

Tackling Health Inequities for Children and Adolescents With CKD—A Call to Advocacy and Action Across the Life Course



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Socioeconomic position (SEP) is a complex construct encompassing a person's material and social resources and their rank in a social hierarchy.¹ Globally, experiencing lower SEP is associated with reduced access to health care and poorer health outcomes. These socioeconomic inequities in health are a stark social injustice and are driven by inequities in the conditions in which people are born, grow, live, work, and age (known as the social determinants of health) and the structural determinants that give rise to these conditions.²

There is a growing body of evidence on socioeconomic inequities in health and kidney care

outcomes among adults with chronic kidney disease (CKD) in high-income countries, including kidney failure incidence and access to kidney transplantation. There are also inequities between countries, including limited access to kidney replacement therapy (KRT) in low- and middle-income countries.³ In 2016, the ISN established the global "Closing the Gaps CKD Initiative," aiming to address gaps in kidney care by highlighting inequities and providing a roadmap for change (www.theisn.org/initiatives/the-isn-closing-the-gaps-ckd-initiative/). Less is known about how SEP affects health and well-being for children with CKD. Recent evidence indicates important impacts of social determinants, including on quality of life⁴ and parent-rated health.⁵ An emerging area of investigation is socioeconomic inequities in the delivery and outcomes of KRT for young people, with many studies focusing on the area-level measures of SEP disadvantage available in kidney registries, which index the aggregate social and/or economic

characteristics of people in a defined geographic area.¹ Findings have been mixed, including no association with pre-emptive transplantation, acute rejection, and graft failure in Australia,⁶ higher risks of graft failure in France,⁷ and no association with late referral but reduced likelihood of pre-emptive transplantation in the United Kingdom.⁸

This issue of *KI Reports* includes an important study from Driollet *et al.*⁹ examining associations between area-level social disadvantage and quality of care at KRT initiation, among 1115 young people initiating KRT before 20 years of age in metropolitan France. Using data from a comprehensive national registry, outcomes included initial KRT modality (dialysis vs. pre-emptive transplantation) and pre-emptive registration on the transplant waiting list, including initial modality (hemodialysis vs. peritoneal dialysis) and urgent initiation for patients initiating on dialysis. For patients initiating on hemodialysis, urgent initiation with a catheter, vascular access, and late referral were also examined. The European Deprivation Index (EDI) was used to measure area-level social deprivation by neighborhood. The EDI indexes the proportion of residents experiencing material deprivation, disadvantage on traditional SEP domains, and other factors that may be associated with social disadvantage, such as single parenting and foreign nationality. Concerningly, the authors found consistent evidence of inequities in care for young people experiencing area-level social disadvantage. This included an increasing odds of initiating KRT with dialysis rather than pre-emptive transplantation with increasing deprivation (up to almost double for the most

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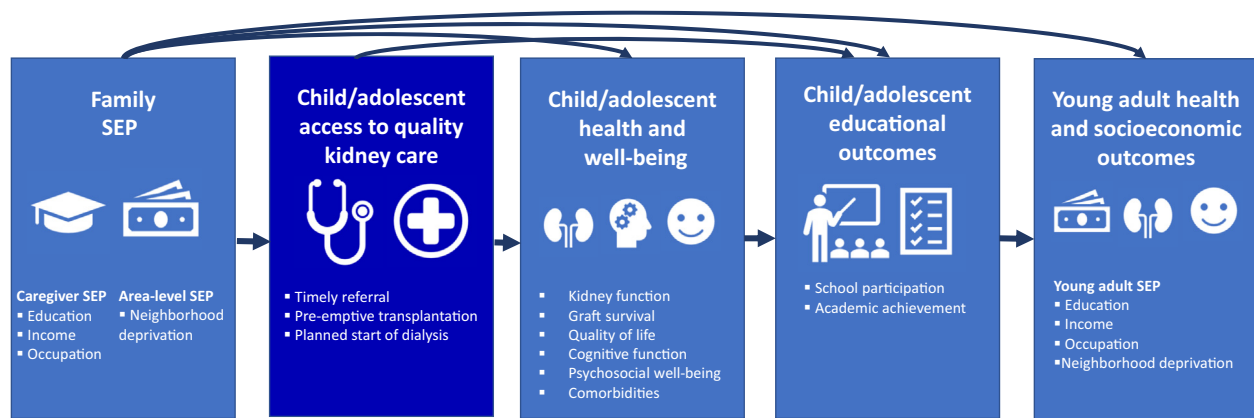


