint Committee for the Communication Needs of People with Severe Disabilities recommended that interventions focus not only on forms or modes but also on teaching learners to express a variety of communicative functions (Brady et al., 2016). For Mary, this might have included teaching attention getting or greeting with her speech-generating device.

Mary's SLP could have shared that there are little data to support a hierarchy of symbols (from real objects to arbitrary symbols). This may have opened Mary's range of symbol choices to include even more print paired with other options (Romski & Sevcik, 1996; Sevcik, Romski, & Wilkinson, 1991). Exposing Mary to print earlier may have provided an opportunity to develop preliteracy skills. Mary's SLP could have also emphasized receptive language skills in her treatment and in suggestions to the team at large.

The TVI could have shared her expertise with the SLP by recommending the appropriate size and complexity of photographs and objects used for communication, including their use in the daily schedule. The TVI, broadly, could have advised the team about how Mary uses touch and how her communication partners should use touch in communication. The use of object representations has been established as an evidence-based practice for learners with Mary's profile (Ferrell et al., 2014; Rowland & Schweigert, 2000; Trief, Cascella, & Bruce, 2013).

Also, seating assessment and management could have occurred in multiple real-world environments and even after school at home. Again, this provides hands-on opportunities to share information with team peers and is a socially valid practice.

What are some issues critical to successful IPCP but not evident in Mary's case? There are at least three thematic

needs that are inadequately addressed in Mary's case and certainly critical to effective collaborative practice. First, in cases such as Mary's, early consideration needs to be given for Medicaid waiver support, Supplemental Security Income, and Social Security Disability Insurance. In the present case, a benefits counselor could play an important role in helping the family to determine how to have Mary as fully involved in community life as possible and also keep most of her benefits. Health insurance, obviously, is going to be critical. Second, Mary's teams throughout should have been discussing how she could access the regular curriculum. These curricular activities can be leveraged to help with communication development. Mary communicates intentionally, so this opens up a number of possibilities for a meaningful postschool life, including supported living in the community, customized employment, and social participation. Care should be taken not to push parents to claim complete guardianship, not to look at congregate living as the only option, and not to consider a sheltered workshop or a day activity center as the only transition options. Schools, unfortunately, often promote only these outcomes in their package of transition planning.

Concluding Thoughts

Mary's case illustrates many of the challenges and joys of IPCP. Without a doubt, functioning interprofessionally requires effort and may be more complicated than practicing alone. Thus, IPCP has much to offer. Providers who embrace interprofessionality will be more knowledgeable and prepared to meet the complex needs of many populations with communication impairment. Note that if done well, even most of the time, IPCP can create an optimal environment for skill acquisition and socially valid change in the lives of individuals with severe disabilities.

Final Commentary

Without a doubt, the more engaged and successful teams in Mary's case found a way to work together. IPCP is a commitment—one that may likely seem impossible given the everyday challenges associated with clinical practice. In all probability, Mary's successful teams had administrative support and used creative meeting strategies, such as block scheduling, release time, or electronic meeting formats to accommodate the complexities inherent in IPCP.

In most illustrations of IPCP, improvement is possible. For example, in Mary's case, too much isolated planning and treatment by teachers and related service professionals occurred. There are many possible explanations for this, including reimbursement issues, large caseloads, and poor administrative support. Mary's case may also have illustrated too much deference given by teachers and family members to related services professionals. It often seems that the only criterion for judging the services of these professionals is by the amount of isolated therapy

time they provide, even when therapy goals are not relevant, such as naming letter sounds. Throughout the educational process, it is likely that Mary's teachers were not prepared adequately to know the skill sets of related services personnel, how these skills should be applied to students with severe disabilities (i.e., when they are being served correctly vs. incorrectly), how to question and converse with other professionals, or how to work effectively as team members. In the end, the student, in this case Mary, often gets shortchanged because of the disconnect between services. Although this case has been about IPCP, functioning interprofessionally will really require more interprofessional education—that is, disciplines learning from and with each other.

If done correctly, there is only an upside to IPCP. It starts with competent professionals who are well prepared to work with the population of students with severe disabilities. If all the professionals are well prepared, they will first think holistically about the student and the student's family and then use their instructional and therapeutic skills to help achieve meaningful outcomes.

