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IN THE CORONERS COURT FOR NORTHERN IRELAND

THE INQUEST TOUCHING UPON THE DEATH OF

MARY JOSEPHINE ('JOYCE') McCANN

Mr Philip Henry KC (instructed by Ms Sophie Laverty, Coroners Service for Northern Ireland) on behalf of the Coroner
Mr Patrick Taylor BL (instructed by Ms Rhiannon Carson, Conn & Fenton Solicitors) on behalf of the Next of Kin
Mr Aiden Corrigan BL (instructed by Ms Catherine McReynolds, Directorate of Legal Services) on behalf of the Belfast Health and Social Care Trust (BHSCT)
Mr Rory McNamee BL (instructed by Ms Dearbhla O'Hanlon of O'Reilly Stewart Solicitors) on behalf of Somerton Care Home
Mr Stuart Spence BL (instructed by Ms Katrina Gray of DWF LLP) on behalf of Taxi and Bus Conversions Ltd

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CORONER MARIA DOUGAN

Introduction

[1] The inquest proceeded in Laganside Courts on 28, 29, 30 and 31 May 2024. During the inquest, I received evidence from a number of witnesses, and I considered a number of statements admitted under Rule 17 of the Coroners (Practice and Procedure) Rules (Northern Ireland) 1963, together with reports, photographs, hospital notes and records. It is not possible to recite all the evidence, although all the evidence has been considered before arriving at these findings.

Summary of events

[2] The Deceased was a 77-year-old resident of Somerton Home, Belfast. On 19 September 2019, the Deceased was transferred in her wheelchair into a Renault Bus owned by the home, to go on an outing for ice cream. She and another wheelchair user were placed in the middle of the bus, while three residents sat in single seats on either side. At approximately 11:56 hours, whilst travelling on the Antrim Road, the bus braked severely, effectively performing an emergency stop, to avoid a collision

with a car in front. The bus came to an abrupt halt, avoiding contact with the car. The Deceased was thrown out of her wheelchair and landed on the floor of the bus, in front of her wheelchair and behind the other wheelchair passenger.

[3] The Deceased was taken to the Emergency Department at the Royal Victoria Hospital. Following assessment, she was found to have a fracture of her right tibia and a left side orbital fracture. The Deceased was admitted to the Fracture Ward for surgery. On 20 September 2019, the Deceased was taken to theatre for surgery on her leg and her facial lacerations were sutured. On 23 September 2019, the Deceased developed shortness of breath and had a productive cough. She was commenced on antibiotics. At 02:50 hours on 25 September 2019 the Deceased became unresponsive, and her life was pronounced extinct at 08:15 hours.

[4] On 27 September 2019 a post mortem was performed and found the Deceased's cause of death to be 1(a) Intra-abdominal haemorrhage due to 1(b) splenic injury II Coronary atheroma.

Evidence

[5] These findings are divided into three parts.

- Part One: 19 September 2019 – the road traffic collision involving the bus owned by Somerton Home.

- Part Two: 19 September 2019 - the care and treatment of the Deceased in the Emergency Department of the Royal Victoria Hospital.

- Part Three: 19 to 25 September 2019 - the care and treatment of the Deceased in the Fracture Ward, of the Royal Victoria Hospital.

Background

[6] The Deceased, Mary Josephine (known as Joyce) McCann, of Somerton Home, 47 Somerton Road, Belfast, died on 25 September 2019, in the Royal Victoria Hospital, Belfast.

[7] Ms Elizabeth McAlea, niece of the Deceased, gave evidence to the inquest, which was admitted by way of Rule 17. The Deceased lived with her mother and uncle in North Belfast, close to Ms McAlea and her family. Later, both families moved next door to one another. The Deceased had a mild learning disability and although she functioned well, she was not capable of living completely independently. Despite her learning disability, the Deceased was sharp and witty in conversation and thrived in social settings. She had little external input from service providers and what needs she had, were met by her loving family.

[8] When the Deceased's mother and uncle passed away, Ms McAlea's mother supervised the Deceased's day-to-day care. However, this was not without challenge, as the Deceased was fiercely independent and was reluctant to accept any form of help. This continued for many years and the Deceased's physical health was generally good. However, her weight was an increasing problem, and she developed arthritis and a deterioration in her mobility. The Deceased progressed to a walking aid and the use of a stairlift, until it came to the point where it was not possible for her to remain in her own home.

[9] The Deceased's family reluctantly came to the realisation that she should be placed in Somerton Home, so that her nursing needs could be met. She settled in quickly and enjoyed the social interaction with staff and residents. The Deceased went on to have a knee replacement. Unfortunately, despite extensive post-operative rehabilitation, she did not regain independent mobility, and she was largely confined to a wheelchair thereafter.

[10] Ms McAlea explained how they were shocked to hear about the road traffic collision that occurred on 19 September 2019. They visited the Deceased in the Royal Victoria Hospital and after her surgery, her family thought she seemed to have got over the worst of things and she appeared to be making a good recovery. They were shocked by her death and her sister, Ms McAlea's mother Olive, took the Deceased's death particularly hard and sadly passed away less than six months later.

[11] Ms McAlea outlined how this has been an extremely difficult time for the family, with the Deceased's passing representing not only the loss of an aunt, but someone who was a constant in their family. Ms McAlea described how her sudden passing was even more difficult to accept when the family considered how different the outcome may have been. Ms McAlea explained that the family is particularly concerned by what, they view, as a number of failings, such as the fixings of the wheelchair in the bus and the missed opportunities in the hospital to identify the Deceased's most significant and ultimately fatal injury.

Part One: 19 September 2019: Road traffic collision involving the bus owned by Somerton Home

[12] Ms Terri Cousins, Domestic Assistant at Somerton Home, gave evidence to the inquest. At the time she had been working there for almost 10 years. She explained that Somerton is a privately owned nursing home, with approximately 38 residents. On a normal day shift there were approximately five or six care assistants on duty along with two nurses.

[13] Ms Cousin's role as a Domestic Assistant was to keep the residents safe. She stated that she received training in basic life support and moving and handling.

[14] Ms Cousins explained that she regularly went out on the bus with residents and her role was to assist the non-wheelchair users out to the bus and make sure

they were seated with seatbelts on. Ms Cousins explained that she did not receive any training or instruction for this role. She stated that she had not observed or heard about anyone else receiving training either.

[15] Ms Cousins stated that she never strapped any of the wheelchair users in on the bus and that she did not know how to do this. Ms Cousins explained that she never had any training in putting the wheelchair users on or strapping them in. She stated that she was not comfortable with doing it and she was never asked to do it. She thought that it was usually the driver of the bus who did this.

[16] In relation to the bus seats, she stated that it was hers and the driver's responsibility to check the seat belts of the residents and that she did this of her own accord without being told to do so. She also checked the seatbelts of the residents in wheelchairs to ensure they were fastened. She described how there were single seats down each side of the bus, with the centre aisle for two wheelchair users and a wheelchair lift at the back of the bus to enable loading.

[17] On Thursday 19 September 2019, Ms Cousins was on day shift. Around 11:00 hours, they were taking residents out to the bus to go the medical centre on the Crumlin Road and then for an ice cream. Ms Claire McAdam was the driver that day. Two residents were wheelchair-bound, the Deceased and another wheelchair user. Three other residents sat in the bus seats.

[18] Ms Cousins told the inquest that she did her normal checks of the seat belts and checked that the Deceased and the other wheelchair user were strapped in their wheelchairs which were facing forwards towards the front of the bus. She did not know who put them on the bus or who strapped them in. She explained that the Deceased usually sat on the bus and did puzzles, such as crosswords. She would move her feet from the pedals to the floor of the bus and move about a bit to get comfortable. She stated that the Deceased slouched in her chair and did not sit up straight.

[19] Ms Cousins described to the inquest, how she believed the wheelchair restraints on the bus operated. She described how a seatbelt would have gone across the Deceased's left shoulder and body and clicked into a stalk which was attached to a metal rail on the floor of the bus. She stated that she checked the Deceased was secured, by looking to see if the buckle was clicked into the stalk, rather than physically touching the buckle or stalk. She explained that if the Deceased had moved the shoulder strap under her arm or down by her waist, she would have noticed.

[20] Ms Cousins explained that the Deceased's wheelchair had a lap belt which was to be worn when she was in the wheelchair, whether on the bus or in the home. She stated that the Deceased removed this belt whilst in the home to be more comfortable. She did not see her remove this lap belt whilst on the bus.

[21] Ms Cousins was sitting directly behind the driver and the other wheelchair user was in his wheelchair in the centre aisle and the Deceased was behind him, further down the bus.

[22] As they were travelling down the Antrim Road, a white car in front braked suddenly and Ms McAdam had to brake severely. Ms Cousins described being jolted forward. She heard the Deceased exclaim, "ah my eye". Ms Cousins saw the Deceased on the floor in the aisle sitting in front of her wheelchair, with her left arm and elbow resting on an empty bus seat. Her right leg was out straight in front of her and her left leg was tucked in underneath her bottom. She stated that the wheelchair did not move from its position. She saw that the Deceased had blood above her left eye.

[23] Ms McAdam pulled the bus off the Antrim Road and they both went to the Deceased's assistance. Ms McAdam folded the Deceased's wheelchair and moved it out of the way and they both moved the Deceased onto the middle left bus seat. Ms Cousins stated that it was obvious the Deceased's ankle was broken. She agreed with Ms McAdam that she thought the Deceased banged her head on a screw underneath the other wheelchair user's wheelchair as Ms Cousins explained that there was some blood on the back of his wheelchair. She did not recall anything about the straps or restraints or Ms McAdam mentioning these to her.

[24] Ms McAdam then telephoned Somerton Home Manager, Ms Nicola Rogers, who attended immediately. When asked why she did not telephone 999, Ms Cousins replied that she did not know why, nor did she recall being told to do so by her employers in such emergencies. When Ms Rodgers attended, she telephoned 999 for an ambulance. They also retrieved oxygen from the home for the Deceased as she required it. Ms Cousins stayed with the Deceased until the ambulance arrived and the paramedics took over.

