



RÄTTSMEDICINALVERKET
NATIONAL BOARD OF FORENSIC MEDICINE



The medical link
in the judicial chain

The National Board of Forensic Medicine

The National Board of Forensic Medicine is an expert authority within the Swedish judicial system. Our employees include specialists such as forensic pathologists, forensic psychiatrists, chemists and biomedical analysts. We work on criminal and psychiatric investigations on behalf of the police, prosecutors, the courts and the prison and probation service.

At the National Board of Forensic Medicine we carry out forensic psychiatric examinations in order to determine whether a suspect has acted under the influence of a severe mental disorder. This has a bearing on whether the sentence is imprisonment or forensic psychiatric care. In cases of unnatural death or when a crime is suspected, we conduct forensic postmortem examina-

tions to establish the cause of death. Using DNA technology, we carry out paternity and kinship tests, and our forensic toxicology laboratory performs analyses in cases of suspected drink-driving and drug offences.

The National Board of Forensic Medicine also documents and assesses injuries in violent offences, conducts risk assessments when prisoners sentenced to life imprisonment apply for a fixed-term sentence, and is responsible for medical age assessments in criminal cases and within the framework of asylum processes. Our agency is divided into four fields: forensic genetics, forensic toxicology, forensic medicine and forensic psychiatry. Our facilities are located in six cities around Sweden.

Research and Development

The National Board of Forensic Medicine is a unique operation.



Therefore, we conduct extensive research and development work to ensure that we are always able to

deliver legally sound statements based on evidence and proven experience.

Our research has led to a great many advances, including, for example, reliable methods for blood analyses of new psychoactive substances (NPS) and methods for dental analysis that can determine the identity of a deceased individual.

Sara Rodre, Psychologist, and Patrik Backgård, Head of Division for Forensic Psychiatry in Stockholm.





Barbara Dell'Amico, Medical Biologist,
at the Division for Forensic Genetics in
Linköping.

DVI - Disaster Support

In the event of major disasters with a high death toll, one of the National Board of Forensic Medicine's Disaster Victim Identification (DVI) teams is activated. These teams are tasked with working with technical experts from the police to identify the deceased. The National Board of Forensic Medicine's DVI teams specialise in forensic

genetics, forensic medicine and forensic odontology (teeth and oral cavity).

Unidentified bodies are examined with the aid of DNA sampling and dental status. Age, distinguishing features and belongings are all taken into account. The details are matched against information gathered by the police about persons who have been reported missing in connection with

the event. Dental and health care providers also make dental records, x-ray images and medical notes available.

The DVI teams were activated following the Estonia disaster, the nightclub fire in Gothenburg, the tsunami in Thailand, and after the terrorist act in Stockholm among other events.

Forensic genetics

At the division for Forensic Genetics in Linköping, DNA information is used to help identify deceased individuals and conduct kinship tests. Paternity tests are conducted on behalf of social welfare committees or courts for the purpose of establishing liability for payment of maintenance. Parental testing is a common commission when reuniting families, which we carry out on behalf of the Swedish Migration Agency.

At the laboratory we normally examine 21 markers on the DNA molecule, but if required the examination can include close to 200.

Kinship investigations



Each year the unit investigates approximately 4,000 kinship cases. In virtually all such cases, we are able to provide results with a minimum certainty of 99.999 percent. The result is often used as evidence in court.

In addition to kinship investigations, samples for species determination and samples from deceased are analyzed for suspected sudden cardiac death.

Research and continuous method development allow us to increase our operational capacity and further improve the accuracy of our assessments.



"Today we can examine multiple aspects of the DNA molecule. This means that we can solve more cases with greater reliability."

Andreas Tillmar, Associate Professor in Forensic Genetics and Technical Molecular Biologist at the Division for Forensic Genetics in Linköping.

Forensic toxicology

Linköping is home to Sweden's only forensic toxicology laboratory. In the event of a suspected crime analyses are performed in order to detect and establish the concentration of alcohol, drugs, medication and doping preparations. When the police take samples from a driver, it is the Division for Forensic Toxicology that performs the analysis, as it is in cases of suspected drug offences and doping crimes. When investigating a cause of death, samples are submitted by our Divisions for Forensic Medicine around the country.

The laboratory analyses blood, tissue, urine and hair. Hundreds of substances can be detected and evaluated at molecular level. All analysis work is performed using quality-assured methods and the findings are reviewed in two independent stages.

Our experts also help the police and the courts to interpret the results of analyses, for example, in cases of people having had or having claimed to have had a drink after a traffic offence.

