Coulthursts
The Brain Injury Solicitors

THE HIDDEN SCALE OF

UNDER-RECOGNISED TRAUMATIC BRAIN INJURY AND CONCUSSION

A White Paper

Produced by Coulthursts Solicitors
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Executive Summary

Mild traumatic brain injury has long been assumed to be exactly what its name suggests: minor in nature, short in duration, and limited in consequence. The largest prospective studies ever conducted in this field have proven that assumption wrong.

Around 50% of people meeting the clinical criteria for mild traumatic brain injury (mTBI), presenting to hospital and scanned as part of their care, consistent with the TRACK-TBI cohort, do not recover to their pre-injury level of health by 12 months.

This report focuses on the population most affected by this gap: people with mTBI, including concussion, who are discharged without follow-up, without a clear diagnosis communicated to them, and without any understanding of why their lives are changing. Using a methodology grounded in the largest and most rigorously designed cohort studies in this field, this paper estimates that approximately 250,000 people per year in England and Wales are living with persisting symptoms following concussion or mild traumatic brain injury. For the great majority, there is no structured route back into care.

Key Findings

- **Scale: An estimated 250,000 people each year in England and Wales experience persisting symptoms following concussion or mTBI. The methodology underpinning this figure is set out in full in Chapter 4.**
- **Non-recovery:** Around 50% of people meeting the clinical criteria for mTBI and consistent with the TRACK-TBI cohort have not recovered at 12 months. This proportion remains stable at 5 years, confirmed by the 2022 Lancet Neurology Commission.
- **Follow-up failure:** Only 6% of patients discharged from European emergency departments after TBI receive a follow-up appointment. A 2025 national audit found not one of 99 NHS head injury discharge leaflets fully complied with NICE NG232 guidance.
- **Occupational impact:** Population-wide data from New Zealand found employment fell by around 20 percentage points and earnings by approximately a third over four years following concussion, with effects worsening rather than improving over time.
- **Legal gaps:** Without diagnosis, many people are unaware they have grounds for a legal claim, even when their injury was caused by negligence, assault, or an unsafe environment.
- **Disproportionate impact:** Women, children, older adults, prisoners, and survivors of domestic abuse are all more likely to have an undiagnosed brain injury and less likely to be referred for treatment or support.

Evidence Base

The scale and outcome evidence in this paper draws primarily on:

TRACK-TBI (United States) - Transforming Research and Clinical Knowledge in Traumatic Brain Injury. A large multicentre observational research programme in the USA, led by investigators including Geoffrey Manley (UCSF). The main study enrolled around 2,700-3,000 patients across 18 US Level-1 trauma centres, building on an earlier foundational pilot study of 600 patients, meaning the combined research platform now spans well over 3,700 patients and well over a decade of continuous data collection. It was specifically designed to address the limitations of earlier research: small samples, short follow-up, and no consistent definition of what counts as mild TBI.

CENTER-TBI (Europe) - Collaborative European NeuroTrauma Effectiveness Research in Traumatic Brain Injury. The European equivalent, developed with the same purpose. Its core prospective dataset comprises 4,509 patients across 65 hospitals in 19 countries, with a much larger observational registry of over 20,000 patients sitting alongside it.

InTBIR. Both TRACK-TBI and CENTER-TBI sit within a broader initiative, InTBIR, the International Initiative for Traumatic Brain Injury Research, a partnership between the US National Institutes of Health, the European Commission, and the Canadian Institutes of Health Research, coordinating major TBI research programmes across regions so the data can actually be compared.

Combining the core cohorts of TRACK-TBI and CENTER-TBI alone gives over 7,000 patients studied under harmonised, internationally coordinated standards, among the largest and most rigorously designed prospective TBI cohorts assembled to date.

This paper exists because that evidence base has never been translated into UK clinical practice, or into the lives of the people still living with the consequences.

The 2022 Lancet Neurology Commission on Traumatic Brain Injury. The authoritative synthesis of this evidence base, bringing TRACK-TBI, CENTER-TBI, and the wider international literature together into a single, peer-reviewed statement of where the science currently stands.