[25] Ms Claire McAdam provided a witness statement to the inquest, which was admitted by way of Rule 17. At the time, she had worked at Somerton Home for 10 years. In the last year, she drove the Renault Master bus, owned by the home. When the full-time bus driver left, she was asked by the then Manager, Mr Wayne Salvatierra, if she would drive the bus and she agreed. Ms Cathy Alexander was the other bus driver. If she was off work, Ms McAdam drove in her place. Ms McAdam stated that every time she drove the bus she filled in a 'bus book' which listed the driver and staff member accompanying the residents.

[26] Ms McAdam explained that she was "fairly sure" she asked the manager for training on how the lift and equipment on the bus operated. She was shown how to operate the lift on the rear of the bus by a member of staff, but she could not recall who this was. Ms McAdam stated that this was the only training she has had in relation to the bus.

[27] Ms McAdam stated that other staff informally showed her how to use the restraints that were used to secure wheelchairs on the bus. She explained that she was confident that she could use them safely to secure wheelchairs properly. Ms McAdam stated that the more she drove the bus, the more confident she got using the equipment.

[28] In relation to the restraint straps, Ms McAdam described how, inside the back of the bus, there were metal rails on the floor and on the roof. The wheelchair restraints and straps could click into those rails. However, the roof rails were never used. Only the rails on the floor were used to secure wheelchairs. The bus could only fit two wheelchairs at a time. All the restraints were kept together in a blue box on the bus.

[29] Ms McAdam stated that the Deceased was a character and that they got on very well. She loved banter and getting out and about for trips. Ms McAdam explained that on most trips, during which she was the driver, she would have clipped the Deceased's wheelchair in, or helped someone else do it. Ms McAdam stated that the Deceased knew she had to keep her seatbelt on, and she would never have removed it.

[30] On Thursday 19 September 2019, the Deceased was wheeled to the bus by Ms Terri Cousins, and Ms Caryn McAdam, Ms McAdam's sister. Four other residents were also taken to the bus. Ms McAdam stated that the Deceased was of a big build and once she was strapped in, she would make herself comfortable and she would always slip her arm out of the shoulder belt and have the belt across her lap instead of over her shoulder. She also normally took her feet off the foot plates and sat forward doing a crossword, which she liked to do on bus journeys.

[31] Ms McAdam stated that her sister, Ms Caryn McAdam, buckled in all the residents and that they were all ready to go by the time she came outside. She stated that she double checked everyone was strapped in and then she asked Ms Cousins to triple check, which she did.

[32] They left the home at 11:27 hours and as they were travelling along the Antrim Road, towards the junction at Allworthy Avenue, Ms McAdam noticed a white car ahead of her in the traffic. The white car was slowing down and Ms McAdam also slowed down. She glanced at the gear stick to see what gear she was in, and when she looked back at the road, she could see that a person had stepped off the footpath to her left and was jogging across the road. The driver of the white car braked suddenly, and Ms McAdams braked severely, and the bus jolted to a stop.

[33] When Ms McAdam looked around, she could see the Deceased sitting on the floor in front of her wheelchair, behind the other wheelchair user. She was fully out of her wheelchair with her bottom on the floor, her right leg was out in front of her with her foot near the front right wheel of the other wheelchair user's wheelchair.

Her left leg was tucked beneath her. Ms McAdam pulled off the Antrim Road. The Deceased had a cut on her head and Ms McAdam said that she thought the Deceased banged it on a screw underneath one of the handles on the back of the other wheelchair user's chair, on the cross bar.

[34] Ms Cousins and Ms McAdam lifted the Deceased up off the floor onto a seat. Ms McAdam stated that the wheelchair was still secured to the floor, but the lap belt that was attached to the chair was open. She stated that she did not know if the buckle had popped open or if the Deceased had unbuckled it.

[35] Furthermore, the seatbelt stalk had come out of the metal floor rail. She stated that she did not know how it came out of the floor, because once it is placed in the metal rail, it is slipped up and down and then it clicks and locks into place. Ms McAdam speculated that it might have been possible with the force of the Deceased moving forward that caused it to come out, however, she was not sure. Ms Cousins and Ms McAdam moved the Deceased's wheelchair out of the way and Ms McAdam telephoned Ms Nicola Rodgers, and asked her to call an ambulance.

[36] Within approximately five minutes, Ms Rodgers arrived with a nurse and one of the administrators from the home. Ms McAdam stated that Ms Rodgers rang at least twice for an ambulance. During this time the Deceased required oxygen. The Deceased was talking and appeared calm. The paramedics then arrived and took over.

[37] Ms Caryn McAdam provided a witness statement to the inquest, which was admitted by way of Rule 17. At the time, she had worked in the home for seven years. She explained that the nursing home owned a bus which was used for short day trips and appointments for residents. A member of staff from the home would drive the bus and the second member of staff would go in the back, and they were known as the 'person accompanying'. She explained that there was no defined set of rules for staff on the bus, as far as she was aware, nor was there a specific person with the responsibility for securing the residents. She stated that helping residents onto the bus is generally done by whoever is on duty, as well as the driver of the bus. She explained that there was no formal training for loading residents on the bus, of which she was aware.

[38] Between 10:30 hours and 11:00 hours, on 19 September 2019, Ms Cousins and Ms McAdam got the residents ready and assisted them onto the bus. She described the Deceased as a bubbly person, who loved to laugh and joke. Ms McAdam stated that she had a close relationship with the Deceased and her family. The Deceased loved going out on the bus. On this particular day, they were going for ice cream, and the Deceased was keen to go.

[39] Ms McAdam explained that it took about 15 minutes to get everyone on board and secured in. She stated that normally it would be the bus driver and the person accompanying who would get the residents onto the bus and secured in

place. As her sister, Ms Claire McAdam, the driver, was on her break, Ms Cousins assisted the non-wheelchair user residents and Ms McAdam loaded the Deceased and the other wheelchair user and clipped their wheelchairs in place. The other wheelchair user had a bespoke wheelchair which had an incorporated harness negating the requirement for the separate three-point seatbelt component of the Wheelchair Tiedown and Occupant Restraint Systems (WTORS).

[40] Ms McAdam stated that she was happy using the clips, however, she was never given any formal training on securing residents on the bus nor on using the clips that were used to keep the wheelchairs in place.

[41] After clipping the other wheelchair user's wheelchair in, Ms McAdam stated that she clipped the Deceased's wheelchair in. Ms McAdam explained that the Deceased's wheelchair had two tie down straps attached to the bars at each side of the wheelchair, above the front wheels and two tie down straps behind the chair which hooked onto triangles on the frame of the chair. These tie downs were attached to the silver metal rails on the floor of the bus. The wheelchair brake was applied to keep it in place.

[42] Ms McAdam explained how the Deceased was restrained on the bus. The restraints used were similar to those for a passenger in a car, comprising of a lap belt and a diagonal shoulder belt. A black box containing two straps or seat belts, a red and a black, clipped into the floor rail on the left side behind the wheelchair. A seatbelt stalk, used to click the seatbelt strap into, attached to the floor metal rail on the right-hand side behind the wheelchair. A red belt from the black box travelled over the Deceased's left shoulder, across her body and clicked into the seatbelt buckle attached to the stalk. The second belt, the black belt, extended from the box, across the Deceased's waist, over the side guards of the wheelchair, and clipped into the end of the red strap.

[43] Once Ms McAdam came off her break, the residents left in the bus. At approximately 12 noon, Ms McAdam received a telephone call from Ms Rodgers to say there had been an accident and she was asked to bring oxygen from the home as it was needed for the Deceased. Ms McAdam assisted the paramedics in getting the Deceased into the ambulance.

[44] Ms Nicola Rodgers, Manager of Somerton Home, provided a statement to the inquest, which was admitted by way of Rule 17. She explained that Mr Trevor Gauge was the "responsible individual" for the home, and Mr Brian McDonnell was the owner/Director of the Home. There was a total of seven nurses for around 40 residents, with one administrator, and one senior care assistant. On a typical day there were two nurses and six care assistants on duty in the morning, and in the afternoon that the number decreased to four or five, depending on the number of residents. At night, there was one nurse and three care assistants on duty.

[45] Ms Rodgers explained that Ms Alexander was the main bus driver, but both Ms Claire McAdam and Ms Caryn McAdam also drove the bus. She stated that each resident was individually assessed regarding transporting them on the bus.

[46] Ms Rodgers stated that the Deceased was mostly confined to a wheelchair. She described her as a happy person with a bubbly personality, who liked her comforts. She was a very sociable person who liked to get out on day trips.

[47] On 19 September 2019, Ms Rodgers received a telephone call from Ms Claire McAdam advising that there had been an incident, and the Deceased was injured. She and two members of staff travelled to the scene at Allworthy Avenue, arriving approximately five minutes later. Ms Rodgers stated that the Deceased was still in her wheelchair but looked like she had slid forward, almost like she was lying in it.

[48] Ms Rodgers stated that she realised the Deceased's injuries were beyond her nursing skills, so, at 12:05 hours, she telephoned 999 and asked for an ambulance. She stated that she was on the phone for ten to fifteen minutes and at some point, there was mention of whether the police needed to attend, but Ms Rodgers did not recall any further information.

[49] Ms Rodgers telephoned 999 for a second time, at 12:23 hours, as the ambulance had not yet arrived, and she felt the Deceased was deteriorating. The ambulance arrived at 12:36 hours, approximately 30 minutes after the first call. Later that day, Ms Rodgers filled in an adverse incident report form with the assistance of Ms Claire McAdam and Ms Cousins. They both stated that the belts were on, and the wheelchair brakes applied, and that the wheelchairs had not moved. Ms Rodgers stated that there was nothing about what the staff on the bus had told her that raised any concerns.

[50] Ms Catherine Podris, Occupational Therapy Manager for Learning Disability Services in the Belfast Health and Social Care Trust, provided a statement to the inquest, which was admitted by way of Rule 17. She described how the Deceased was assessed by Occupational Therapist Ellen Baile for a new wheelchair. A comprehensive postural assessment was completed including assessing all the Deceased's joint ranges, limb measurements and functional ability. Ms Podris stated that the Deceased was found to meet the criteria for a wheelchair through the Belfast Health and Social Care Trust.