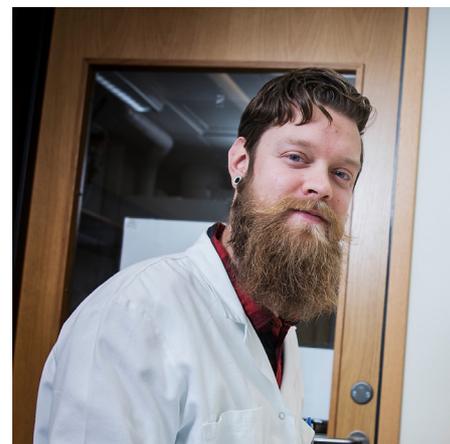
Both working methods and analytical equipment are updated and refined as new advances are made in science and technology. Researchers at the Division for Forensic Toxicology have developed methods for analysing samples that contain synthetic drugs. The ability to identify new psychoactive substances in a blood sample may make criminal investigations easier.



Analysis

Almost 100,000 cases are examined and approximately 800,000 analyses are performed at

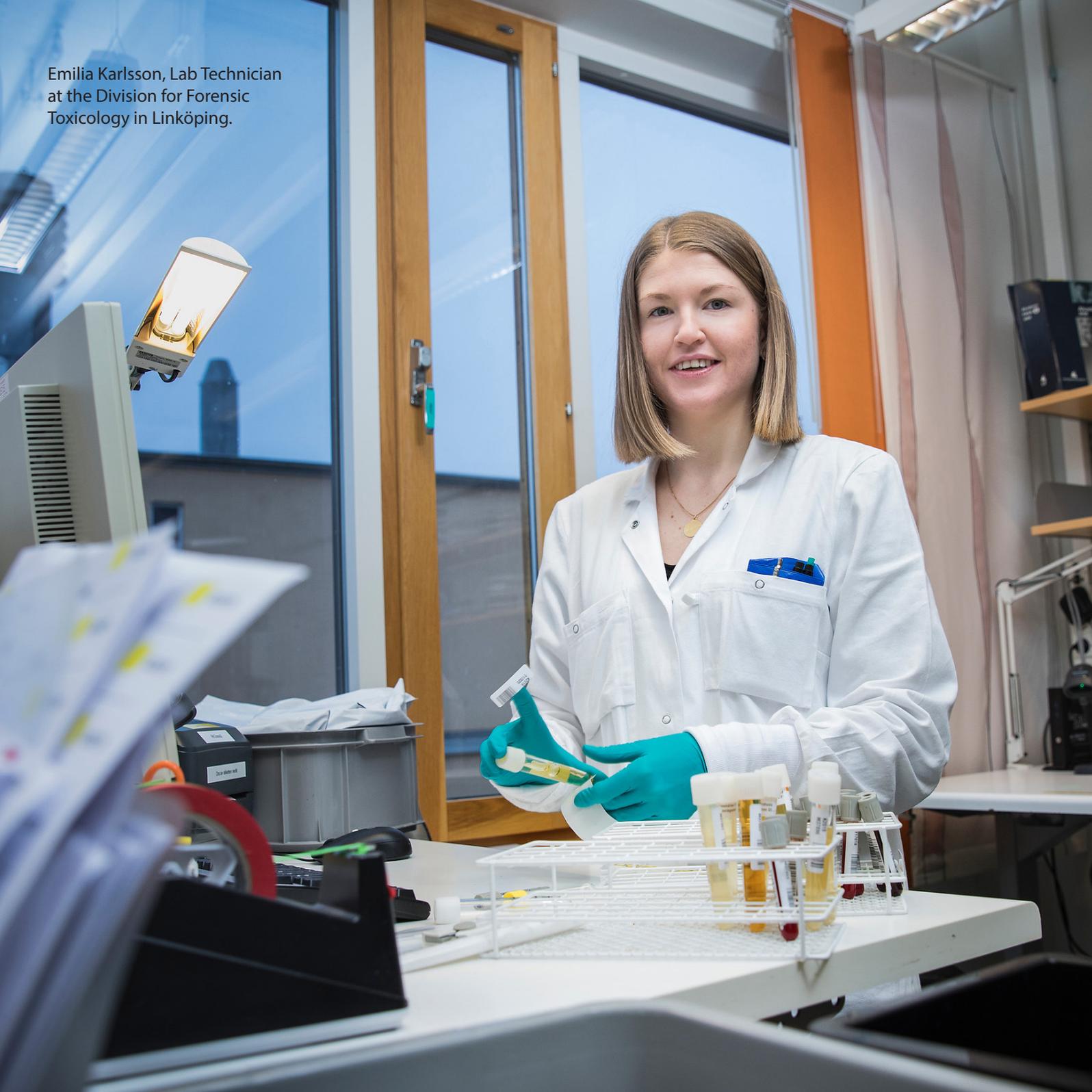
the Division for Forensic Toxicology each year. Suspected cases of driving under the influence, as well as other drug-related offences, are confirmed in just over 78 per cent of drug samples submitted by the police.



