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Title: Educational outcomes and school experiences of healthy siblings of children with a long term-condition

A long-term health condition (chronic illness or disability) in a child has a significant impact on the life of the child and their family (Nap-van der Vlist et al., 2021; Shah et al., 2021). Treatment related side effects, disruptions to normal daily routine, increased responsibilities, anxiety, isolation and required frequent interactions with health services or hospitalisation cause disruptions to daily life and negatively impact quality of life for the unwell child, sibling and family (Chudleigh et al., 2019; Le Corfec et al., 2020; Schamong et al., 2022). Emotional stresses, anxiety, and fear, as well as changes to family roles and disruptions to family routines, not only affect the wellbeing of the child with the long-term

health condition (LTC) but also every member of the family, including siblings (Chan & Shorey, 2022; Grant & McNeilly, 2021).

Recent years have seen more attention paid to the needs of siblings of children with a disability or LTC and it is increasingly recognised that this population have significant and specific vulnerabilities that require attention (Bortes et al., 2020; Chan & Shorey, 2022). There is an abundance of research that points to the psychosocial consequences of being the healthy sibling of a child with a LTC or disability (Hanvey et al., 2022; Long et al., 2018; Martinez et al., 2022), however, there is limited research on both educational outcomes and school experiences of healthy siblings (Bortes et al., 2020; Gan et al., 2017).

For the child living with a LTC, recurrent appointments, exacerbations, or hospitalisations for treatment of their health condition all impact on academic performance at school and on attendance rates (Blamires et al., 2021; Hu et al., 2022). Their siblings similarly may experience social, emotional and behavioural issues at school (Gan et al., 2018). Given that school life, experiences and achievements are an integral part of a child's social and emotional development (León Moreno et al., 2021) where connections with school and peers contribute to overall wellbeing, psychosocial adjustment, development and independence (Symonds et al., 2023), this is an important area for healthcare professionals, teachers and parents to consider.

There is some evidence that having a sibling with developmental disability, externalizing behaviour (Fletcher et al., 2012) and/or Attention Deficit Hyperactivity Disorder negatively impacts academic achievement, specifically a decreased performance in maths and language assessments (Breining, 2014). In addition Long et al. (2018) found that siblings missed more days off school than a control group, had an overall decline in academic performance and experienced school aversion or general educational difficulties. Gan et al. (2018) provides the most comprehensive review to date and focused on school experiences of siblings of children with chronic illnesses concluding that *"siblings experience negative effects in psychological, social and academic domains of school functioning"* (p. 31). Interestingly the majority of studies reviewed were among siblings of children with cancer (Gan et al., 2017), which gives us some understanding of the issues healthy siblings may face but it is likely that siblings of children with other LTCs will have different experiences and unique challenges. Aside from studies in siblings of children with cancer, siblings of children with special educational needs or disability (Hayden et al., 2019) and with Type 1 Diabetes (Eriksen et al., 2023) have determined there is a spillover effect of a LTC to healthy siblings in terms of school performance.

Schools bear the responsibility of nurturing academic advancement and guaranteeing that every student enjoys fair access to learning opportunities, and this includes both children and their siblings living with LTC's (Katz & Acquah, 2021). Given that school is also the place where children and young people spend most of their time it is the ideal location to place more emphasis on the promotion of health and well-being (Pulimeno et al., 2020). To date, only a handful of studies and one systematic review (Alderfer et al., 2010; Bortes et al., 2020; Breining, 2014; Fletcher et al., 2012; Gan et al., 2017; Van Riper, 2003) have addressed the school experiences of healthy siblings of children with LTCs, but their findings do indicate that more research is warranted. Integrating school and health research offers a holistic approach to understanding and developing interventions to improve healthy sibling experiences. By recognizing the interconnectedness of education and health, policymakers, educators, and healthcare professionals can collaborate to create supportive environments that foster academic success and optimal health outcomes for all students, including healthy siblings of children with LTC's.

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