[51] On 7 August 2019, a new wheelchair, an Action HD, was ordered for the Deceased and Somerton Home were informed. Ms Podris described how the staff in Somerton Home were advised that they could continue to use their own portering chair for transport. At this time, they were also advised that using a headrest is best practice. She stated that it is the responsibility of the nursing homes to ensure the wheelchairs are serviced and safe. They must ensure all staff are trained in the use of the Wheelchair Tiedown and Occupant Restraints Systems (WTORS). Unfortunately, the Deceased passed away before the new wheelchair was delivered.

[52] Inspector James Murphy, Senior Investigating Officer, gave evidence to the inquest, which was admitted by way of Rule 17. On 25 September 2019, the Police Service of Northern Ireland (PSNI) were notified of the Deceased's death, following the road traffic collision on the Antrim Road on 19 September 2019. Inspector Murphy examined the Deceased's wheelchair, focusing on the areas where the WTORS would have been applied to secure the wheelchair to the vehicle floor.

[53] PSNI consulted and shared information with the Health and Safety Executive Northern Ireland (HSENI). Following the Deceased's death, in October 2021, HSENI issued a safety alert 'Occupied wheelchairs in vehicles – safe use in transit' which outlined important information for safety providers in relation to WTORS, training and reporting of incidents and it provided links to further information from the Medicines and Healthcare Products Regulatory Authority (MHRA) and the Northern Ireland Adverse Incident Centre (NIAIC).

[54] PSNI investigators also liaised and instructed Mr Gavin Dunn, Forensic Scientist, from Forensic Science Northern Ireland, to prepare a report.

[55] Mr David Donnell, former Managing Director of Taxi & Bus Conversions Ltd (TBC) gave evidence to the inquest. He explained that TBC carry out conversions from base vehicles to taxis and minibuses for disabled transport. The conversion for the Renault Master, owned by Somerton Home, was carried out for TBC's customer, Trucks and Vans NI Ltd T/A Diamond Trucks.

[56] In completing the conversion, as well as floor rails to accommodate wheelchair anchorage, TBC installed an upper cant rail on each side of the vehicle above the windows, to accommodate fittings for upper body restraints for wheelchair passengers. These cant rails began to be fitted approximately 10 years ago. The third point fixing would be attached to the upper cant rail, and the role is to mimic a car seatbelt and whilst there is not a requirement to use it, Mr Donnell stated that most wheelchair users prefer third point fixings as it takes pressure of the shoulder. The conversion was carried out in accordance with the specification and requirements of the customer who did not require the supply of wheelchair restraint kits, including the three-point fixings.

[57] Mr Donnell explained to the inquest that the seatbelt system for wheelchairs, two wheelchair passenger restraint kits (WTORS) with four wheelchair hook restraints, passenger shoulder and lap belts, track mounted, were optional specifications in the quotation, which were not selected by the customer.

[58] Mr Donnell explained that if TBC did order in WTORS for Somerton, each kit comes with a small booklet providing information on how to secure the wheelchair and belts. Mr Donnell explained that it is not unusual for a customer not to include wheelchair restraint kits, as often the end user will have them, and the fittings are universal.

[59] The converted vehicle was subject to an Individual Vehicle Approval Test at DVA Mallusk.

[60] Mr Harry Nash, Managing Director of Diamond Trucks Ltd (formerly Trucks and Vans NI Ltd), gave evidence to the inquest. He explained that Diamond Trucks is a supplier of commercial vehicles. If a customer requires a vehicle to be converted, they outsource this to third party companies.

[61] Mr Nash told the inquest that in 2016 Somerton Home engaged Trucks and Vans Ltd to provide them with a wheelchair accessible minibus. He stated that it was not unusual to arrange conversions from a standard panel van to a wheelchair accessible minibus. In this case, the vehicle required a complete fit out as it was a standard panel van without rear seats or restraints.

[62] The vehicle to be purchased by Somerton Home was a new Renault Master panel van. Somerton Home required the panel van to be converted to a wheelchair accessible minibus. As customary practice, Trucks and Vans Ltd engaged Taxi and Bus Conversions Ltd (TBC), to complete the wheelchair accessible minibus conversion.

[63] An original quotation was provided by TBC, dated 4 October 2016. Under the heading 'Description of Goods/Services' the standard items were listed, which were included in the conversion, as well as optional specifications. Trucks and Vans NI Ltd then consulted with its client, Somerton Home, to obtain instructions in relation to the conversion and to confirm all standard items and any optional specifications. Somerton Home wished to add three optional specifications. These were a grab handle front door entry, reversing alarm and access step cantilever. Following a consultation with Somerton Home, an order confirmation, dated 4 October 2016, was issued.

[64] Mr Nash told the inquest that a WTORS "restraint kit: track mounted x 2 hooks" was included in the original quotation as an optional specification. Following consultation with Somerton Home, they did not request the restraints to be included as an optional extra in the conversion and therefore they did not appear in the final quotation from TBC Conversions.

[65] Mr Nash stated that it was not unusual for customers not to select optional specifications. He explained that it is their understanding that wheelchair restraint kits are common to many different vehicles, and it was possible that Somerton Home had a stock of these restraints already.

[66] Mr Nash emphasised that the role of Trucks and Vans NI was to supply the vehicle, and to provide Somerton Home with the quotation. This information was subsequently passed to TBC, who completed the works to Somerton Home's

specification. Following completion of the conversion, the vehicle was certified by TBC as a wheelchair accessible vehicle.

[67] Mr Brian McDonnell, Director of Somerton Homes Limited, gave evidence to the inquest. He explained that he, along with his brother, Mr Fergal McDonnell, have been Directors since 1989. He had responsibility for the day-to-day control and management of Somerton Care Homes.

[68] Mr McDonnell told the inquest that Somerton is a family run private nursing home which opened in 1990. Somerton provides care for residents with a range of needs; however, it specialises in the care of those suffering from Dementia. The Deceased became a full-time resident of Somerton Home in 2015.

[69] Mr McDonnell explained that Somerton would have had several buses (one at a time) over the years. In total they had either 3 or 4 buses and each of these were acquired through Diamond Trucks Limited (formerly known as Truck and Vans (NI) Limited). This bus was also purchased from Diamond Trucks Ltd. The purchase was by way of Hire Purchase.

[70] Diamond Trucks Ltd then sent the vehicle for adaptation with TBC Conversions. The communication to place the order was a combination of conversations in person and over the telephone.

[71] Mr McDonnell confirmed that there was standard specification and optional specifications, which Somerton could choose from. The WTORS restraint kit was one such optional extra and it was not chosen by Mr McDonnell, as it was not required. He told the inquest that he held a meeting with staff, and they discussed the extras, in particular the restraining straps and one of the staff said, "we've got plenty of those in the existing minibus, which we can use". He believed this staff member was called Ms Lorraine Whitelaw.

[72] In relation to staff responsibilities regarding the bus, Mr McDonnell could not say whether there was any documentation, but he did think there was instruction to staff by way of word of mouth. In relation to whether staff were ever told they must check seat belts of the residents before they set off on a journey, again, he could not "say if it was or it was not" provided.

[73] In relation to training that staff of Somerton Home received about safely securing wheelchairs into the bus, Mr McDonnell told the inquest that, he could not recall any formal training given to staff on how to safely secure the wheelchairs to the vehicle. He assumed "that it was passed down through the staff over the years" by the original care managers who were nurses.

[74] Mr McDonnell explained that the fixings did not change from bus to bus, it was a standard form of fixing which had not changed in many years. He accepted that when Somerton purchased the WTOR fixings it would have received manuals

and Mr McDonnell stated that he did not personally go through the manuals with his staff. When asked whether he instructed someone else to, he replied, "I always handed this to staff to deal with". When asked whether the same approach to training for securing of wheelchairs was taken to manual handling training, Mr McDonnell replied, "because it was outside the actual home itself, it got overlooked".

[75] Mr McDonnell went on to tell the inquest that Somerton Home did not hold any written record of any instruction or training given to staff. He stated that over the 30 years there were no accidents involving residents and he did not feel the need to make changes. He stated that Somerton is, in common with all Care Homes, subject to regular inspection by RQIA, which investigates training of staff as part of its remit. In evidence, when asked whether the RQIA Inspections ever focused specifically on the use of the bus, Mr McDonnell replied, "*no*", although it was pointed out that RQIA did have a policy in respect of transport ('Standard 15 - Transport). The relevant RQIA inspection reports in respect of Somerton Home, dated 13 June 2019, and 24 September 2019, did not mention transport or buses.

[76] In relation to the suitability of the wheelchair which the Deceased was using, which had been described as a "portering chair", Mr McDonnell told the inquest that the Deceased's Care Plan for mobility, included a comment from an Occupational Therapist (Ms C McLaughlin) employed by the Belfast Health and Social Care Trust, confirming that on 28 February 2019, "that wheelchair supplied by the Home can be used for Joyce to mobilise longer distances and transport on the bus for outings/appointments."

[77] Mr McDonnell told the inquest that since the death of the Deceased, Somerton Home no longer owns a bus.

Expert evidence

[78] Mr Gavin Dunn, Chartered Engineer and Senior Scientific Officer at Forensic Science Northern Ireland, gave evidence to the inquest. Mr Dunn examined the Deceased's wheelchair, the Renault Master bus, the Wheelchair Tiedown and Occupant Restraint Systems (WTORS) components, reviewed photographs and witness statements and thereafter produced a report.

[79] Mr Dunn commented that the Renault bus was found to be well maintained with no defects noted.

[80] Mr Dunn explained the typical use of the WTORS system on a vehicle which is used to transport wheelchairs. There are four wheelchair tiedowns with straps mounted to rails on the floor of the vehicle used to secure the wheelchair to the floor. There are occupant restraints with straps secured to the floor rails which are used to restrain the wheelchair occupant in a similar manner to a conventional three-point seatbelt in a passenger car, comprising of a lap belt and a diagonal shoulder belt.

[81] Mr Dunn explained that part of the occupant restraint system is a "third point fixing" which is attached to a roof rail, and behind the wheelchair occupant's shoulder to ensure that the occupant restraint is held at a suitable position across the shoulder. Mr Dunn stated that whilst he was not aware of any statutory requirement for third point fixings, it was very much in line with the international standards, industry guidance and best practice, and should really be used.

[82] Mr Dunn described how there are several ISO (International Standards Organisation) documents and international best practice guidelines together with user manuals which are all relevant to the use of WTORS.