"Drugs and medicines are preserved in hair and can be tracked for a significantly longer time than in urine or blood."

Rickard Lundberg, Chemist at the Division for Forensic Toxicology in Linköping.

Emilia Karlsson, Lab Technician
at the Division for Forensic
Toxicology in Linköping.



Marcus Riesenfeld,
Forensic Pathologist at the Division for
Forensic Medicine in Gothenburg.

Tissue donations



All the Divisions for Forensic Medicine recover tissue that is used in the thousand or so tissue transplants carried out each year. One-fifth of

all tissue for transplant in Sweden is handled by the National Board of Forensic Medicine.

Donated skin or heart valves can save the lives of patients with burn injuries or heart conditions. Significantly impaired vision caused by illness can be corrected with

donated corneas, and a new ossicle can restore hearing.

The work of the National Board of Forensic Medicine on tissue donation means that Sweden is almost self-sufficient in terms of transplant tissue.

Forensic medicine

Each year around 5,500 forensic postmortem examinations are carried out on behalf of the police or prosecutors. The reason for this may be an unexpected or unnatural death, for example all deaths due to suspected criminal acts, suicide and accidents. Postmortem examinations are also carried out to establish the identity of the deceased.

The forensic pathologist who performs the examination is an expert in forensic medicine and must answer questions such as: When did the death occur? What was the cause of death? Have there been any injuries to the body?

A postmortem involves an external and an internal examination of the body. The doctor is aided by forensic medical assistants, investigators, administrators and

biomedical analysts. A postmortem examination is an important part of the ongoing investigation into a death.

Examination of victims and suspects

Another of the Department for Forensic Medicines responsibilities is examining suspected assailants as well as persons injured after being subjected to an act of violence. Injuries and trace evidence are documented and summarised in a forensic report that is a part of the evidence in a criminal case.

Forensic doctors issue on behalf of the Swedish Migration Agency statements about age in asylum cases and on behalf of the police in criminal cases where the suspect's age is unknown.

We have six Divisions for Forensic Medicine around the country, from Umeå in the north to Lund in the south.



"We are the ones who meet the deceased first. I facilitate the forensic pathologists' work by ensuring that everything is prepared and ready to start the examinations without delay"

Elisabeth Wåhlin, Forensic Medical Assistant at the Division for Forensic Medicine in Linköping.

Forensic psychiatry

Anyone deemed to have a severe mental disorder should preferably not be sentenced to prison. In order to be able to determine a suitable punishment in a criminal case, a court can request a minor forensic psychiatric examination of the suspect. Each year the Department for Forensic Psychiatry carries out approximately 1,300 minor forensic psychiatric examinations. An examination of this kind takes about one hour and the results indicate whether a complete forensic psychiatric examination is recommended.

A complete forensic psychiatric examination of a detained person normally takes four weeks. The suspect is examined by a team of forensic psychiatrists, psychologists, social workers and nursing staff. A statement from the National Board of Forensic Medicine indicates whether the

crime may have been committed under the influence of a severe mental disorder.

Approximately 500 people undergo a forensic psychiatric examination each year. Slightly less than half of these are transferred for forensic psychiatric care. The National Board of Forensic Medicine's Divisions for Forensic Psychiatry are located in Stockholm and Gothenburg.

Risk Assessments

Forensic psychiatry also carries out risk assessments in the case of prisoners sentenced to life imprisonment. After ten years in prison, a prisoner can apply to have the sentence commuted to a fixed-term sentence. It is the Örebro District Court that examines these cases.



Our experts conduct an examination over a period of approximately six weeks and submit a statement outlining the risk of recidivism.



"Working as a nurse at the National Board of Forensic Medicine is different. I still have my focus on nursing, but my mission is also to be included in investigations if anyone who is suspected of a serious crime is or has been mentally ill. I can do both at the National Board of Forensic Medicine!"

