In Support of a Public Health Approach to Late Talking

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Conflicts of Interest: There are no conflicts of interest to disclose.

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Keywords: public health approach, late talker/late talking, social determinants of health

Abstract

Purpose: This article aims to support and extend Di Sante and Potvin's (2022) Viewpoint, "We Need to Talk About Social Inequalities in Language Development," by providing additional detail on a proposed public health approach to language development and late talking specifically. A public health approach can be a model for the field of speech-language pathology to improve child language across social gradients and reduce inequities in late talking.

Method: A public health approach is defined and compared to the clinical approach. A proposal for how a public health approach could be applied to address inequities in late talking is described.

Conclusion: A public health approach merits consideration by leaders and institutions in the field of speech-language pathology. This approach draws attention to the role of social determinants of language development and the need to address structures and systems that support not only clinical intervention to address disorders, but that also focus on prevention of late talking and promotion of healthy language development. A public health approach requires engaging stakeholders outside the field of speech-language pathology, thus strengthening opportunities for progress.

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This article is in support of utilizing a public health approach to address inequities in language development in childhood, and specifically late talking. We concur with arguments for this approach made by Di Sante and Potvin (2022) and provide additional information and suggestions for implementation of a public health approach.

In their Viewpoint, "We Need to Talk About Social Inequalities in Language Development," Di Sante and Potvin (2022) cogently argued for integrating a public health approach into clinical practice and made three key points. One, that the speech-language pathology field needs to address the social determinants of language development (SDLs). SDLs are "the environments and experiences that influence early language development" (Di Sante & Potvin, 2022, p. 1895). SDLs may include economic security (e.g., income), the built environment (e.g., transportation to access healthcare and childcare), the social context (e.g., network of adult support), healthcare (e.g., regular, culturally responsive pediatrician well visits), education (e.g., access to quality early childhood educators), and policy (e.g., provision of welfare) (Jacobs et al., 2021; Office of Disease Prevention and Health Promotion, n.d.). Second, to focus on SDLs, they proposed use of the Total Environment Assessment Model for Early Childhood Development (TEAM-ECD) Framework (Siddiqi et al., 2007). This conceptual framework highlights the embeddedness of the individual child within concentric family, residential, early childhood development, regional, national, and global "spheres of influence." TEAM-ECD highlights the role of SDLs across these spheres as explanatory mechanisms for differences in early childhood development (Siddiqi et al., 2007).

Third, to apply SDLs and the TEAM-ECD model to clinical practice, Di Sante and Potvin (2022) recommended that SLPs consider their services as events in systems; this is a concept

from complex systems thinking. They suggested that the events in systems framing spurs SLPs to consider a family's SDLs and connect the family to resources that will target those SDLs. Supports for SDL are embedded across multiple spheres of influence per the TEAM-ECD model (e.g., mental health services, community organizations that support families in accessing basic needs, play groups, etc.). Thus, Di Sante and Potvin (2022) demonstrated how a public health framework can be used by SLPs within their current practices.

Supporting and Extending a Public Health Approach to Language Development

We support and extend Di Sante and Potvin's (2022) arguments in several areas and focus our discussion more specifically on one area of language development: late talking. We identify the social inequity of late talking and specify key stakeholders who could work as a coalition in a public health approach. We also aim to deepen understanding of the difference between a public health approach and a clinical approach to late talking. Subsequently, we describe steps to a public health approach and apply them to late talking. Finally, we extend the reach of a public health approach beyond late talking and provide specific guidance for future directions.

Late Talking as a Social Inequity

Late talking affects an estimated 10-20% of children (Reilly et al., 2007; Rescorla & Achenbach, 2002; Zubrick et al., 2007) and is defined as producing fewer than 50 words or not combining words by age two in the absence of another explanatory condition, such as autism spectrum disorder (Rescorla & Achenbach, 2002). Social inequities, for example differences in poverty, are associated with language delays; up to 30% of children from low-income households may experience language delays (Nelson et al., 2011). This early inequity in language contributes to later inequities in academic performance, mental health, social, and

employment outcomes (Law et al., 2009; Snow & Powell, 2009; Snowling et al., 2006). Although clinical interventions to late talking are merited and often effective for individual children, through a public health approach, late talking can be prevented (Lekhal et al., 2011).

Key Stakeholders

To implement Di Sante and Potvin's (2022) proposal to take a public health approach, we also propose that public health efforts that range beyond the current clinical practices are needed and will require institutional and policy-level efforts to achieve. Thus, we address not only SLPs but a range of stakeholders in leadership positions who can affect and support changes in the system. Stakeholders may include administrators in institutions where SLPs work (e.g., lead SLPs in schools, hospital administrators), researchers, university faculty, national and state level speech-language-hearing association leaders, public health workers, other leaders in the early childhood development field, and policymakers. The discussion is also relevant to SLPs and families in that they can not only be engaged in delivery and receipt of interventions, but also advocate with policymakers for preventive measures for late talking.