[83] Upon examination of the Renault bus, Mr Dunn commented that it had a series of floor and wall mount rails to secure passenger seats with WTORS. The bus was fitted with three passenger seats on each side, six in total, leaving space in the centre rear section for wheelchairs. He stated that there was no significant damage to the rails that would allow WTORS components to unexpectedly disengage or to indicate the position of any WTORS components under significant load. Mr Dunn noted that there was an Unwin branded unit, which included two independently retracting seatbelts, one red and one black, designed to be used as a wheelchair occupant restraint, securely engaged in the metal floor rails at the rear nearside of the bus.

[84] Mr Dunn examined the contents of the blue plastic box which stored the WTORS components. He stated that there was enough equipment in the box to restrain two wheelchairs and their occupants and that the WTORS components were otherwise adequate for use to restrain the Deceased.

[85] However, Mr Dunn commented that there were no third point fixings contained within the box. He stated that that third point fixings should be used as an upper mounting point, to ensure that the shoulder portion of the occupant seatbelt remains positioned correctly over the shoulder and that restraint loading is applied correctly across the upper body. He stated that this could have allowed the shoulder belt to move to an incorrect position or adversely affected any restraint loading on the body.

[86] The information provided to Mr Dunn from Somerton Home did not include any evidence of formal training on WTORS for the care staff accompanying the Deceased or details of what checks were carried out on the WTORS prior to beginning, or during, the journey. The instruction manuals for the WTORS or the wheelchair were not made available either.

[87] Mr Dunn examined the Deceased's wheelchair and noted that parts bore different brand names, and he could not rule out the possibility that at least some of the components were not the original parts of the wheelchair. The frame was not labelled nor marked with the original manufacturer, applicable standards, warning

messages or other instructions for use. There was no tie down points identified with a karabiner symbol, or otherwise readily identifiable. Mr Dunn commented that the wheelchair did not appear to meet the ISO standard for use as a seat in a motor vehicle and, although this did not necessarily mean it could not be used, the rationale for permitting its use was not clear. He commented that, "it has been described as a portering wheelchair and I do not know why it was permitted to be used in a vehicle" and the "best option would have been to use a tested wheelchair with a full WTORS system with a third point fixing in line with best practice."

[88] Mr Dunn described how there was a lap belt which was not permanently attached to the Deceased's wheelchair, and it had a label attached stated "DO NOT USE AS A VEHICLE SEAT". There was no significant damage to the plastic buckle of the lap belt attached to the wheelchair and Mr Dunn was unable to determine if it had been buckled at any time during the journey. The lack of damage to the plastic buckle provided support for the proposal that the belt was not forcibly opened during the collision.

[89] Mr Dunn discussed the lap section of the occupant restraint and noted Ms Caryn McAdam describing this as being passed over the side guards of the wheelchair. Mr Dunn stated that the lap section of the occupant restraint should be positioned low on the user's pelvis, close to the hips, such that any restraint loading is applied across relatively bony parts of the body. Therefore, the lap section of the occupant restraint should either be positioned so that parts of the wheelchair do not hold it off the body or at a higher position where restraint loading could be applied to more vulnerable parts of the body, or if possible, those parts of the wheelchair should be removed.

[90] Mr Dunn then discussed the seatbelt stalk. He described how, on the end it had a metal fixture which slid along the metal rail on the floor, and it clicked into place and locked. It was released by lifting the yellow locking mechanism. Mr Dunn noted that Ms Claire McAdam stated that the seatbelt stalk of the occupant restraint system was not engaged in the vehicle floor rail following the incident. Examination of the vehicle floor rails and the two relevant seatbelt stalks that were present during Mr Dunn's examination did not reveal any significant damage nor defect, and he verified that both stalks could engage in the floor rails as expected.

[91] If the seatbelt stalk was correctly engaged in the vehicle floor rail at the time of the incident, then, in Mr Dunn's opinion, it was not forcibly removed from the vehicle floor rail during the incident and was therefore either deliberately removed from the floor rail following the incident or it was not correctly engaged in the vehicle floor rail prior to the incident.

[92] Mr Dunn commented that if it was the case that the seatbelt stalk was disengaged from the floor rail, then the lack of damage to the seatbelt stalk component and the vehicle floor rail indicated that the seatbelt stalk was not correctly engaged in the vehicle floor rail at the time of the incident, meaning that

the Deceased was not effectively restrained and this allowed her to move forward and contact the wheelchair in front, sustaining her eye and leg injuries. He was unable to determine when she sustained the injury to her spleen.

[93] Mr Dunn did comment that whilst testing the stalk, partially placed in the rail, the stalk tended to fall over. He stated that potentially, some tension from the seat belt could assist to hold it in place, or it could have been made harder still, but either way, it did not naturally stay in a position where it was not correctly installed.

[94] Mr Dunn went on to state that if the seatbelt stalk remained securely engaged in the floor rail during the incident, then it is possible that the lap belt of the occupant restraint was not positioned correctly across the Deceased's body, either for comfort or due to being held off by the arms of the wheelchair, allowing her to move forward and down from her wheelchair.

[95] Mr Dunn could not rule out the possibility that no occupant restraint was in use at the time of the incident.

[96] At inquest, Mr Dunn was asked for his opinion on which of the three possibilities he preferred; firstly, the stalk was correctly fixed and locked into the metal rail and came loose and dislodged; secondly, it was improperly fitted and had not locked into place; or thirdly, it was not fitted into the metal rail at all. He commented:

> "I think the first option of it being correctly located and correctly fixed is very unlikely, given that there's no damage and it was functioning as expected. I think the third option, that it was never in use or never placed into the rail at all is definitely an option. I think it's unlikely but not impossible that it was placed into the rail in some way that was not correct, but I do think that would be relatively obvious to anybody placing it in the rail, or indeed checking it. So out of the three options the second two are possible. I think the most likely is that it was not placed in the rail in any way effectively." He went on to say, "if it was placed into the rail in any way, and it came out, it certainly wasn't placed in effectively, whether that means not at all, or in some manner that was incorrect, but if it came out then it certainly was not in in a way that would perform its role."

[97] Mr Dunn suggested a fourth option, that it was removed by someone on purpose in the aftermath of the crash, before Ms McAdam saw it.

Part Two: 19 September 2019: Emergency Department, Royal Victoria Hospital

[98] Mr Patrick Morrison, Paramedic with the Northern Ireland Ambulance Service, gave evidence to the inquest, which was admitted by way of Rule 17. At 12:36 hours on Thursday 19 September 2019, he responded to a call on the Antrim Road at Allworthy Avenue, Belfast. On arrival he noted the Deceased was in the back of a bus and on a seat, being propped up by two members of staff from the home. A third staff member was administering oxygen. Her wheelchair was outside the bus.

[99] On his initial examination, he found that the Deceased had a lower leg break on her right leg and a large laceration above her left eye. She was fully conscious and alert. She was able to respond to questions and she knew where she was and told him they were out for ice cream. She told him she had pain in her leg and in her head. She said she had no pain elsewhere. She told Mr Morrison that she fell out of her wheelchair.

[100] Mr Morrison contacted the home to establish what medication she was on, and he completed a full assessment, bandaged the laceration on her head and immobilised the leg. He gave her an IV and some pain relief. Her level of consciousness remained the same throughout his dealings with her. Mr Morrison left the scene at 13:30 hours and on arrival at the Royal Victoria Hospital, he provided a handover to staff.

[101] Staff Nurse Lyra Espinas provided a statement to the inquest, which was admitted by way of Rule 17. On 19 September 2019, she was working in the Emergency Department (ED) of the Royal Victoria Hospital as the ambulance nurse. At 14.05 hours she triaged the Deceased. In the Ambulance Arrival flimsy, Staff Nurse Espinas recorded head injury, tibia and fibula fracture on the right leg, and fall from wheelchair during sudden brake in the bus. She noted that she had vomited, had no neck pain, no c-spine tenderness, a bruised left orbital area and a lacerated wound at left forehead. She then recorded the Deceased's vital signs, and the Deceased was placed on oxygen and prescribed pain relief.

[102] Dr Plutarco Chiquito-Lopez gave evidence to the inquest. On 19 September 2019, he was on duty in the Emergency Department at the Royal Victoria Hospital, as Senior Clinical Education Fellow in Emergency Medicine. He recalled that, on that day, there were two consultants, one in charge of the department, Dr Mitchelson and another allocated to the resuscitation room, while he was a senior doctor, a level below the consultants.

[103] He noted that the Deceased was triaged at 14:05 hours and that she fell off a wheelchair, landing forwards within the bus, where she was travelling, when the bus stopped suddenly. It was noted that she had learning difficulties but could describe and localise pain. He noted that she had already been given pain relief, morphine, to ease the pain in her head and leg, and paracetamol, together with anti-sickness medication. He stated that he was the first doctor to assess the Deceased,

and this would have occurred almost simultaneously with the nurse's triage at 14:05 hours.

[104] Dr Chiquito-Lopez noted the Deceased's observations on triage, which were considered normal - pulse rate was 96 beats per minute, blood pressure 164/93, respiratory rate 18 respirations per minute, oxygen saturation 89% on room air and GCS 14/15. She was administered three litres of oxygen, and a sterile dressing was applied to the leg wound.

[105] Dr Chiquito-Lopez noted that she had a large bruise around her left eye, a tender left cheek and a deformed right lower leg with a puncture mark wound in the inner aspect of the right ankle. The lower limb was supported within a vacuum splint.

[106] Dr Chiquito-Lopez stated that the Deceased did not complain of any chest or abdominal pain in the Emergency Department. However, he told the inquest that he did not recall examining the Deceased's chest or abdomen, although it was his routine practice to do so and to document it. There was no record of this being completed in the Deceased's hospital notes. In fact, there was a complete lack of documentation regarding Dr Chiquito-Lopez's assessment of the Deceased, in particular the thorax and abdomen for life threatening injuries. He conceded that, "if I did not write it, I may not have done it". He accepted at inquest that he also may not have conducted an abdominal examination because the Deceased's other injuries were felt to be more pressing.

[107] The Deceased was also assessed by Dr Mark Mitchelson, the Consultant in charge of the Emergency Department. Dr Chiquito-Lopez explained that they worked as a team. Dr Chiquito-Lopez explained that he requested a CT scan of the head because of the injuries he could see and the period of the transient change in the Deceased's level of consciousness. A CT scan of the head was performed at 15:19 hours and showed a fracture of the roof and floor of the orbit.

