Emerging non-genetic approaches that offer innovative treatment and palliation in sickle cell disease (SCD)

RBC intrinsic targets
- HbS polymerization through HbF induction
- HbS polymerization through sRBC hydration
- Other anti-sickling agents
- Intracellular sRBC oxidative changes (antioxidant therapy)

DNA  |  Hemoglobin  |  Deoxy-HbS polymer  |  HbS containing RBC (sRBC)

RBC extrinsic targets
- Abnormal cellular adhesion and vascular dysfunction
- Platelet activation and hypercoagulability
- Leukocytes, cytokines, and other inflammatory mediators

Risk-Benefit assessments for emerging non-genetic therapies in SCD

Potential for disease modification

Potential for symptom management

Carden and Little. Haematologica, 2019