References

- American Speech-Language-Hearing Association. (2013). *Final report on interprofessional education*. Retrieved from <http://www.asha.org/uploadedFiles/Report-Ad-Hoc-Committee-on-Interprofessional-Education.pdf>
- Brady, N. C., Bruce, S., Goldman, A., Erickson, E., Minceo, B., Ogletree, B. T., . . . Wilkinson, K. (2016). Communication services and supports for individuals with severe disabilities: Guidance for assessment and intervention. *American Journal on Intellectual and Developmental Disabilities, 121*, 121–138.
- Bruce, S., Sacks, S., & Brum, C. (2016). Assessment of students who have visual impairments and additional disabilities. In S. Z. Sacks & M. C. Zatta (Eds.), *Keys to educational success: Teaching students with visual impairments and multiple disabilities* (pp. 101–147). New York: AFB Press.
- Developmental Disabilities Assistant and Bill of Rights Act of 2000, 42 U.S.C. § 15002 *et seq.* (U.S. Department of Health and Human Services, 2008).
- Dunn, W., Cox, J., Foster, L., Mische-Lawson, L., & Tanquary, T. (2012). Impact of a contextual intervention on child participation and parent competence among children with autism spectrum disorders: A pretest–posttest repeated-measures design. *American Journal of Occupational Therapy, 66*, 520–528. <https://doi.org/10.5014/ajot.2012.004119>
- Erin, J. N., & Topor, I. (2010). Functional vision assessment of children with low vision, including those with multiple disabilities. In A. L. Corn & J. N. Erin (Eds.), *Foundations of low vision: Clinical and functional perspectives* (2nd ed., pp. 339–397). New York, NY: AFB Press.
- Ferrell, K. A., Bruce, S., & Luckner, J. L. (2014). *Evidence-based practices for students with sensory impairments* (Document No. IC-4). Retrieved from University of Florida, Collaboration for Effective Educator, Development, Accountability and Reform Center website: <http://ceedar.education.ufl.edu/tools/innovation-configurations/>
- National Joint Committee for the Communication Needs of Persons with Severe Disabilities and American Speech-Language Hearing Association. (June, 2014). *Improving Communication of People with Severe Disabilities: Interprofessional Strategies*. Retrieved from <http://www.asha.org/events/severe-disabilities/>
- Individuals With Disabilities Education Improvement Act of 2004, 20 U.S.C. §1400 (U.S. Department of Education, 1997).
- Jette, A. M. (2006). Toward a common language for function, disability, and health. *Physical Therapy, 86*, 726–734.
- Miedel, W. T., & Reynolds, A. J. (2000). Parent involvement in early intervention for disadvantaged children: Does it matter? *Journal of School Psychology, 37*, 379–402.
- Moeller, M. P. (2000). Early intervention and language development in children who are deaf and hard of hearing. *Pediatrics, 106*, e43.
- Ogletree, B. T. (1999). Introduction to teaming. In B. T. Ogletree, M. A. Fischer, & J. B. Schulz (Eds.), *Bridging the family-professional gap: Facilitating interdisciplinary services for children with disabilities* (pp. 3–11). Springfield, IL: Charles C. Thomas.
- Ogletree, B. T. (2017). Addressing the communication and other needs of persons with severe disabilities through engaged inter-professional teams: Introduction to a clinical forum. *American Journal of Speech-Language Pathology, 26*, 157–161.
- Ogletree, B., Bruce, S., Finch, A., Fahey, R., & McLean, L. (2011). Recommended communication-based interventions for individuals with severe intellectual disabilities. *Communication Disorders Quarterly, 32*, 164–175.
- Romski, M. A., Sevcik, R. A., Adamson, L. B., Cheslock, M. A., Smith, A., Barker, R. M., & Bakeman, R. (2010). Randomized comparison of parent-implemented augmented and non-augmented language intervention on vocabulary development of toddlers with developmental delays. *Journal of Speech, Language, and Hearing Research, 53*, 350–364.
- Romski, M. A., Sevcik, R. A., Barton-Hulsey, A., & Whitmore, A. S. (2015). Early intervention and AAC: What a difference 30 years makes. *Augmentative and Alternative Communication, 31*(3), 181–201.
- Romski, M. A., & Sevcik, R. A. (1996). *Breaking the speech barrier: Language development through augmented means*. Baltimore, MD: Brookes.
- Rowland, C. (2004). *Communication Matrix—Revised Edition*. Portland, OR: Oregon Health & Science University, Design to Learn Projects.
- Rowland, C., & Schweigert, P. (2000). Tangible symbols, tangible outcomes. *Augmentative and Alternative Communication, 16*, 61–78.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68–78.
- Sevcik, R. A., Romski, M. A., & Wilkinson, K. (1991). Roles of graphic symbols in the language acquisition process for persons with severe cognitive disabilities. *Augmentative and Alternative Communication, 7*, 161–170.
- Schwartz, T. L. (2010). Causes of visual impairment: Pathology and its implications. In A. L. Corn & J. N. Erin (Eds.), *Foundations of low vision: Clinical and functional perspectives* (2nd ed., pp. 137–191). New York, NY: AFB Press.
- Stucki, G., Ewert, T., & Cleza, A. (2003). Value and application of the ICF in rehabilitation medicine. *Disability Rehabilitation, 25*, 628–634.
- Sylvester, L., Ogletree, B. T., & Lunnen, K. (2017). Cotreatment as a vehicle for interprofessional collaborative practice: Physical therapists and speech-language pathologists collaborating in the care of children with severe disabilities. *American Journal of Speech Language Pathology, 26*, 206–216.
- Trief, E., Cascella, P., & Bruce, S. (2013). A field study of a standardized tangible symbols system for learners who are visually impaired and have multiple disabilities. *Journal of Visual Impairment & Blindness, 107*, 180–191.

- Westling, D. L., Fox, L., & Carter, E. W. (2015). *Teaching students with severe disabilities* (5th ed.). New York, NY: Pearson.
- Whiteneck, G. (2006). Conceptual models of disability: Past, present, and future. In M. J. Field, A. M. Jette, & L. Martin (Eds.), *The future of disability in America: A new look* (pp. 50–65). Washington, DC: Institute of Medicine of the National Academies.
- World Health Organization. (2001). *International Classification of Functioning, Disability and Health: ICF*. Geneva, Switzerland: World Health Organization.
- World Health Organization. (2010). *Framework for action on inter-professional education and collaborative practice*. Retrieved from http://whqlibdoc.who.int/hq/2010/WHO_HRH_HP_N_10.3_eng.pdf?ua=1