[108] Dr Chiquito-Lopez told the inquest that he and Dr Mitchelson discussed the Deceased, and Dr Mitchelson suggested a CT spine in addition to CT head. This took place at 16:48 hours. A CT scan of the cervical spine showed degenerative changes without any acute fractures or dislocations. Radiographies of the right leg showed a fracture of the distal shafts of the right tibia and fibula.

[109] When asked why a whole-body CT scan was not performed on the Deceased, Dr Chiquito-Lopez told the inquest that the mechanism of Deceased's injuries was clear, meaning she was thrown out of her wheelchair, vital signs were normal, and that she did not describe localised pain. He described how a patient who had injuries, as a result of a fall or high-speed collision for example, would be managed differently. He accepted that, in hindsight, examination in early trauma can be difficult, especially in blunt injuries to the abdomen and he stated that they now "liberally use whole-body CT". He explained that in September 2019, a whole-body

CT was not established practice. He stated that they now know that elderly patients, such as the Deceased, can deteriorate quickly and they can be more difficult to diagnose than a younger patient.

[110] There was a discussion with Dr Chiquito-Lopez in relation to guidance which was circulated to all Trusts by the Northern Ireland Trauma Network regarding trauma in the elderly in April 2018 and by TARN (Trauma Audit Research Net) on a national level. Guidance and a triage tool were drafted by Dr Duncan Redmill, Emergency Medicine Consultant and the Regional Trauma Lead for Northern Ireland and circulated in April 2018 to encourage senior assessment of potential elderly trauma considering the occult nature of some injuries. This was circulated to all trusts through the Northern Ireland Trauma Network for display in all resuscitation rooms/triage cubicles. This is known as the 'Silver Trauma Triage Tool'. In the Deceased's case, as she had two injuries in two body systems, consideration for a whole-body CT or referral to a senior colleague was indicated in the Emergency Department assessment as per this tool.

[111] Dr Chiquito-Lopez told the inquest that in September 2019, the research findings of TARN were being circulated and not implemented and were not embedded in practice and it was only after the Deceased's death that silver trauma stickers came about and the requirement of senior doctor involvement. He went on to say that if the Deceased presented to the ED today, she would have a primary survey completed by a senior doctor, not necessarily a consultant. He caveated this by stating that guidance will not overtake clinical judgment and that the Silver Trauma Tool is guidance, meaning best practice, whereas a protocol cannot be deviated from.

[112] Dr Duncan Redmill, gave evidence to the inquest, outlining the lessons learned by the Trust following the Deceased death and he stated that, in September 2019, when the Deceased presented to the ED in the Royal Victoria Hospital, he would have expected clinicians to be aware of and to apply the Silver Trauma Triage Tool in relation to elderly patients, which would have included the Deceased.

[113] Dr Chiquito-Lopez told the inquest that the two tears in the Deceased's spleen identified at post mortem, 3mm and 5mm, were small and may have taken time to bleed, meaning a delayed rupture and he stated that these are difficult to diagnose and even if a whole-body CT scan was performed, in his opinion, it may not have diagnosed the tears, as a CT is a snapshot in time and if it was delayed, one may not be able to see a build up of fluid in the abdomen. Dr Chiquito-Lopez described the treatment if a rupture of spleen was identified. He explained that it can be treated conservatively, depending on the grade, or a second option is surgical intervention.

[114] The Deceased was referred to the Fractures team on call at 17:00 hours and to the Maxillo-Facial team on call at 18:18 hours for further management. Dr Chiquito-Lopez stated that the Deceased was haemodynamically normal and remained stable in the ED. The Deceased was transferred to the Fracture ward at 23:21 hours.

[115] Dr Chiquito-Lopez told the inquest that there were "errors" in the Deceased's care in the ED and commented, "I can see in hindsight, I should have examined the abdomen, in particular when we see that the CT scan showed there was a fracture in the orbit and there were fractures in the leg." He accepted that, had a full (or whole) body CT scan been performed and detected a spleen ruptured, a different course of treatment would have been considered, once the Deceased deteriorated.

[116] Dr Mark Mitchelson, Consultant Emergency Doctor, gave evidence to the inquest. On the afternoon of 19 September 2019, Dr Mitchelson was assigned the role of Emergency Physician in Charge (EPIC) of the Emergency Department. He explained that this role required him to maintain an overview of the entire Emergency Department, balancing demand with capacity to deliver care. With the large footprint of the Emergency Department, this role relied on working collaboratively with the multidisciplinary teams.

[117] Dr Mitchelson recollected speaking to the Deceased and her niece, Ms McAlea. He recalled the Deceased having significant bruising to her face but being alert and communicative and stating that she felt nauseous. Dr Mitchelson did not recall being directly involved in her assessment nor ongoing management in the Emergency Department nor providing any additional input into the Deceased's care.

[118] Dr Mitchelson told the inquest that he noted that the Belfast Health and Social Care Trust's Significant Event Audit (SEA) Report suggested that he requested a CT of the Deceased's cervical spine, which would be in keeping with NICE guidance (National Institute for Health and Care Excellence, Algorithm 3: Selection of adults for imaging of the cervical spine). Dr Mitchelson stated that he had no recollection of this. He stated that if a CT head scan had already been organised (by Dr Chiquito-Lopez) without the Cervical Spine imaging, then he may have suggested this. He stated that a significant number of people who have significant head injuries will have a cervical spine injury.

[119] Dr Mitchelson was asked whether a whole-body CT should have been requested for the Deceased in the Emergency Department. Dr Mitchelson replied that, on the information provided by the Northern Ireland Ambulance Service, and the information obtained from the triage on admission, "with the benefit of hindsight absolutely, I think a whole-body CT should have been ordered for this lady".

[120] Dr Mitchelson told the inquest that the TARN research and report on major trauma in older people issued in 2017, and was the stimulus for the subsequent work, the Silver Trauma Guidance in Northern Ireland. He stated that the "the threshold for undertaking whole body scans in patients has lowered, over the last five to ten years, particularly in the elderly patient, and frail patient, regardless of age." He explained that the local Silver Trauma Triage Tool, drafted by Dr Redmill

was in place in the Belfast Heath and Social Care Trust in September 2019. However, there was no local silver trauma education course at that time.

[121] He stated that, in relation to the Deceased, based on the mechanism of fall and head injury, "I would like to think that if I was seeing her today, that she would have got a pan scan, by that I mean from the top of her head to her proximal thighs performed". He went on to explain that "what we are finding in this population, is the frequency of occult injuries, the silent injuries, which are not obvious in the initial stages. So, we have a much lower threshold for progressing to whole body scans in this population".

[122] In relation to whether a whole-body CT scan would have identified a contained splenic bleed, Dr Mitchelson replied, that, in his experience of trauma, CT and splenic injuries, "most of those appear to be picked up on a CT scan with contrast, which is what would have been undertaken at the time." He agreed that, in the Deceased's case, a splenic injury would have been diagnosed following a CT and that a different course of treatment would have been initiated once the Deceased's condition began to deteriorate.

[123] Dr Mitchelson described the likely treatment that would have followed, had a whole-body scan been performed on the Deceased, and had that scan raised a concern about the spleen. Dr Mitchelson stated that it appeared to be a contained splenic injury, by that, one which had not bled into the abdomen until later on during the Deceased's clinical course and if that was found in the initial stages, he explained that most of these injuries are managed conservatively. He stated that the Deceased would have a different treatment and management if she presented today.

[124] Dr Owen Jeffries, Anaesthetic Registrar, gave evidence to the inquest, which was admitted by way of Rule 17. On 20 September 2019, he was working in the Major Trauma Service in the Royal Victoria Hospital.

[125] Dr Jeffries explained that the Major Trauma Service acted as an outreach service, providing assistance to teams caring for patients who had been injured following trauma. He believed that the Deceased would have likely been referred to the Major Trauma Service by the admitting team, although this was not documented. This service operated before the Major Trauma Centre opened in the Royal Victoria Hospital.

[126] Dr Jefferies stated that he would have first been made aware of the Deceased at the Major Trauma daily handover meeting, between 08:00 – 09:00 hours. Dr Jeffries stated that the Major Trauma Team would have likely been involved in this specific case because the Deceased's injuries required the input from two separate surgical specialties (Orthopaedics and Maxillofacial). The service's role would have been to ensure both teams were aware of the patient and had enacted a management plan.

[127] At 10:40 hours there was a note recorded in the Deceased's notes outlining the Major Trauma Ward Review, which was a daily ward round undertaken by a doctor and a specialist nurse. This was an advisory service, and patients were not directly under the care of the Major Trauma Team. The note stated that Dr Jefferies reviewed the Deceased's inpatient notes, as well as reviewing CT spine cervical, CT head and X ray right tibia and fibula. He noted the plan for surgical repair of the Deceased's leg and eye socket.

[128] Dr Jefferies then conducted a secondary survey of the Deceased. He explained that a secondary survey is an examination that aims to identify previously unrecognised potential injuries following trauma. His notes indicated that he did not find any further injuries other than those previously documented.

[129] As part of this examination, Dr Jeffries stated that he examined the Deceased's head, neck, upper limbs, lower limbs, abdomen, pelvis, and chest. He then documented a plan, that the orthopaedic team planned to repair the fractures of the bones in the right leg and that input from the maxillofacial team was awaited.

Expert evidence

[130] Mr Colin Holburn, Consultant in Accident and Emergency Services, was instructed on my behalf to produce a report and he gave evidence to the inquest.

[131] Mr Holburn noted the local arrangements, at that time, in Northern Ireland for "Silver Trauma", that is trauma occurring in the older adult. The Silver Trauma Guidance, referred to in evidence, noted that both the mechanism of injury required is less in the older patient and that clinical examination by a senior doctor is required to assess such patients in the Emergency Department. He explained that across the UK there are silver trauma guidelines, and training courses, with the original course called HECTOR, where management of elderly patients with trauma is explored and taught. HECTOR began as the Heartlands Elderly Care Trauma and Ongoing Recovery course and was established in Scotland to develop a training programme for clinicians and practitioners who are responsible for looking after older people who have injuries.