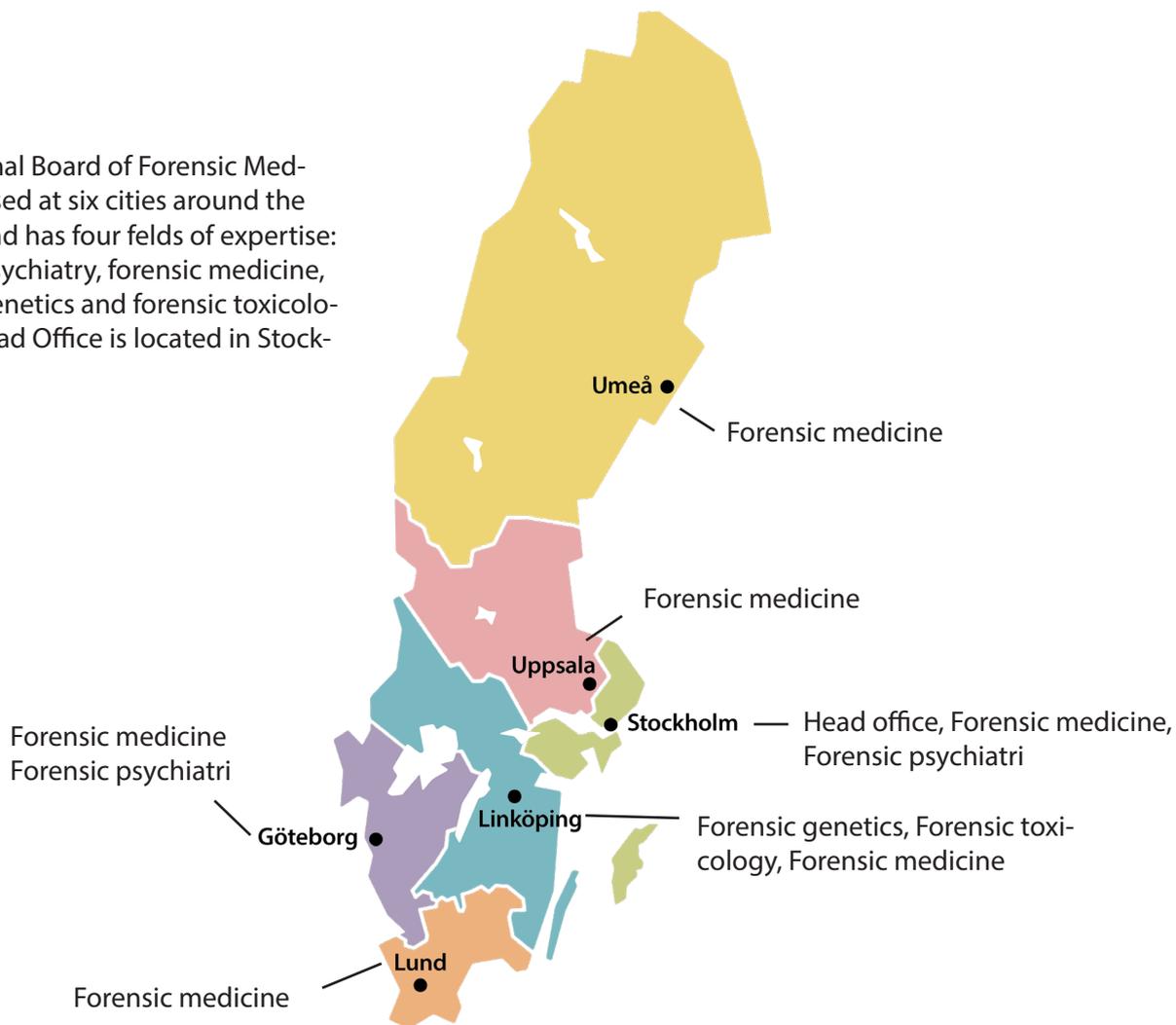
Hanna Boman, Nurse at the Division for Forensic Psychiatry in Stockholm.

A man with a dark beard and mustache, wearing a blue and white vertically striped button-down shirt, is seated at a desk. He is holding a red pen in his right hand and looking directly at the camera with a slight smile. On the desk in front of him are several open books and papers. The background is a bright, out-of-focus window with a white frame. A green plant is visible on the right side of the desk.

Khosro Khadjavi, Forensic Social Investigator and Team Leader at the Division for Forensic Psychiatry in Gothenburg.

Our sites

The National Board of Forensic Medicine is based at six cities around the country and has four fields of expertise: forensic psychiatry, forensic medicine, forensic genetics and forensic toxicology. The Head Office is located in Stockholm..



RÄTTSMEDICINALVERKET

NATIONAL BOARD OF FORENSIC MEDICINE

Rättsmedicinalverket – the medical link in the legal chain

A presentation brochure produced by the National Board of Forensic Medicine, Stockholm. Print: TMG Tabergs, 2020.

Photo: JKF Photo and Veronica Kindblad. Additional copies of the brochure can be ordered via www.rmv.se or downloaded in pdf format.