Action Collaborative on TBI Care Clinical Practice Guideline (Silverberg et al., 2025). A different, complementary question: not the scale of the problem, but what clinical care should actually look like for people with non-hospitalised TBI. It sets out what basic outpatient care should include, and confirms that current practice in most settings falls well short of even that baseline.

Recommendations for Reform

1. Update diagnostic and discharge pathways in order to improve recognition of mTBI and provide more structured follow-up.
2. Invest in neuropsychological services and community rehabilitation.
3. Train frontline professionals across medicine, education, policing, domestic abuse services and prisons
4. Improve national data collection on mTBI attendances at hospital and outcomes.
5. Support legal education and outreach for those affected.
6. Adapt workplace and educational policies in order to accommodate cognitive symptoms.

7. Run campaigns for public awareness to de-stigmatise and demystify mTBI.

About This Report

This white paper was produced by Coulthursts Solicitors, specialists in brain injury and concussion and advocates of greater recognition for the impact of mTBI. It draws on international prospective cohort data, national audit evidence, and aggregated case experience, and is intended to inform policy, legal reform, and public awareness.

1. Foreword

I've been working in this space for a long time. The best part of a decade and a half, supporting people and families living with brain injuries that very few people in this field seemed able to see. Concussion. Head injury. Post-concussion syndrome. Mild traumatic brain injury (mTBI). Different words for the same clinical event, words that all suggest something minor. I have seen the opposite, the level of devastation and suffering this actually causes.

The injury was always there. We just didn't have the technology to see it. CT and MRI scans are essential and save lives, but they were never able to find damage at the microscopic level, and now, with more advanced imaging, we can. This isn't always a single moment that resolves. For some people, it keeps unfolding long after the day it happened. Not long ago, the working assumption was that mTBI simply resolved, for everyone, given time. The evidence doesn't support that anymore. What's still genuinely debated is why some people don't get better. Whether they don't, that's not really in question.

Brain injury is often called one of the invisible injuries, since it isn't always readily apparent. I have often said that if TBI is an invisible injury, then mTBI is the invisible of the invisible. It's the version that so often can't be seen on regular scanning or testing at all. I ask people directly now. Does this seem mild to you? I watch their eyes when they answer. Unable to work. Losing their job. Their relationships and their family life falling apart. Losing their home. Depression, anxiety, effects that don't go away. None of the people I have supported have ever recognised themselves in that word. Many find it insulting.

Writing this paper, I felt the weight of getting it right. This field is controversial, and there is pushback, so everything in it had to be credible and defensible. But underneath that responsibility is something simpler. I have sat in a room and watched a wife turn to me and ask, "Phil, is this right?" And I said no. Did I believe these people? Yes, I did. That moment sent me on this journey, not because I wanted to make a fuss, but because people deserve answers, not assumptions, and I believed I was in a position to help find them.

That belief has come at a cost. Staying with it meant going against the status quo more than once, and there have been moments along the way that were genuinely isolating and hard. I don't regret it. This has become a personal mission of mine to raise awareness, not just a professional one. For the last decade and a half I have given presentations and talks about it to anyone who would listen. This paper is part of me seeking to take that further, to be more public and raise awareness, in the hope that it has a positive impact and helps others who are suffering as a result of this under-recognised injury.

I have heard the same story too many times to count. Someone is hurt. The scan is normal. They're told they're fine. Then their whole life starts to unravel. Family and friends start to doubt them. They start to doubt themselves. It happens to different people, in different places, and it shouldn't.

This report sets out to examine the hidden scale and human cost of under-recognised traumatic brain injury in the UK. Concussion is clinically classified as mTBI. The two terms describe the same clinical event.