[132] Mr Holburn noted that the Deceased attended the Emergency Department. She was noted to have injuries to her face and lower leg. The observations recorded that she had a normal pulse and blood pressure. The examination was directed to both her visible injuries. However, Mr Holburn pointed out that there was no examination of the Deceased's trunk (chest and abdomen) recorded in the notes.

[133] In Mr Holburn's opinion, as the Deceased was involved in a significant incident, and using the Trust's own Silver Trauma guidelines, she sustained injuries to two or more body regions, a primary survey, which is an examination that looks for potential life-threatening injuries to the trunk, should have been carried out in the Emergency Department of the Royal Victoria Hospital.

[134] In his opinion, even if this was omitted initially when the CT scan showed how significant the injury to the face was, there was another opportunity for an assessment of the chest and abdomen to be undertaken, once the results of the head CT were reported and this did not take place.

[135] He did note that there were a number of subsequent assessments, following the ED, which noted the abdomen was soft and non-tender.

[136] Mr Holburn stated that if a careful physical examination of the trunk region had taken place, in the Emergency Department, it is possible that some tenderness in the left upper quadrant, the splenic region, might have been identified, but he could not say for sure.

[137] Mr Holburn told the inquest that, in relation to whether further investigations should have been undertaken in the Emergency Department, he stated that when there is a suspicion of significant injury on assessment, the standard practice in the Emergency Department is to consider undertaking a whole-body CT scan as the primary investigation.

[138] A whole-body CT is recommended in the 'NICE Major Trauma Assessment and Initial Management Guideline (NG 39) (17th February 2016)', as paragraph 1.5.34 states "Use whole-body CT (consisting of a vertex-to-toes scanogram followed by a CT from vertex to mid-thigh) in adults (16 or over) with blunt major trauma and suspected multiple injuries".

[139] In Mr Holburn's opinion a whole-body CT normally requires some clinical evidence that there is a possible injury causing abnormalities in the airway, breathing or circulation and this is commonly identified by a clinical examination. As no clinical examination was carried out of the chest and abdomen in the Emergency Department, no such reason was identified.

[140] In Mr Holburn's opinion, if there was evidence of either tenderness over the chest wall or tenderness in the abdomen, then to arrange such a scan would accord with reasonable practice in Emergency Medicine.

[141] In his opinion, if the examination did not find clinical evidence for a chest or abdominal injury, some Emergency Medicine consultants may have undertaken such a scan, while a body of Emergency Medicine opinion supported by the Silver Trauma Guidance in HECTOR, would not. He explained that:

> "in essence to justify doing a whole-body CT scan you are required to consider that there is a clinical indication for it, which is done by examination. So, the examination comes first. The threshold, particularly in the elderly, is being reduced and we are doing more and more CT scans

> or what we now call trauma scans, which is the whole-body CT scan. But that can only be justified if you have a possibility of defining an injury and normally that means you have a minimum of a clinical examination that shows some abnormality and that may be a fairly minor abnormality, but there should be at least some abnormality. If the examination of the trunk is completely normal, there would be some that would not do a whole-body CT scan."

[142] Mr Holburn stated:

> "If you have any doubts at all most of us would now order a trauma scan as a single initial investigation and that certainly has been developing probably since about 2015, 2016, when trauma centres became well established."

[143] Mr Holburn summarised by explaining that, in his opinion, not to undertake a primary survey of the Deceased, who had facial and leg injuries, would not accord with normal care for such a patient. If such an examination found evidence of possible chest or abdominal injury, not to undertake a whole-body CT would not accord with normal care.

Part Three: 19 to 25 September 2019: Fracture Ward, Royal Victoria Hospital

[144] Dr Zara Clarke, at the time, a Foundation Year 1 (FY1) Doctor, gave evidence to the inquest, which was admitted by way of Rule 17. At 23:40 hours on 19 September 2019, she reviewed the Deceased, as she was newly admitted to the Fracture Ward, Ward 4B. Dr Clarke noted from her records that a CT head had been performed which showed no evidence of intracranial traumatic injury. There was a significant traumatic injury to left orbit with fractures of foot and floor. She noted her observations and on examination she stated that the Deceased was not in any distress.

[145] Dr Clarke stated, on auscultation, chest was clear, no reported or appreciated shortness of breath, no heart murmur, no chest pain nor palpitations. She reported no concerns regarding headache or dizziness. Dr Clarke stated that, on examination, her bowel sounds were present, and her abdomen was soft and non-tender.

[146] Dr Clarke reviewed the Deceased's observations from the Emergency Department, and levels of calcium slightly elevated and white blood cell count raised. She had already been prescribed intravenous antibiotics. Dr Clarke's plan was to request a chest x-ray due to the Deceased's oxygen requirement and to encourage oral intake. The chest x-ray did not take place until 23 September 2019.

[147] Dr Clarke's next review of the Deceased was at midnight on 20 September 2019 when she prescribed intravenous fluids.

[148] At 20:15 hours on 21 September 2019, she prescribed a fluid bolus for low blood pressure of 66/28, with heartrate 97 and a NEWS score of 6. Following this, the Deceased's blood pressure was rechecked by a nurse, and it had increased to 114/68 and with heartrate 99. She had a NEWS score of 3. At midnight she prescribed maintenance fluids, and this was Dr Clarke's last involvement in the Deceased's care.

[149] Earlier, on Saturday 21 September 2019, the Deceased was examined by a Foundation Year 1 Doctor, Dr Zainab Iftikhar, for the day one, post op review. The Deceased's blood pressure was 90/57 and her heart rate was 101. Her abdomen was examined, and it was documented that it was soft and non-tender. In view of her age and post-operative haemoglobin level (88), she was transfused one unit of red cells, along with fluids, and a chest x-ray and chest physiotherapy ordered.

[150] Mr Pooler Archbold, Consultant Orthopaedic Surgeon, gave evidence to the inquest. On 20 September 2019, the Deceased came under his care in the fracture ward of the Royal Victoria Hospital.

[151] On admission to the Fracture Ward, the Deceased was assessed by Dr Clarke and Mr Archbold confirmed that there was nothing that would have triggered any further investigations at this point.

[152] Mr Archbold was asked to describe indicators of internal bleeding. He told the inquest the "signs that would indicate active bleeding would be a change in abdominal symptoms, so abdominal pain, bruising to the abdomen, tenderness on examination, with hemodynamic instability, so change in blood pressure, change of heart rate." He went on to discuss the significance of haemoglobin levels. He explained that the Deceased's "initial haemoglobin, when she came into the Emergency Department was 124, it then fell to 106 pre op, and then fell to 88, day one post op. She had sustained significant injuries, and those injuries are significant distracting injuries from her abdomen, but significant injuries in terms of her facial fracture".

[153] He described how the Deceased had facial lacerations which bleed, and a tibial fracture, and the average blood loss from a tibial fracture can be up to one litre and she underwent a large surgical procedure, which could explain her post operative haemoglobin falling to 88. He stated that for most fracture ward patients, their haemoglobin would drop to around 90 post op and he stated, "so post op haemoglobin drop to 88 would be very consistent with her injuries, with the spleen excluded."

[154] The Deceased was reassessed the following morning, on 20 September 2019, by Orthopaedic Staff Grade Doctor, Dr Wilson. Her chest was noted to be wheezy, and her abdomen was soft and non-tender.

[155] Around this time a secondary survey was completed and documented by Dr Jefferies, from the Major Trauma Service.

[156] On that same morning, the Deceased's injuries were presented at the Fracture X-ray meeting, at which four consultants were present. As she had an open fracture, she was taken to theatre under Mr Archbold's care for open reduction, debridement and washout of her distal tibia. Her fracture was reduced and stabilised. There were no intra-operative complications, and she was to be given two further doses of antibiotic and neurovascular observation. Mr Archbold discussed her facial injuries with Mr Hanratty, Maxillofacial surgeon, in the Ulster Hospital, and he advised that Mr Archbold close her facial laceration, which he did in theatre.

[157] Post-operatively, the Deceased was reviewed by Foundation Year 1 Doctor, Dr Iftikhar, on day one following her surgery, which was Saturday 21 September 2019. The Deceased's pre-operative haemoglobin was 106. It was noted that it had fallen to 88. Blood pressure was 90/57, and her heart rate 101. She was short of breath with wheeze. The Deceased's abdomen was examined as part of this review, and it was documented that it was soft and non-tender. She was prescribed a blood transfusion of one unit of red blood cells and chest physiotherapy. Mr Archbold explained that as it was a Saturday, the review was by a foundation year doctor. However, on ward two specialist registrars were present, with a consultant present in theatre, from 08:00 hours to 17:00 hours.

[158] Mr Archbold told the inquest that it was clear, on 21 September 2019, that the Deceased had clinically significant post operative hypertension, so her NEWS scores were elevated from 08:00 hours in the morning until 20:00 hours at night, which he stated was a long time. He stated that the NEWS scores allow clinicians to see if a patient is acutely unwell, and he stated that the Deceased "*would most definitely have fitted that*". He went on to say that her NEWS scores were elevated and there are clear guidelines that the Deceased should have been escalated to a more senior doctor, and she was not. Whilst Dr Iftikhar treated the Deceased with fluid challenge, and transfused one unit of blood, there was no escalation to a more senior doctor, and no documentation that a more senior doctor was involved, for example, the specialist registrar, consultant in theatre, or consultant on call. However, Mr Archbold told the inquest that even if he was contacted, his course of treatment would not have been any different to that of the foundation year one Doctor.

[159] In relation to a whole-body CT, Mr Archbold explained that a clinician would be looking for objective signs, for a change in abdominal features, before they would recommend a whole-body scan. He explained that if the Deceased had one in the Emergency Department, and a splenic injury was diagnosed, and then there were changes, a repeat scan could have been ordered. However, he stated:

> "going on her blood indexes, and the fact that the haemoglobin was stable, she had no objective abdominal signs, it would have been a normal post operative hypotension, she would have been managed conservatively, but you would have repeated the CT scan again when she arrested on the 25th".

[160] Mr Archbold told the inquest that following the Deceased's blood transfusion on 21 September 2019, the Deceased's haemoglobin remained stable, it was 91 on 22 September 2019, 95 on the 23 September 2019 and 94 on 24 September 2019. Mr Archbold commented that:

> "On admission her haemoglobin dropped before surgery, dropped after surgery, she was transfused one unit, and then her haemoglobin remained stable, which would indicate that there was no active bleeding, so her splenic injury was silent over those days."