Comparing Clinical and Public Health Approaches

The public health approach and clinical approach have different purposes, spheres of influence, targets of intervention, leaders, and durations. They can share similar target outcomes and overall processes. See Table 1 for a summary of the comparison of the two approaches.

In the clinical approach to late talking, a clinician typically interacts with the family and their child in a one-on-one setting to address discrete skills that will improve communicative functioning and quality of life (American Speech-Language-Hearing Association [ASHA], n.d.; ASHA, 2019). Therapy lasts until the child has improved to an appropriately functional level of

communication. Thus, the clinical approach tends to be narrowly focused on child- and family-level outcomes.

In contrast, a public health approach targets multiple spheres of influence that aim to impact the most change for the most people. It seeks to reduce risk factors and increase protective factors to promote health and prevent health challenges (Miles et al., 2010). Thus, it often focuses broadly, such as at the regional or national sphere of influence. However, a team executing a public health approach can choose to focus on the community or family spheres of influence for more targeted efforts. For the most fundamental change, a public health approach targets SDLs. For more focused outcomes, a public health approach could devote efforts to increasing the quantity and quality of language environments in which children spend their time. This might include helping caregivers or childcare workers improve their use of language promotion strategies to prevent late talking. Given the resource and organizational requirements of a public health approach, it necessarily involves a multitude of stakeholders from various sectors within different spheres of influence to implement.

While there is no single "public health approach," across most frameworks there are common elements, including 1) defining the problem through gathering data, measuring risk and protective factors, and evaluating community needs, 2) developing assessment and prevention interventions, 3) assuring wide-spread implementation of those interventions, and 4) evaluating those interventions to ensure implementation fidelity broadly across the population (Miles et al., 2010; National Center for Injury Prevention and Control, Division of Violence Prevention, 2022; Schendel et al., 2022; Substance Abuse and Mental Health Services Administration [SAMHSA], 2019). Uniquely, after step 1, the Strategic Prevention Framework (SAMHSA, 2019) adds the step of capacity-building at the local and state levels to ensure the workforce is ready and the

structures are available to implement the selected interventions. While the steps are typically presented linearly, in practice, they may form a cyclical relationship between research, practice, implementation, and evaluation (Schendel et al., 2022). Thus, common across many public health frameworks is the emphasis on data-driven decision-making to inform subsequent steps.

Despite the different foci, the clinical approach is like the public health approach in that it seeks to 1) define the problem through screenings and professional or caregiver concerns, evaluate the problem through assessment of the child, 2) develop an intervention plan, 3) implement the intervention, and 4) gather and use data to continually monitor the child's progress and inform the SLP of what course to take in intervention. Moreover, per Di Sante and Potvin (2022), the two approaches are linked. When SLPs connect families to new organizations and resources (e.g., social workers, the library, a foodbank), they are expanding from the family sphere of influence to a broader sphere of influence consistent with a public health approach (e.g., early childhood developmental services, residential community). They are also maintaining their typical target of intervention of the child's communication skills (clinical approach) while helping the family address SDLs (public health approach).

Steps in a Public Health Approach Applied to Late Talking

Step 1: Defining, measuring, and evaluating late talking

To our knowledge, the problem of late talking has not yet been defined on a national, state, or local level in a way that will lead to the development of a comprehensive strategy to address SDLs via various interventions. This should be a priority; key stakeholders could form a coalition to define a problem statement regarding late talking. This coalition would decide on the long-term and short-term goals to address via a public health approach. The goals will focus the assessment and planning stages.

The coalition would need to summarize the current understanding of late talking and its risk and protective factors. Subsequently, they would identify key gaps in research that would need to be filled; this knowledge would guide the formation of a comprehensive plan to address late talking via a public health approach.

Step 2: Developing an assessment and prevention intervention and building capacity

After identifying critical research gaps, the coalition would decide on what factors to assess before selecting a prevention intervention. There is a significant body of knowledge on late talking's prevalence (e.g., Rescorla & Achenbach, 2002; Zubrick et al., 2007), risk factors (e.g., Hammer et al., 2017; Reilly et al., 2007) and outcomes (e.g., Hammer et al., 2017). Thus, the coalition might direct researchers to investigate which SDLs to prioritize for intervention based on which have the greatest influence on late talking.