Its purpose is to raise awareness of how many people and families are suffering because of unrecognised brain injury. My hope is that better awareness leads to better outcomes for

anyone affected by a head injury to go and find the answers they deserve, for earlier diagnosis, and for more appropriate support. If this paper reaches the right people and gets even one of them to trust their instincts when something doesn't feel right, it will have done its job. We can't reach everyone. But we can try to reach more.

I'll close with the words I have gone back to for over a decade. This is the closing line of one of the earliest papers I read on this subject, more than twelve years ago now, and it has featured in nearly every presentation and talk I have given on mTBI since, or as this paper puts it, the 'Not So Mild TBI'.

"What is becoming clear though, is that 'mild' is indeed a misnomer for this disease, because many patients experience significant and persistent symptoms. For these patients, mTBI is anything but mild."

Philip Coulthurst
Founder, Managing Director and Brain Injury Solicitor, Coulthursts

2. Understanding Traumatic Brain Injury

Traumatic brain injury (TBI) occurs when an external force, such as a blow or jolt to the head, causes disruption to the normal functioning of the brain. This can happen in a number of different scenarios: a fall at home, a collision in sport, a road traffic accident, a workplace incident, or an assault.

The severity of the injury has traditionally been assessed using the Glasgow Coma Scale (GCS), with a score of 13 to 15 classed as mild, 9 to 12 as moderate, and 8 or below as severe. Concussion is clinically classified as a mild traumatic brain injury. The WHO criteria define mTBI as a GCS score of 13-15 on presentation, with one or more of the following: a period of loss of or decreased consciousness of up to 30 minutes; post-traumatic amnesia of up to 24 hours; any alteration in mental state at the time of injury; or a focal neurological deficit. The word mild refers to where the presentation sits on an acute triage scale. It does not describe the significance of what has happened to the brain.

This tripartite classification system is increasingly being questioned. The 2022 Lancet Neurology Commission described the ongoing use of the term mild as increasingly difficult to justify in light of the outcome data. [1] A 2025 NIH/NINDS initiative formally proposed a new multidimensional framework, having found that the mild label creates barriers to follow-up care. [2]

A major issue with diagnosing mTBI is that it often does not show up on standard scans. A CT scan is excellent for identifying large bleeds or skull fractures, but it cannot detect the subtle microscopic changes that can occur after trauma: white matter shearing, small haemorrhages, or disruption to brain chemistry. A normal CT scan in acute mTBI is expected rather than reassuring. Approximately 90 to 95% of patients presenting with acute mTBI will

have a normal CT scan. The 2022 Lancet Neurology Commission states directly that the absence of CT abnormalities does not exclude structural damage, and notes that this observation is relevant to litigation procedures. [1]

MRI is more sensitive, but it is not routinely offered in A&E and often not approved unless symptoms persist for several weeks. Follow-up after discharge is patchy at best. [1] Many people are told they've had a 'concussion' and advised to rest and return to normal activities slowly. If problems persist, they may go to their GP, but unless the GP is aware of the earlier head injury and understands the possible link, the symptoms tend to be attributed to something else entirely: stress, anxiety, burnout, menopause, or age-related decline.

References

[1] Maas AIR et al. Traumatic brain injury: integrated approaches to improve prevention, clinical care, and research. Lancet Neurology. 2022;21(3):282-310.

[2] Manley GT et al. A new characterisation of acute traumatic brain injury: the NIH-NINDS TBI Classification and Nomenclature Initiative. Lancet Neurology. 2025;24:512-523.

3. How TBI Is (and Isn't) Diagnosed in the UK

Diagnosing a traumatic brain injury should begin with clinical judgment, but in practice it is often limited by time pressures, resourcing, and the tools available in emergency departments. In the UK, NICE provides guidance (NG232) on when patients presenting to A&E with head injury symptoms should receive a CT scan. However, the thresholds are relatively high, and strict application of NICE criteria would lead to approximately 40 to 50% of mild head injury presentations proceeding via the CT pathway. The remainder are assessed and discharged without imaging. [1]

Even those who are scanned often receive normal CT results, and this is expected rather than reassuring. CT imaging identifies macroscopic structural injury: bleeding, contusion, damage visible to the naked eye. It cannot detect microscopic damage to the brain's white matter, the axonal fibres connecting neurons that carry electrical signals between parts of the brain. The forces involved in concussion can damage these fibres at a microscopic level that is invisible to standard CT and often invisible to standard MRI. A patient can have a serious functional brain injury and still be told their scan is clear.