[161] From 20:00 hours on Saturday 21 September 2019, Mr Archbold explained that the Deceased's NEWS scores stabilised, and her care and observations were conducted by foundation year doctors and nursing staff over that weekend of Saturday 21 September and Sunday 22 September 2019.

[162] On 23 September 2019, the Deceased was reviewed by Mr Gary Heyburn, Consultant Orthogeriatrician. It was noted that the Deceased now had a productive cough and shortness of breath. Her abdomen was soft and non-tender. She had a chest x-ray and was commenced on oral antibiotics for a lower respiratory tract infection.

[163] Mr Archbold explained that a productive cough again is not uncommon in a patient who may not be ventilating as well, who is lying in bed, who is not mobilising. Her CRP was going up slightly, which indicates inflammation or infection, and low saturations combined with a productive cough, wheeze, and with low mobility, meant she was treated for a chest infection. He commented "that (the chest infection), I wouldn't say clouded judgement when she arrested, but I suppose that was going on in the background as well". He stated that, at that time, "it would be a big jump, at that stage in terms of no abdominal pain, no drop in haemoglobin, to say that is secondary, to a splenic injury, and common things are common, and we tend to focus on that."

[164] Later that day, the Deceased spiked a temperature of 38.5 and blood cultures were taken.

[165] On 24 September 2019, the Deceased had an episode of PV bleeding, and a red flag referral was made to gynaecology.

[166] At 02:50 hours on 25 September 2019, the Deceased was observed to be coughing and choking and became unresponsive in her bed and a cardiac arrest call was made and resuscitation was administered. A full examination was documented noting she had widespread wheeze, and her abdomen was soft and non-tender. ECG showed she was tachycardic 120 bpm and hypotensive and her blood pressure at 80/42.

[167] It was felt, at that time, that she had an aspiration pneumonia. Her haemoglobin had dropped to 83 as compared to 94 the day before. A plan was made for antibiotic therapy, repeat bloods and chest physiotherapy.

[168] At 07:30 hours on 25 September 2019, the Deceased became unresponsive again and her death was confirmed by Dr Cunningham.

[169] Mr Archbold commented that the Deceased's splenic injury was a deceleration injury, rather than blunt trauma. As a result of the emergency stop, the spleen was injured due to deceleration. He stated that the Deceased probably had some associated bleeding at the time, which was largely contained and the natural course of a delayed splenic rupture is then silence, and then a catastrophic bleed, which happened on the night of the 25 September 2019, "the problem with delayed splenic rupture is again because it's a silent injury, it's not diagnosed, the mortality is very high."

[170] Mr Archbold told the inquest that it was likely the Deceased had a reasonable bleed in the early hours of the morning, and then probably had another further bleed after that, evidenced by her haemoglobin drop, which indicated active bleeding. He stated that it would have been very difficult, and challenging at 03:00 hours, "for the cardiac arrest team, to have picked up a splenic injury at that time, as the worry at that time was a myocardial infarction or a pulmonary embolism, which would be very common".

[171] As the Deceased suffered an injury at the top of her body and the lower part of her body, Mr Archbold was asked if there should have been an index of suspicion that she had suffered an injury in her abdominal area, he replied, "yes, so again, I suppose that's what the Silver Trauma Guidelines were there for, but you also have to be guided by your clinical experience and clinical examination."

[172] Mr Archbold concluded by stating there is a "need for a very high index of suspicion on admission, in terms of the elderly patient, with, low energy trauma" and the risk of occult injuries. He explained that "now the major trauma ward is open, for patients like the Deceased, where there's a multi-disciplinary ward round in the morning, there are silver trauma posters up all around the Royal. There is a silver trauma sticker that gets placed on files of elderly patients who are involved in low energy trauma. There is a much lower index of suspicion than there was even in 2019."

[173] Dr Katie Cunningham, Foundation Year 2 Doctor, gave evidence to the inquest, which was admitted by way of Rule 17. At approximately 08:00 hours on 25 September 2019, she attended Ward 4B and was informed by nursing staff that the Deceased had passed away at approximately 07:30 hours, but that her death had not yet been confirmed by a medical practitioner. Dr Cunningham found that the Deceased's pupils were fixed and dilated, there were no breath sounds, and she made no respiratory effort. There were no heart sounds or pulse. Dr Cunningham confirmed the Deceased's death at 08:15 hours on 25 September 2019.

Pathology evidence

[174] Dr Peter Ingram, Assistant State Pathologist for Northern Ireland, gave evidence to the inquest. He performed an autopsy on the Deceased on 27 September 2019, and thereafter produced a report.

[175] Dr Ingram explained that the Deceased's injuries included lacerations on the left side of her face and a fracture of the left eye socket, as well as sustaining a fracture of one of the bones in her right lower leg.

[176] Dr Ingram explained that the post mortem examination revealed that, in addition to the aforementioned injuries, there had also been bleeding, or haemorrhage, beneath the capsule (a fibrous membrane or sac) of both the spleen and liver. He described how the spleen is situated on the left side of the top of the abdomen, and it filters dying red blood cells and has a role to play in immunity.

[177] Dr Ingram stated that, at some point, which he could not precisely determine, the capsule of the spleen tore in two places, a tear of 0.3cm and a tear of 0.5cm, allowing blood to leak into the abdominal cavity. Dr Ingram told the inquest that a total of almost 1500ml of blood (three pints) and clot had accumulated in the abdominal cavity, and this was ultimately the principal factor resulting in the Deceased's death. Whilst there was bleeding beneath the capsule of the liver, there was no active bleeding point.

[178] Dr Ingram explained that out of the two possibilities which may have caused the two tears to the spleen; the seatbelt if worn, or the Deceased falling out of the wheelchair and landing, he stated that, whilst the seatbelt was a possibility, on balance, he slightly favoured the option of the fall as causing the tears, as the transmission of force was likely to have been greater. He opined that it was difficult to say with any confidence whether all the bleeding occurred in the immediate aftermath of the accident or whether it was prolonged or intermittent over a period of days resulting in death.

[179] Dr Ingram explained that there was also up to a moderately severe degree of degenerative narrowing of the coronary arteries of the heart, known as coronary atheroma. He stated that this coronary artery disease would have made the

Deceased more susceptible to the effects of the haemorrhage than an otherwise healthy individual, and therefore it would be best regarded as a contributory factor in the Deceased's death.

Conclusions on the evidence

[180] I find, on the balance of probabilities, that the Deceased's death, on 25 September 2019, was preventable. Had the Wheelchair Tiedown and Occupant Restraint Systems (WTORS) occupant restraints been correctly and effectively fitted by staff on the bus owned by Somerton Home on 19 September 2019; had a primary survey and whole-body CT scan been performed in the Emergency Department of the Royal Victoria Hospital on 19 September 2019, and had the Deceased been reviewed by senior clinicians in the Fracture Ward in the Royal Victoria Hospital on 21 September 2019; I find, on balance, that the Deceased's death on 25 September 2019 would have been prevented.

[181] On the evidence before me, there were a number of missed opportunities, in the care of the Deceased by Somerton Home and in the care and treatment of the Deceased in the Royal Victoria Hospital, which I outline below. Each of my findings I make on the balance of probabilities.

Part One: 19 September 2019: Road traffic collision involving the bus owned by Somerton Home

[182] I find that on the morning of 19 September 2019, the Wheelchair Tiedown and Occupant Restraint Systems (WTORS) restraints were fitted to the Deceased's wheelchair, thus securing the actual wheelchair to the bus.

[183] I find that the seatbelt stalk of the occupant restraint system was not fitted correctly or effectively to the metal floor rail on the floor of the bus, in a way that it would perform its role, by Somerton Home staff, and upon the emergency stop, the occupant restraint became ineffective, resulting in the Deceased being thrown out of her wheelchair.

[184] I find that the Deceased was not safely secured in her wheelchair on the bus by Somerton Home staff and there was a lack of effective checks conducted.

[185] I find that the Deceased was not wearing the lap belt, which was detachable from her wheelchair, on the bus and this was not checked by the Somerton Home staff.

[186] I find that there was a lack of formal documented Wheelchair Tiedown and Occupant Restraint Systems (WTORS) training provided to staff by Somerton Home for securing a wheelchair in a bus. I find that there should have been formal documented training and information given to staff, so that they could ensure all

residents were safely and securely strapped in, as the home owned a bus for the purpose of transporting residents, both wheelchair users and non-wheelchair users.

[187] I find that Somerton Home had the responsibility of ensuring the Deceased's wheelchair, which was provided by them, to meet standards of best practice, which included a headrest, as advised by the occupational therapist in August 2019.

[188] I find that the original guidance and manual supplied to the home with the Wheelchair Tiedown and Occupant Restraint Systems (WTORS) were not disseminated amongst staff and information was provided orally in an ad hoc manner.

[189] I find that Somerton Home staff should have dialled 999 immediately rather than waiting on the home manager to attend the scene and make the decision, as it was clear the Deceased had suffered serious injuries. Whilst this would have prolonged the Deceased's pain and discomfort, it did not affect the overall outcome.

[190] I find that it was best practice to use the Wheelchair Tiedown and Occupant Restraint Systems (WTORS) three-point fixings system, and the bus had the upper cant rail to do so, as it would have provided greater comfort for residents. However, this would not have prevented the stalk from becoming disengaged from the metal floor rail and would not have affected the overall outcome.

[191] I find that the Deceased's death highlights the importance of the correct Wheelchair Tiedown and Occupant Restraint Systems (WTORS) being used and fitted effectively in vehicles and service providers should ensure their staff have sufficient training and information to secure an occupied wheelchair in a vehicle for the safety of the service users.

Part Two: 19 September 2019: Emergency Department, Royal Victoria Hospital

[192] I find that Dr Chiquito-Lopez failed to conduct and document a primary survey of the Deceased's abdomen, and he should have.

[193] I find that the Deceased's splenic injury was a deceleration injury rather than blunt trauma, because of the emergency stop, which caused the two small tears to the Deceased's spleen and some form of fluid to leak, a delayed rupture, and that it was not until 24 and 25 September that the Deceased suffered acute bleeding.

