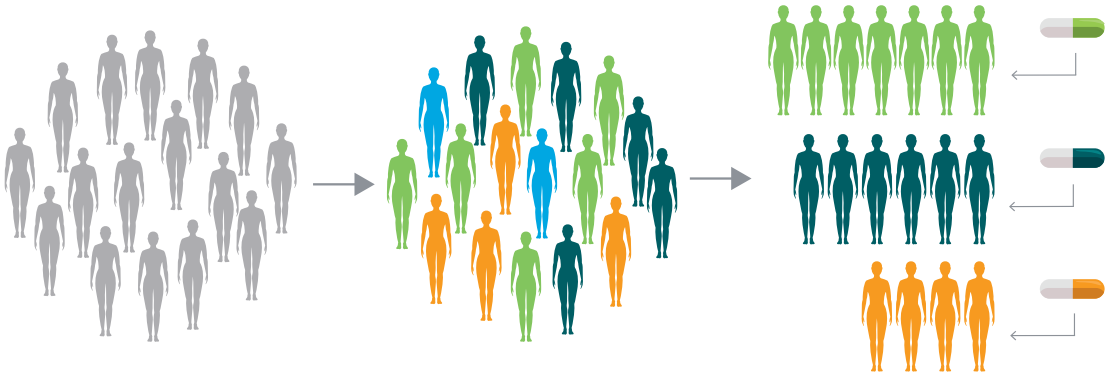
Genomic Medicine Sweden

Potential major benefits to patients

Precision medicine is making inroads into healthcare around the world and encompasses diagnostics and treatments that offer patients personalised care based on their individual characteristics. This has been made possible thanks to major advances in medical knowledge and developments in the technology required for large-scale, cost-effective gene sequencing. In simple terms, the development of precision medicine makes it possible to customise a patient's care using more targeted treatments, thus improving the quality of care, avoiding ineffective or potentially harmful treatments and reducing long-term healthcare costs. Precision medicine also allows new clinical studies to be designed to identify which patients will respond best to specific treatments.

Precision medicine is based on modern sequencing technologies. Sweden has been a pioneer in implementing these methods in healthcare, including being one of the first countries in the world to introduce clinical whole-genome sequencing for rare diseases, something that has made it possible to diagnose patients at an early stage and offer personalised care. In order to benefit from the opportunities offered by precision medicine, Sweden must now greatly increase the capacity of its healthcare system to perform broad gene sequencing.



Precision medicine = precision diagnostics + targeted treatment that facilitates care adapted to the individual patient's characteristics.

Genomic Medicine Sweden

GMS is paving the way for improved diagnostics, care and treatment

Genomic Medicine Sweden (GMS) is a national collaboration intended to ensure that more patients across Sweden have access to broad genetic analysis that improves diagnostics and leads to more personalised care and treatment.

Our overarching objectives are:

- the implementation of broad gene sequencing in healthcare to improve diagnostics and equity in care for all patients;
- the establishment of a National Genomics Platform and knowledge database;
- greater use of genomic and health data in research, development and innovation;
- increased participation in clinical studies; and
- Increased focus on primary prevention and early diagnosis of noncommunicable diseases.

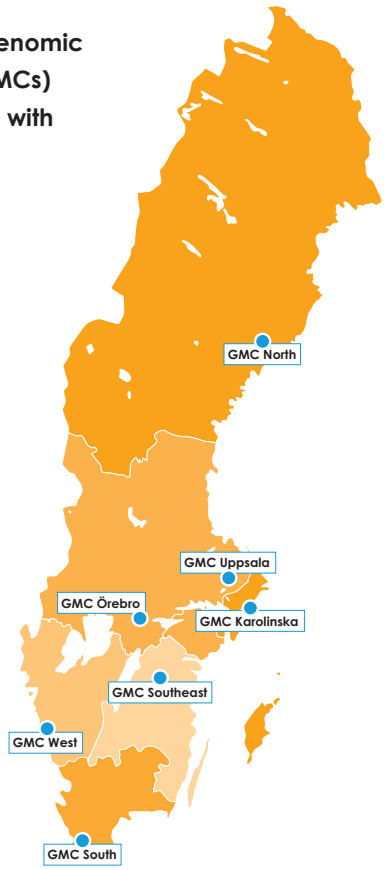
GMS's initial focus is on patients with rare diseases, cancer and infectious diseases. We also study how the efficacy of drugs is affected by our genes - a field known as pharmacogenomics - in order to prevent serious side-effects or the use of non-efficacious drugs. The next phase of GMS will also cover noncommunicable diseases such as cardiovascular disease, diabetes and psychiatric disorders.

Broad, nationwide cooperation

The vision of GMS is achieved through a unique collaboration between the seven Swedish regional authorities with university hospitals, the fourteen other regional authorities, the country's seven universities with faculties of medicine, the private sector and patient organisations. GMS also collaborates closely with SciLifeLab, Sweden's national research infrastructure for Life Science, that develops new diagnostic techniques. GMS is currently funded by the seven university hospital regions, seven universities and Sweden's innovation agency (Vinnova).

GMS has established regional Genomic Medicine Centres in each of the regions with a university hospital. Through these centres, we will organise the nationwide implementation of broad genetic analysis, thus increasing the possibilities for individualised treatment, monitoring, and follow-up with the aim of achieving equitable healthcare for all patients in Sweden.

The seven regional Genomic Medicine Centres (GMCs) established in regions with university hospitals



Partnership between central government and regional authorities is essential

GMS's Strategic Plan 2021–2030 describes investments in precision medicine over the next 10 years. While the implementation of broad genetic analysis will provide enormous benefits for patients, the development and introduction of precision medicine will also entail significant costs. It is clear that no single party is in a position to pay for this investment in its entirety and that a partnership between central government and regional authorities will be necessary.

For further information:
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