Post-discharge care is another major gap. The 2022 Lancet Neurology Commission, drawing on CENTER-TBI data from across Europe, found that only 6% of patients discharged from emergency departments after TBI received a follow-up appointment. Only 26% received written information at discharge. [2] In the United States, TRACK-TBI found that fewer than half of participants saw a healthcare provider within three months of their mTBI. [2]

The information patients do receive is often inadequate and sometimes actively misleading. A 2025 national audit assessed 99 head injury discharge leaflets from all eligible NHS England trusts against NICE NG232 guidance. Not one of the 99 leaflets fully complied. The

mean compliance score was 0.42 out of 1.0 against a target of 0.95. [3] The NICE suggested discharge card itself opens with the words: 'We have assessed your head injury and it's very unlikely to cause worrying symptoms in the coming days.' The research has now dismantled that belief.

A 2019 study of emergency physicians found they expected more than 90% of mTBI patients to make a complete functional recovery. In reality, around 50% had delayed functional recovery and persisting symptoms. [4] The gap between clinical expectation and clinical reality is not marginal. It is the norm.

In 2025, an international working group convened through the Action Collaborative on TBI Care produced a formal priority-setting exercise to identify what basic outpatient care for non-hospitalised TBI should include. [5] Its opening statement described outpatient care following non-hospitalised TBI as 'variable and often sparse.' That a major international body in 2025 needed to convene simply to agree what basic follow-up should include is itself a measure of how far the system has fallen short.

References

[1] NICE Guideline NG232 - Head injury: assessment and management. https://www.nice.org.uk/guidance/ng232

[2] Maas AIR et al. Traumatic brain injury: integrated approaches to improve prevention, clinical care, and research. Lancet Neurology. 2022;21(3):282-310.

[3] Singh AS et al. A national audit of head injury discharge advice. British Journal of Neurosurgery. 2025. doi:10.1080/02688697.2025.2565284.

[4] Korley FK et al. Clinical gestalt for early prediction of delayed functional and symptomatic recovery from mild traumatic brain injury is inadequate. Academic Emergency Medicine. 2019;26(12):1384-1387.

[5] Silverberg ND et al. Priority clinical actions for outpatient management of nonhospitalized traumatic brain injury. Journal of Neurotrauma. 2025. doi:10.1089/neu.2024.0493.

4. The Scale and Burden of Under-Recognised Traumatic Brain Injury

Mild traumatic brain injury has long been assumed to be exactly what its name suggests: minor in nature, short in duration, and limited in consequence. International research has proven that assumption wrong: up to 50% of those affected do not recover as expected. For them, the result is anything but mild.

Concussion is clinically classified as a mild traumatic brain injury. The two terms describe the same clinical event. Yet the label most people leave hospital with is something softer: a head injury or a concussion. Rarely is the diagnostic label mild traumatic brain injury used,

either in the medical records or in what is communicated to the patient. They are reassured, given a leaflet if they are given anything at all, and sent home. There is no follow-up. There is no monitoring. There is no pathway back into care if things do not improve.

What we now know is that for a substantial number of those people, things do not improve. They are left without diagnosis, without explanation, and without any understanding of why their lives are changing around them.

The term “mild” describes initial presentation, not outcome. It is based on acute clinical markers, principally the Glasgow Coma Scale score on arrival and findings on CT imaging, both of which are designed to identify immediate risk rather than predict long-term recovery. They say nothing about what happens next.

That is not a short-term finding. The largest studies ever conducted in this field, including TRACK-TBI in the United States and CENTER-TBI in Europe, synthesised in the 2022 Lancet Neurology Commission on traumatic brain injury [1], followed patients for up to five years. The proportion who had not recovered at five years was virtually identical to the proportion at six months. For a very large number of people, this injury does not resolve.