[194] I find that the high levels of opioid analgesia that were prescribed to the Deceased, and the obvious external distracting injuries to the leg and face, impaired an effective clinical assessment in the Emergency Department and Dr Chiquito-Lopez failed to appreciate this.

[195] I find that, as two CT scans were conducted, CT head and CT cervical spine, in the Emergency Department, a whole-body scan should have been conducted and it would have been good practice to do so.

[196] I find that Dr Chiquito-Lopez was a senior clinician in the Emergency Department at the time and he should have been aware of the Trust's Silver Trauma Guidance and Tool.

[197] I find that a whole-body CT scan should have been performed on the Deceased in accordance with the Belfast Health and Social Care Trust's Silver Trauma Guidelines, which applied at the time, and the NICE guidelines NG39, as the Deceased was involved in major trauma and had suffered multiple injuries.

[198] I find that, had a whole-body CT been performed on admission, the splenic injury would have been diagnosed, and would have resulted in a different course of treatment for the Deceased, by way of regular monitoring and imaging, and this would, on balance, have led to a different outcome.

[199] I find that, on a basic level, clinicians in the Emergency Department should have had a high index of suspicion, given that the Deceased, a 77 year old wheelchair user, was involved in a road traffic collision and suffered obvious injuries on the top and lower part of her body, and may also have suffered an injury in her abdominal area, thus meriting a whole-body CT.

[200] I find that, Dr Mitchelson should have ordered a whole-body CT, following the Silver Trauma Guidance and Tool, which was designed to ensure that occult injuries, such as a tear to the spleen, were not missed in an elderly or vulnerable person.

[201] I find that there was a lack of documentation in the Emergency Department regarding the assessment of the Deceased, senior consultation, decision making relating to imaging and rationale for same.

[202] I find that the seriousness of the road traffic collision, and the Deceased's overall condition, were not fully appreciated by the Emergency Department clinicians, and decisions in relation to her care were made on inadequate assessment, and insufficient investigation.

Part Three: 19 to 25 September 2019: Fracture Ward, Royal Victoria Hospital

[203] I find that the initial surgical management of the Deceased's fracture and facial injuries, in the fracture ward, was appropriate.

[204] I find that there was a lack of documented review of the Deceased by a senior clinician on the fracture ward, from the surgery on Friday 20 September 2019 until the emergency alarm was sounded on 25 September 2019, apart from a discussion on

a ward round on Monday 23 September 2019, which was without substantive documentation of a clinical review or care plan.

[205] I find that the Deceased experienced a period of physiological deterioration, which began around 08:00 hours on 21 September 2019. Over the next 12 hours the Deceased remained hypotensive, had mild tachycardia, low oxygen saturations, falling haemoglobin with an elevated NEWS score. I find that, as indicated by national guidance and the Trust's observation chart, this clinical picture and significant deterioration, should have been escalated by the Foundation Year 1 Doctor, for review, to a senior clinician, at least a Specialist Registrar or above and the critical care outreach team, who may have considered the cause of the Deceased's acute deterioration to be an occult injury, and I find that this was a missed opportunity for further imaging to potentially detect the splenic injury, timely intervention and change the course of management, care and treatment.

[206] I find that the Deceased's death highlights the risk that occult injuries in complex trauma cases can occur, therefore there is a need for clinicians, to have a high index of suspicion and to exclude such injuries at an early stage, particularly in an elderly/vulnerable patient, where the effects of these injuries may be more deleterious due to existing co-morbidities, such as coronary atheroma, as demonstrated in the Deceased's case.

Cause of death

[207] A post mortem was performed, and it records, and I find that death was due to:

> 1(a) Intra-abdominal haemorrhage
> Due to
> (b) splenic injury
> II Coronary atheroma

[208] The above findings should be placed in the following context. At inquest, I received evidence from Dr Duncan Redmill, Consultant in Emergency Medicine (BHSCT), Regional Trauma Lead for Northern Ireland and Associate Medical Director of the Northern Ireland Ambulance Service, and Dr Mark Cross, Deputy Medical Director (BHSCT), in relation to a number of changes made in the Belfast Health and Social Care Trust, following the Deceased's death.

[209] At the outset, Dr Cross told the inquest that the Trust accepted the full learning from the death of the Deceased following the Trust's Significant Event Audit (SEA) investigation and subsequent Report, which included recommendations for the Trust to take forward.

[210] Dr Redmill commented that, the Silver Trauma Guidance, referred to throughout the inquest, first became nationally available in 2017. There was a

document, produced by the Trauma Audit Research Net, which is also called TARN, in late 2017. As Trauma Network Lead in Northern Ireland, Dr Redmill's role was to look for areas for improvement in local services. He reviewed that document and drafted a new document, relevant to Northern Ireland, which was circulated throughout all the Trusts in Northern Ireland in April 2018 and was known as the 'Silver Trauma Guidance'. He stated there have been some amendments since then, to make it more user friendly, however, the content did not particularly change. It is now known as the Silver Trauma Safety Net and there is now an accompanying training course, called the BETA course.

[211] Dr Redmill told the inquest that, in September 2019, he would have expected clinicians in the Emergency Department of the Royal Victoria Hospital to have been aware of the guidance. He commented:

> "*The guidance has not changed, but I would say that unfortunately this case prompted more widespread education around the matter and awareness amongst staff and more prompt use of that guidance.*"

[212] Dr Cross outlined to the inquest the learning to date which flowed from the SEA Report.

[213] One of the recommendations of SEA report was that the Trust should explore the implementation of an electronic patient record, similar to what is now becoming increasingly commonplace across NHS hospitals. This record would enable notifications to be sent to the critical care outreach team whenever recorded vital signs indicated significant deterioration. Dr Cross explained to the inquest that the Belfast Trust was introducing EPIC on 6 June 2024, and it provides best practice advice and will further enhance clinical teams' decisions.

[214] In relation to the Trust's engagement with commissioned services, within the Belfast Trust, such as Somerton Home, the following learning was identified. Wheelchairs used for transporting service users in a vehicle should have a head rest to appropriately and safely support the service user and that all staff who are responsible for securing wheelchairs in a transporting vehicle should have formally recorded training including a competency assessment. The Trust has since prepared a shared learning document which was circulated across the Trust. Dr Redmill explained that the evidence in the Deceased's case was that the training was very much of an informal nature and not recorded, whereas it would be now. The Trust issued a letter to all commissioned services requesting that they instruct staff to always call 999 prior to contacting their manager in the event of an emergency. Dr Cross outlined how the Occupational Therapy Team in the Trust has learned that they must follow up in email if they have provided information/ advice by phone to carer/s. This now occurs as routine practice.

[215] The SEA Report noted that accurate clinical note keeping is a requirement of 'Good medical practice' as reflected in the guidance by General Medical Council. Re-enforcement of accurate history/exam/decision making and consultation with seniors will be strongly recommended in the Emergency Department via the teaching provided to all non-consultant grade staffs in Emergency Department within the Trust. Dr Cross explained that audits have now been performed and this has shown improvement in record keeping. Also, EPIC is expected to significantly improve record keeping within the Trust.

[216] Dr Cross explained that following the Deceased's death, it was clear that a Quality Improvement Project was required to educate Emergency Department/Trauma ward and medical/care of trauma within the elderly care patients. This was commenced and included an aide memorandum, with a poster and stickers including reminders of when senior clinicians should become involved in decision-making. This may include whole-body CT imaging at a lower threshold for the elderly, as outlined in the Sliver Trauma Safety Net.

[217] The SEA Report made it clear that those working in the Emergency Department should be reminded of the importance of looking for abnormalities, beyond the most obvious injuries, referred to as a secondary survey. It recommended that all trauma cases should have a detailed secondary survey documentation as part of the clinical notes. This is now reflected in the Northern Ireland trauma booklet and included within the Silver Trauma Safety Net. Dr Redmill commented that there is now a "30-page booklet which is basically a patient care pathway that allows us to record everything we need to record in a major trauma and there is a section in that for secondary survey to be completed as a reminder."

[218] Dr Cross told the inquest that important learning from the death of the Deceased was that Senior Emergency Medicine Doctors should be freely consulted regarding major trauma in the elderly population. Dr Cross stated that now the use of the Silver Trauma Safety Net ensures this occurs and permits the non-consultant grade staff the ability to escalate clinical cases. He stated that the development of the Silver Trauma Safety Net ensures that there is a systematic approach to achieving primary, secondary and tertiary surveys which are focused on early during a patients' admission with trauma in this population of frail patients.

[219] Dr Redmill commented that the Silver Trauma Safety Net highlights:

> "that in the elderly population, we should have a much higher threshold of suspicion because older people can be injured a lot easier than people who are younger. We are seeing increasingly major trauma in the elderly from falls from standing, whereas before we would have expected that to be a fairly benign mechanism of injury. We are recognising more and more that we need to have a

> heightened threshold in the elderly, involve senior staff, investigate more rigorously and treat more aggressively."

[220] Additional learning from the SEA Report, taken forward by the Trust is that it is ensuring appropriate recruitment and retention of Orthogeriatricians, who look after the care of patients who are elderly and frail and have suffered a trauma.

[221] Dr Cross outlined how the Trust acknowledges that the early detection of a deteriorating patient is critical for patient safety and the use of NEWS 2 will ensure that patients who are deteriorating, or at risk of deteriorating will have a timely initial assessment by a competent clinical decision maker. NEWS 2 supplements clinical judgement in assessing a patient's condition. Again, the use of EPIC, the digital system, has predictions in improving the early identification of the deteriorating patient. Dr Cross stated that the Trust saw that appropriate escalation did not occur in the fracture ward on 21 September 2019, which potentially contributed to the death of the Deceased.

[222] Dr Cross outlined other learning in relation to ensuring that incidents are escalated appropriately and in particular incidents recorded in Datix, incidents discussed in Live Governance and communication to all staff regarding the importance of communication and escalation. He explained that Trust's involvement in the Department of Health's redesign of the learning processes from Serious Adverse Incidents, including presenting the Deceased's case to the Department. He described how two Clinical Directors have been appointed within the Risk and Governance Division of the Medical Directors Office, who are clinical leaders for Patient Safety Incident Response Framework and Human Factors.

[223] Dr Redmill and Dr Cross told the inquest that it is hoped the improvements made by the Belfast Health and Social Care Trust demonstrate that the Trust has learned important lessons from the death of the Deceased.