



## SICKLE CELL DISEASE: SCIENCE & TECHNOLOGY

**NEWS:** Haematology Department at SCB Medical College, Cuttack to be one-stop centre for sickle cell anemia

### WHAT'S IN THE NEWS?

Odisha has the highest prevalence of sickle cell disease in India, with 1.88% of the population affected, and the National Sickle Cell Anaemia Elimination Mission aims to eliminate the disease by 2047. A proposed one-stop centre at SCB Medical College in Cuttack will offer comprehensive care, while Casgevy, a CRISPR-based gene-editing treatment, provides a long-term solution for patients.

### Sickle Cell Disease (SCD) and National Initiatives:

#### Sickle Cell Disease (SCD):

- An inherited haemoglobin disorder causing red blood cells (RBCs) to adopt a sickle shape, impairing circulation.
- Leads to anaemia, organ damage, severe pain episodes, and reduced lifespan.

#### Prevalence:

- Odisha has the highest prevalence in India with 89,329 diagnosed cases from 47,62,739 screenings (1.88% disease rate).
- 3,66,289 carriers (7.69%) of the population in Odisha.
- National disease prevalence average is 0.38%.

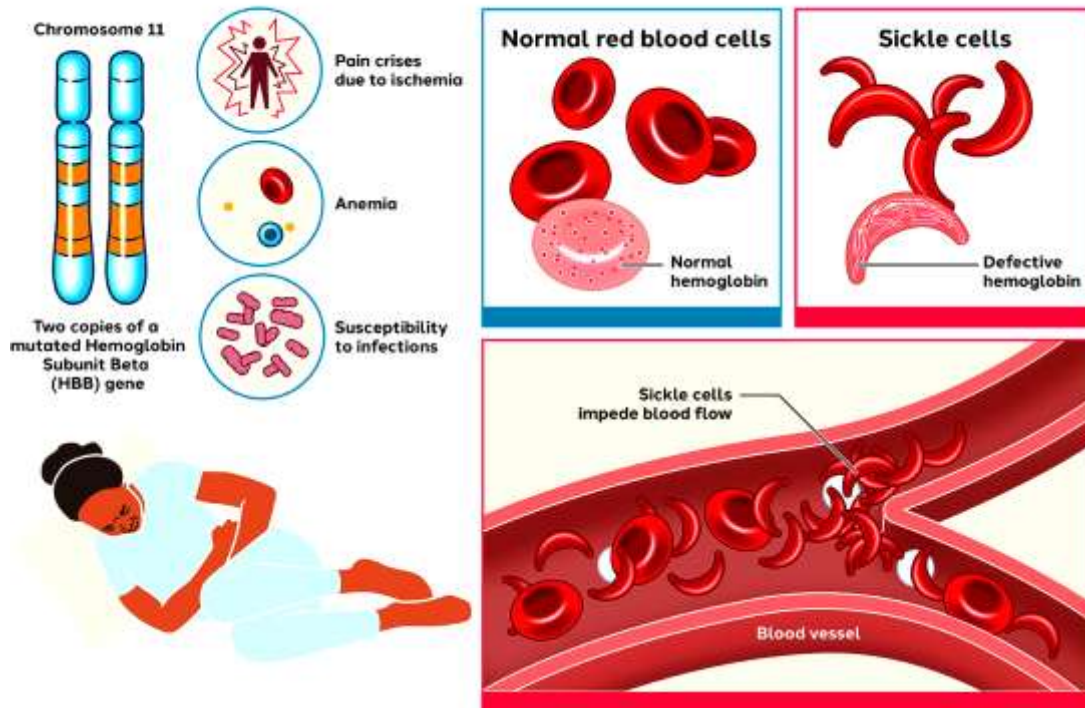
#### National Sickle Cell Anaemia Elimination Mission (NSCAEM):

- Launched in 2023 by the Government of India.



- Aims to eliminate SCD by 2047 with widespread screening, awareness, and improved access to treatment.

## What is Sickle Cell Disease (SCD)?



### One-Stop Centre in Odisha:

- A proposed comprehensive treatment centre at SCB Medical College, Cuttack, for SCD.
- Will include diagnostic testing, ICU facilities, specialized staff, and dedicated wards.

### Treatment with Casgevy:

- Developed using CRISPR gene-editing technology, approved for SCD and thalassemia patients aged 12 and above.
- Involves stem cell collection, gene editing, and reinfusion of corrected cells.
- Requires two hospitalizations for stem cell collection and reinfusion.