On the best available evidence, the number of people in England and Wales each year with persisting symptoms following concussion or mild traumatic brain injury is estimated to be in the order of 250,000, with a reasonable range of approximately 200,000 to 300,000. The methodology underpinning that estimate is set out in full in this paper.

The occupational consequences follow the same pattern. Population-wide economic data from New Zealand, linking all medically diagnosed concussions to employment and tax records, shows that employment falls by around 20 percentage points and earnings by approximately a third over four years, with effects worsening rather than improving over time [4]. A nationwide Danish study found that 43% of people with mTBI were not in ordinary work five years after their injury [5].

There is a further dimension to this picture that makes it worse. These are not people receiving inadequate care. They are people receiving almost no follow-up at all. The Lancet Commission reports that fewer than 10% of patients discharged from emergency departments in Europe after a traumatic brain injury receive any follow-up. Only 6% receive a follow-up appointment. Only 26% receive written information at discharge [1].

The system is built to manage acute risk. It is not built to manage recovery. For the hundreds of thousands of people each year who do not recover, there is often no structured route back into care, no diagnosis of what is happening to them, and no explanation for why their lives are falling apart.

This paper sets out the scale of that problem, explains the methodology used to estimate it, and identifies the evidence base on which that estimate rests.

4.1 Scope and Data Limitations

There is no single dataset in England and Wales that follows a person from emergency department attendance through to long-term outcome. This paper therefore brings together data from different sources, each with a distinct purpose: national attendance data to establish scale, and large prospective international cohort studies to establish what happens to the people within that scale.

Before setting out the methodology, it is necessary to be clear about what the available data can and cannot tell us, and why that matters.

The starting point for any estimate of scale is emergency department head injury attendances. The figure most widely cited in the clinical literature, and used in successive NICE guidelines up to and including the 2014 guidance CG176, is 1.4 million attendances per year in England and Wales. That figure has been repeated in peer-reviewed articles, national guidelines, and public health literature for more than a quarter of a century. A 2022 paper published in the Emergency Medicine Journal by Bloom, Newcombe and Roberts examined its origins and reached an uncomfortable conclusion: the figure derives from a 1994 postal survey that extrapolated an emergency department attendance rate based on data collected in 1974, from Scotland, a small part of England, and no part of Wales. It was never based on a national dataset. It has simply been repeated, uncritically, ever since. The authors describe the underlying data as “wholly unreliable.” [6]

The current NICE guideline NG232, updated in 2023, uses different language. It states that “over 1 million” people attend emergency departments in England and Wales each year with a recent head injury. No new dataset is cited to support that revision. It appears to reflect a change of judgement rather than new evidence.

This paper uses one million as its scale anchor, consistent with current NICE guidance and deliberately conservative. If the true figure is higher, as it may well be, the downstream estimate of people with persisting symptoms would be higher still. The direction of any error in the anchor figure works in favour of the estimate being an understatement rather than an overstatement.

There is a second limitation that goes to the heart of the methodology and must be understood clearly.

A head injury attendance is not the same as a traumatic brain injury. It is possible to attend an emergency department following a head injury without having sustained any brain injury at all. It is equally possible to sustain a mild traumatic brain injury that is not recognised, not recorded as such, and not followed up. The label most commonly given to patients leaving hospital after what is clinically a mild traumatic brain injury is often simply a head injury or a concussion. Rarely is the diagnostic label mild traumatic brain injury used, either in the medical records or in what is communicated to the patient.

The large international research cohorts on which the outcome evidence in this paper rests, principally TRACK-TBI in the United States and CENTER-TBI in Europe, enrolled more clinically defined populations than the full range of emergency department head injury attendances. TRACK-TBI, for example, required participants to have had a clinical head CT scan ordered as part of their care. This means the research evidence applies most directly to the more clearly confirmed end of the mTBI spectrum, not to every head injury attendance.

