

The RSA logo consists of a red square with rounded corners and a white horizontal line on the left side, resembling a stylized 'R'. The letters 'RSA' are written in white, sans-serif font to the right of the line.

RSA

**RSA Annual Academic  
Road Safety Lecture  
Serious Injuries**

**Thursday 27 January 2022**

**Date:** Thursday 27 January 2022

**Time:** 02:00pm to 03:50pm

Master of Ceremonies (MC) for the Lecture is Mr. Michael Rowland, Director of Road Safety Research and Driver Education.

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## **Agenda**

**02:00pm** Introduction

*Mr. Michael Rowland  
Director of Road Safety Research and Driver Education*

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**02:05pm** Welcome Address

*Ms. Liz O'Donnell  
Chairperson, Road Safety Authority*

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**02:10pm** A Message from the Minister of State at the Department of Transport

*Hildegarde Naughton TD  
Minister of State at the Department of Transport*

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**02:15pm** Context in Ireland: Overview of Serious Injuries 2017- 2020

*Ms. Velma Burns  
Research Manager, Road Safety Authority*

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**02:35pm** Serious Injuries from an International Perspective

*Dr. Letty Aarts  
Department Head, SWOV Institute for Road Safety Research*

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**03:00pm** Serious Injury Case Study

*Laura and Patricia Doherty*

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**03:05pm** Implementation of Road Safety Strategy in Ireland, a Serious Injury & Rehabilitation Perspective

*Professor Áine Carroll  
Professor of Healthcare Integration and Improvement,  
University College Dublin and Consultant in Rehabilitation Medicine,  
National Rehabilitation Hospital*

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**03:30pm** Questions and Answers

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**03:45pm** Closing Address

*Mr. Sam Waide  
Chief Executive, Road Safety Authority*

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**03:50pm** Conference Closes

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# **Speaker Biographies and Abstracts**



## Context in Ireland: Overview of Serious Injuries 2017- 2020

### Ms. Velma Burns

Research Manager,  
Road Safety Authority

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**Velma Burns** has been Research Manager of the Road Safety Authority since 2013, during which time she has overseen the implementation of a programme of data analysis and research activity to support the RSA in the development of evidence-based interventions to help reduce death and injury on Irish roads. Prior to this role, she worked for almost 10 years in the field of market research, focusing mainly on quantitative research studies in the health sector.

### Abstract

Road traffic collision data in Ireland indicates that the ratio of serious injuries to fatalities is significant, at 9:1, for the period 2017-2020. The profile of serious injuries in road traffic collision data in Ireland is explored, for example in terms of patterns of injury by road user group and gender. Serious injuries will be given increased priority over the next decade, in the context of the government Road Safety Strategy 2021-2030 which sets a target for a 50% reduction in serious injuries by 2030. In addition, some examples of high impact interventions to reduce serious injuries are given, in line with the safe system approach to be adopted by Ireland over the next decade.



## Serious Injuries from an International Perspective

### Dr. Letty Aarts

Department Head,  
SWOV Institute for Road Safety  
Research

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**Dr. Letty Aarts** is research manager of the ‘Data and Analysis for Policy’ department of SWOV, the road safety research institute of the Netherlands. Aarts coordinates the research activities on road safety data such as the annual determination of serious road injuries in the Netherlands. She is involved in road safety analyses on international, national and regional level, including topics such as statistics on crashes and casualties and Road Safety Performance Indicators (SPI’s). Furthermore, Aarts is a specialist in road safety visions, especially the safe system approach. The Dutch safe system approach ‘Sustainable Safety’ was updated twice under Aarts’ supervision. In 2018, Sustainable Safety’s 3rd edition was launched and incorporated in the national strategic plan on road safety 2018-2030.

With the involvement of data processing also comes the responsibility for adequate information security, especially with regard to special personal data such as medical data of traffic victims. Aarts is responsible for the information security programme at SWOV and under her lead, SWOV obtained the certificate for ISO27001 in September 2019.