Figure 1. Life course perspective on SEP and kidney care and health outcomes for children and adolescents. Illustrates potential reciprocal relationships between social determinants and health across life stages from family SEP to kidney care and child well-being outcomes, on to child educational outcomes and then young adult health and socioeconomic outcomes. Without effective equity-focused interventions, these reciprocal relationships can result in accumulating disadvantage across the life course. Impacts of SEP disadvantage on outcomes are driven by inequitable experience of poor conditions of daily living (i.e., social determinants of health). The diagram has been simplified, so it does not include mediators or all arrows between the intermediate outcomes and only includes examples of outcomes within each box (rather than an exhaustive list). SEP, socioeconomic position.

deprived EDI quintile [Q5 relative to Q1) and decreasing odds of pre-emptive registration on the transplant waitlist (down to half for Q5 relative to Q1). Among those on dialysis, there appeared to be increasing odds of initiating with hemodialysis rather than peritoneal dialysis with increasing deprivation (reaching almost double for those in Q4 and Q5). The odds of the other dialysis indicators also tended to be higher for patients from Q2 to Q5 compared with Q1 (including urgent initiation, use of a catheter, and late referral).

These findings suggest that young people from socioeconomically deprived areas in France experience inequities in care at KRT initiation that may leave them vulnerable to accumulating health and social disadvantage across the life course (Figure 1). Higher rates of initiation with dialysis are of concern given that dialysis is associated with poorer quality of life,⁴ survival,^{S1} cognitive, and potentially academic outcomes^{S2} compared with transplantation. Children from disadvantaged areas also appear to be less likely to experience the graft and patient survival benefits associated with

pre-emptive transplantation.^{S3} Furthermore, increased initiation with hemodialysis may have adverse social and educational impacts, given that peritoneal dialysis can be delivered at home so may cause less interruption to school and other activities.^{S1} Given the importance of educational outcomes for health and social outcomes in adulthood,^{S4} these kidney care inequities may contribute to compounding disadvantage across the life course. They are particularly concerning given that socioeconomically disadvantaged children are already at risk of poorer health and educational outcomes through other mechanisms.^{S4}

This study⁹ represents an important addition to the literature on socioeconomic inequities in health for children with CKD, with clear relevance to other high-income countries with universal health care. Key strengths include use of a validated SEP index, consideration of multiple important outcomes, and use of a comprehensive national registry. There are some important limitations, which reflect the challenges of registry data. Interpretation of the findings is complicated by the

multifaceted composition of the EDI, including a range of social and economic factors, and its area-level nature, which precludes conclusions about individual-level disadvantage.¹ Furthermore, lack of data on patient ethnicity prevented adjustment for potential confounding by ethnicity and examination of intersectional disadvantage. In a recent UK study, not only were children from minority ethnicities more likely to experience area-level SEP disadvantage, but being of minority ethnicity and having SEP disadvantage were each independently associated with reduced access to pre-emptive transplantation.^{8,S5} Children from minority ethnicities may therefore experience double burdens of inequities in kidney care, which should be explored in future work.

Currently, there is limited evidence on the mechanisms driving these inequities. The present findings are particularly striking given that France has a highly comprehensive universal health care system for patients with long-term conditions, which may be expected to attenuate socioeconomic inequities in kidney care.⁹ Yet,