After adequate assessment, multiple prevention interventions could be devised to target SDLs depending on the desired TEAM-ECD sphere(s) of influence being targeted (see Deavenport-Saman et al. (2019) for an example of a multilevel intervention applied to early childhood obesity). For instance, at the national sphere of influence, the focus might be on increasing population-level knowledge of language development and awareness of late-talking. This might be carried out via an awareness campaign. Increasing awareness of late talking could filter into the regional sphere of influence and address the SDL of social and community support by spurring community services (e.g., libraries) to increase their programming in support of language promotion. Additionally, national-level policies that promote economic stability (e.g., increase minimum wage, preserve Child Tax Credit, more generous Temporary Assistance for Needy Families (TANF) which provides cash assistance to families who are in a low-income bracket) could improve families' socioeconomic circumstances. This may indirectly lead to

improved language outcomes in early childhood (Hoff, 2013; Siddiqi et al., 2007). Another option at the national sphere of influence would be to increase the efforts for early screening of late talking in pediatric well visits or to develop policies that require such screenings and abolish wait-and-see referral practices for children who may have failed early screenings (Capone Singleton, 2018).

At the regional sphere of influence, state policies regarding early intervention eligibility could be expanded to include late talkers and preventive services. Additionally, programs funded by the federal and state sources such as home visitation programs for families in low SES environments could be instrumental in preventive efforts as they already have systems and funding in place and include language development as targeted outcomes. An example is Parents as Teachers, a national home visiting program that promotes parents' parenting knowledge and practices (Parents as Teachers, n.d.). Additionally, as part of their curriculum, they help caregivers increase their health literacy regarding early childhood development (e.g., Gibbard & Smith, 2015). This targets the SDL of caregiver education and developmental knowledge while accommodating the SDL of economic challenges families may encounter. It could lead to caregivers providing language-rich stimulation to their children at the family sphere of influence.

At the Early Childhood Developmental Services sphere of influence, efforts could focus on increasing access to the SDL of quality early childhood education programs, which have been shown to decrease the risk of becoming a late talker (e.g., Lekhal et al., 2011). Policy and funding to increase access to and quality of early childhood programs could support this effort from the residential community to the national spheres. At the residential community and regional spheres, organizational leaders could be highly influential in initiating these programs as well as building up the workforce's capacity to sustain them.

To develop these interventions for preventing late talking, each member of the coalition would contribute unique skills. Organizational leaders at the national, state, and local levels would be critical drivers of capacity-building initiatives and creators of systems for implementation. This capacity-building of the workforce is a critical precursor to effective implementation (e.g., Dunst et al., 2019). Researchers would lend their expertise on large-scale intervention development and evaluation. SLPs would be instrumental in ensuring the interventions were feasible and aligned with current best practices. Additionally, public health experts and policymakers would guide efforts to focus on SDLs that would impact population-level change.

Step 3: Implementing an assessment and prevention intervention

The implementation of the interventions mentioned above would require multi-agency cooperation along with local, state, and/or federal legislation and funding. Such sustained, large-scale efforts require the coalition to lead and coordinate the implementation effectively. They would coordinate the multiple levels and organizations to build the necessary infrastructure, provide training for the workforce, and coordinate data collection. The coalition would rely on the workforce to implement the boots-on-the-ground parts of the intervention.

Most likely, the intervention solutions would be implemented in a multi-phase process. The biggest lifts (e.g., federal policy change) could be started early with an expectation of years before reform. The most efficient interventions (e.g., required screening and referral policies) could be prioritized to be implemented first.

Step 4: Evaluating intervention implementation

Focused data collection can guide researchers and program implementers on what to improve in different kinds of interventions and in what direction efforts should continue. The

approach to evaluation will vary depending on the sphere of influence of focus. Evaluation can be comprehensive and involve research-government partnerships for efforts aimed at the national sphere of influence. Large-scale evaluations may wish to employ an implementation science framework that will support data collection in complex systems.

When the intended sphere of influence is more limited, such as the residential community sphere, evaluation may be on a smaller scale. For instance, a set of pediatric offices in a city may be implementing screening and referral practices for late talking. Those offices may wish to evaluate the implementation of that intervention, which is at the residential community sphere. Such a program-level evaluation can collect data on its reach, metrics of efficacy, and continuous quality improvement.

A Public Health Approach Beyond Late Talking

A public health approach can help promote efficiency when coalitions coordinate efforts to address a problem. While multiple, individual SLPs work diligently to provide interventions to treat late talking in their communities, they have limited resources and support for consistent focused efforts (Pfeiffer et al., 2019), thus limiting the reach of their efforts. A public health approach allows for the creation of infrastructure for intervention implementation, efficient use of resources, and coordination of an intervention. This reduces SLP burden and may increase the efficiency of the prevention interventions, as well. Thus, if there is a problem that could be ameliorated through prevention or health promotion, a public health approach can be appropriate for implementing solutions at scale.