Aarts studied psychology and obtained her PhD at the Amsterdam University in 2004 on the thesis on situation awareness in ship navigation. Aarts has been working for SWOV since 2003 and has done research on a variety of topics related to the interaction of road user behaviour and the design of the traffic system, road safety statistics, and road safety policy issues.

### Abstract

Reducing fatalities is top priority in road safety policy. In addition, the reduction of serious injuries also deserves attention. Reasons for this can be found in the consequences of serious injuries for society. Both people who get seriously injured and their relatives often suffer from several physical, psychological, and socio-economic consequences. These consequences can last for years or can even last a lifetime. To increase priority, the European Commission, the United Nations, and several individual countries like Ireland have set road safety targets for both fatalities and serious injuries. To be able to measure serious injuries in a homogenous way over countries, a common definition has been established. For this definition, medical information about the severity of the injury is required. This also means that for establishing the number of serious injuries that fits to this common definition, countries need annual access to the medical information of road traffic casualties. This can be a difficult process. However, several countries have managed to get this access. Another step that is required for an effective approach to reduce serious injuries is gathering knowledge about characteristics of these casualties and crashes.

In this presentation, several European studies are addressed that provide more detailed information on serious injuries: their societal consequences, different approaches to get information about serious injuries, and insights into characteristics of crashes and casualties that provides us with some first directions for an effective approach to reduce these casualties.



## Implementation of Road Safety Strategy in Ireland, a Serious Injury & Rehabilitation Perspective

### Professor Áine Carroll

Professor of Healthcare Integration and Improvement,  
University College Dublin and  
Consultant in Rehabilitation Medicine,  
National Rehabilitation Hospital

**Professor Áine Carroll** is Professor of Healthcare Integration and Improvement at University College Dublin, Ireland and a Consultant in Rehabilitation Medicine at the National Rehabilitation Hospital in Dublin. She is Secretary and vice-chair of the International Foundation for Integrated Care (IFIC) and co-Director of IFIC Ireland. Prior to this, she was National Director of the Clinical Strategy and Programmes Division in the Health Services Executive. During her tenure, Professor Carroll established the Integrated Care Programmes for older persons, chronic disease, children's health and patient flow to promote coordinated care and teamwork across services and specialties, ensuring that care is provided effectively and seamlessly to patients as they move through the system. Áine served on the RSA board for 2 terms and participated in the crashed lives campaign. Áine is known for her expertise in integrated care, whole system change and implementation. An experienced Improvement advisor, she has provided advice, guidance and training on integrated care, improvement and change to leaders of healthcare systems across the world. She is passionate about Person Centred Coordinated Care, Complexity theory in healthcare and the power of stories.

### Abstract

Globally, road traffic collisions (RTCs) are a common cause of death and disability. Although many countries, including Ireland, have road safety and trauma strategies, the impact on rehabilitation services is unclear. This study explores how admissions with RTC related injuries to a rehabilitation facility has changed over the last 5 years and how they compare to major trauma audit (MTA) data from the same timeframe. A retrospective review of healthcare records with data abstraction in accordance with best practice was performed. Chi square test was used to determine associations. All patients discharged with an International Classification of Diseases (ICD) 10 coded diagnosis of Transport accidents from 2014-2018 were included. 338 cases were identified. Of these, 173 did not meet the inclusion criteria and were excluded. The total number analysed was 165. Of these, 121 (73%) were male and 44 (27%) were female and 115 (72%) were under 40 years of age. The majority [128 (78%)] had traumatic brain injuries (TBI), 33 (20%) had traumatic spinal cord injuries and 4 (2.4%) had traumatic amputation. The numbers varied over the time period of the study but showed Normal variation and not special cause variation. There was a large discrepancy between the number of severe TBIs reported in the MTA reports and the numbers admitted with RTC related TBI to the NRH. Data linkage between administrative and health datasets does not currently exist but offers huge potential for understanding the trauma and rehabilitation ecosystem in detail. This is required to better understand the impact of strategy and policy.