even with comprehensive financial coverage, patients experiencing SEP disadvantage may still experience numerous barriers to quality care, including material and psychosocial factors. For example, urgent start dialysis may reflect barriers to health care earlier in the CKD journey including reduced health literacy and logistical constraints such as transport, resulting in delayed CKD diagnosis and specialty referral and reduced prevention and identification of CKD progression.^{S6} Reduced health literacy is linked to lower educational attainment (which is included in the EDI) and may result in difficulty or delays in finding providers, accessing care, and having a usual source of care. Socioeconomic inequities in preemptive transplantation may be partly mediated by reduced living donor transplantation, which in turn may be influenced by perceived social support, having the knowledge, skills, and confidence to manage the disease journey, and clinician bias.^{8,S7} Urgent presentation, reduced health literacy, and poor housing conditions may be barriers to initiating with peritoneal dialysis for families experiencing SEP disadvantage.^{S1} This is particularly relevant given the EDI encompasses household crowding, lack of shower/bath, and home ownership. These mechanisms may be challenging to explore with registry data. Qualitative research will play a crucial role by elucidating the lived experiences of families, alongside cohort studies with detailed information about mediators. Although this study focuses on high-income countries, we also note the need for multinational studies to clarify the burden and mechanisms of health inequities in low- and middle-income countries.

Addressing socioeconomic inequities in health and kidney care

among young people with CKD will require coordinated intersectoral action across the life course, with a focus on upstream determinants, by multiple government sectors and the nephrology community. Actions must be taken in partnership with patients and caregivers experiencing CKD and SEP disadvantage, across all stages from design to evaluation, to ensure that interventions address relevant barriers, measure meaningful outcomes, and are implemented effectively. Given the critical impacts of early life exposures and the bidirectional relationships between health and SEP across the life course, it is critical to take a life course approach.^{S4} This should include a focus on acting early in the life course to prevent the emergence of health inequities and intervening to reduce impacts of CKD on family SEP and children's socioeducational outcomes to disrupt cycles of accumulating disadvantage (Figure 1).^{S4} It is critical that actions address upstream determinants rather than drifting downstream to focus solely on more proximal factors. Some actions with relevance to KRT include improving housing stability and material living conditions, providing comprehensive income support, and ensuring sufficient coverage for hidden costs associated with CKD (e.g., transport). Governments must also ensure that children with CKD have access to quality education throughout their disease journey, including during periods of hospitalization and ill health at home, using a child-centered model with strong communication between educators, health care professionals, and families.^{S8}

The nephrology and transplant community also has an important role to play in tackling inequities. Areas for action include providing tailored education that meets

health literacy needs and enhances health literacy skills, prioritizing children for deceased donor transplants and reducing structural and financial barriers to living donor assessment.^{3,S9} Families from socioeconomically disadvantaged and ethnic minority backgrounds experience unjust barriers at many steps along the path to living donor kidney transplantation, including donor identification, transplant evaluation, and transplantation itself. Interventions such as home and community-based education about living kidney donation, social network engagement, pre-emptive transplant education, and financial assistance for out-of-pocket costs may address some of these barriers.^{3,S7} More broadly, there is a need to consider routine screening for social determinants and unmet social needs in clinical practice, followed by connection to relevant support services.^{S10} Systematic investigation of appropriate tools, benefits, harms, barriers, and enablers to screening is needed before implementation, and critically, clinicians need resources to enable effective action following identification of social needs.^{S11} One option would be to refer patients with social needs to patient navigators.^{S10} Patient navigators assist patients with chronic conditions, particularly those experiencing marginalization, to navigate through the complex health and social systems they encounter throughout their disease journey and overcome barriers to care.^{S12} The NAVKIDS² trial in Australia is currently evaluating whether a patient navigation program improves health and health care access for children with CKD from low SEP backgrounds or living in rural/remote areas.^{S13}

These findings from Driollet *et al.*⁹ add to a growing body of evidence concerning unacceptable

socioeconomic inequities in kidney care and outcomes for young people with CKD. They reinforce the critical role that the nephrology community has to play as actors and advocates for improvements to the conditions in which patients with CKD live, learn, play, and work, to ensure that all young people with CKD have the opportunity to flourish across the life course.^{S5,S10}

DISCLOSURE

AvZ and GW are investigators on the NAVKIDS trial described in this commentary and have no other disclosures. MAQ declared no competing interests.

SUPPLEMENTARY MATERIAL

[Supplementary File \(PDF\)](#)

[Supplementary References.](#)

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