Future Directions

Efforts to work across disciplinary boundaries with stakeholders in the early childhood field and other sectors invested in healthy child development could enhance the likelihood of

implementing public health and clinical approaches in tandem. Local, regional, and national leaders in the field —especially researchers and ASHA leadership—are encouraged to form a coalition to start the public health approach process. This coalition can create national goals for reducing social inequities in language development. In pursuit of their goals, it may be useful for the coalition to use pre-existing systems and resources. For example, utilizing nationally managed databases, such as the ASHA National Outcomes Measurement System (NOMS) (ASHA, 2019), may be a low-cost option for certain data metrics. The system is already established, and an external body analyzes the data and sends out reports ready for use. For instance, early childhood programs participating in a public health intervention could compare their children's Functional Communication Measures (FCMs) for spoken language expression to the national norms in the NOMS database. Alternatively, for a public health approach targeting the national sphere, the national FCMs could be examined over time as a potential long-term, distal metric of an intervention's effectiveness. Another resource for a coalition is utilizing the blueprint from other proposals for late-talking prevention interventions, such as a tiered system of intervention (see Law et al., 2013; Roberts et al., 2019).

SLPs can petition their state-level organizations and ASHA for such coalitions to be created. They can also initiate the formation of a coalition; a focus on the residential sphere may be most apt given the level of resources needed to target broader spheres of influence. An SLP-researcher partnership could be a realistic starting point; local clinicians and researchers could form a problem statement and goals for their community. From there, they could seek other coalition members. Once formed, the coalition could create a plan to reach their goals, embarking on a public health approach. This type of partnership may be increasingly attractive to researchers—and therefore sustainable—given the rise of implementation science.

While beyond the scope of this commentary, efforts to use public health approaches and to focus on social determinants of health and educational problems are increasingly being documented. Current endeavors utilizing public health approaches draw upon theories related to community action, collective impact, and systems change (see Aikens et al., 2021; Flood et al., 2015; Koo et al., 2016). We recommend that those interested in pursuing this approach consult these initiatives and theories as well as carefully consider how to meaningfully engage families and members of communities in any collaborative efforts (see Penuel et al., 2020).

Conclusion

A public health approach would target the problem of inequities in late talking by focusing on SDLs (e.g., increasing early childhood education access) and language promotion practices. Although we are advocating for a public health approach, we want to make it clear that we do not intend it as a replacement for the clinical approach. Rather, both are necessary for reducing inequities in language development. We acknowledge that a public health approach is complex and requires engagement with multiple sectors and systems, types of organizations (e.g., government, non-profits, business, academia), and resources (e.g., time, money, organizational support) to implement. Nonetheless, this approach would be a valuable addition to the current practices within the field of speech-language pathology. Using a public health approach to focus on the big picture of late talking may yield long-term improvements of children's language development on a national level.

Acknowledgements: This work was made possible by the Preparing Researchers In Early Intervention for Children with Disabilities from Multicultural Environments (PRIDE) training grant, from the U.S. Department of Education, Office of Special Education (OSERS-SOEP: H325-D190062); this grant funds the doctoral training of Sarah Lynn Neiling.

Data Availability Statement: Data sharing not applicable to this article as no datasets were generated or analyzed during the current study.

Author Contributions: Sarah Lynn Neiling was responsible for conceptualization, investigation, methodology, visualization, and writing (original draft and review & editing). Christina Cutshaw was responsible for conceptualization, investigation, and writing (original draft and review & editing).

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Table 1

A Comparison of Clinical and Public Health Approaches to Late Talking

Domain	Public Health Approach	Clinical Approach
Purpose	To reduce risk factors and increase protective factors for late talking at a population level; to promote healthy language development among all children	To treat late talking among children after it has arisen to reach an improved clinical level and quality of life
Focal sphere of influence	Family, early childhood development services, residential and relational communities, region, or nation	Individual child, family
Target of intervention	SDLs[1]; language promotion across caregiver behaviors and environments	Specific social and linguistic areas of need for child; caregiver language promotion behaviors
Leadership and key stakeholders	Researchers, policymakers, organizational leaders (e.g., early care and education administrators, ASHA[2] and state-level leaders), public health workers working collectively, families	SLPs[3], families
Duration	Long-term, cyclical	Until discharge or transition to other services; may be long- or short-term
Target outcome(s)	Increased awareness and knowledge of language development, prevent/treat late talking	
Process	1. Identify and evaluate the problem 2. Create a plan for intervention and build capacity of stakeholders/intervention implementers 3. Implement the intervention 4. Evaluate implementation and outcomes, repeat process	

Note. "Targeted outcomes" and "Process" span both columns to signify that they are similar across public health and clinical approaches.

[1]SDL stands for the Social Determinants of Language Development.

[2]ASHA is the American Speech-Language-Hearing Association.

[3]SLP stands for Speech-Language Pathologist.