Bridging these two datasets requires care. The methodology for doing so is set out in Section 4.4. The approach is conservative at each step; the reasoning behind each figure is made explicit. The purpose is not to produce a precise count, which the available data do not permit, but to demonstrate scale in a way that is defensible and, if anything, cautious.

What this paper can say with confidence is that the number of people each year in England and Wales living with persisting symptoms following concussion or mild traumatic brain injury is substantial, that it is largely invisible to the system that classified their injury as mild, and that the gap between the scale of the problem and the current provision of follow-up care is not marginal. It is systemic.

4.2 Defining Mild Traumatic Brain Injury and Concussion

Concussion is clinically classified as a mild traumatic brain injury (mTBI). The two terms describe the same clinical event. The clinical definition is based on presentation at the time of injury, not on underlying pathology, and it is this definition that determines how a person is classified and managed in the emergency department, regardless of what label they leave with.

The World Health Organization criteria define mild traumatic brain injury using the Glasgow Coma Scale, or GCS, an assessment of the level of impaired consciousness. The criteria require a GCS score of 13 to 15 on presentation, with one or more of the following: a period of loss of or decreased level of consciousness of up to 30 minutes; post-traumatic amnesia of up to 24 hours; any alteration in mental state at the time of the injury, including confusion, disorientation or feeling dazed; or a focal neurological deficit which may or may not be transient. There must be no evidence of moderate or severe brain injury.

What the WHO criteria describe, in everyday language, is a concussion.

It is worth pausing on what that definition actually encompasses. A person who loses consciousness for up to 30 minutes has sustained a mild traumatic brain injury. But so has a person who experiences even a momentary alteration in mental state at the time of the injury: a brief confusion, a few seconds disorientation, or simply feeling dazed. There is no minimum duration. Post-traumatic amnesia of up to 24 hours also meets those criteria, but it is not required. What the definition captures is any neurological disturbance at the moment of injury, however brief. The word mild refers to where the presentation sits on an acute triage scale. It does not describe the significance of what has happened to the brain.

The classification is applied at the emergency department primarily on the basis of two tools: the Glasgow Coma Scale (GCS) and CT imaging. These are both acute triage instruments. The GCS measures level of consciousness. CT imaging identifies macroscopic structural injury, principally bleeding and contusion, which may require urgent surgical intervention. While most classification systems also reference loss of consciousness and post-traumatic amnesia as relevant features, formal prospective assessment of post-traumatic amnesia is rarely if ever conducted in UK emergency departments. In practice, classification is based on what the acute setting makes available. Neither the GCS nor CT was designed to determine whether a person has sustained lasting brain injury. Neither predicts long-term outcome with reliability in the mild range.

A normal CT scan in acute mTBI is expected rather than reassuring. This matters and is frequently misunderstood. In most classification systems, the presence of significant positive findings on standard CT would move the injury out of the uncomplicated mild category into a more severe classification. A normal CT is therefore a feature of the definition, not a finding that exonerates the brain from injury. Approximately 90 to 95% of patients presenting with acute mTBI will have a normal CT scan. That is not a sign that nothing has happened. It is a reflection of what CT can and cannot detect.

CT imaging does not detect microscopic injury to the brain's white matter, the bundles of nerve fibres, called axons, that connect neurons to each other and carry electrical signals between different parts of the brain. The forces involved in concussion, rapid acceleration, deceleration and rotational movement of the brain within the skull, can damage these axonal fibres at a microscopic level that is invisible to standard CT and often invisible to standard MRI. The 2022 Lancet Neurology Commission on traumatic brain injury states directly that the absence of CT abnormalities does not exclude structural damage, and notes that this observation is relevant to litigation procedures [1].

The mechanisms underlying persistent symptoms following acute mTBI are not fully understood and remain an area of active research and genuine scientific debate. The Lancet Commission itself acknowledges the heterogeneous nature of mTBI, reflecting that different patients with the same acute clinical classification may have very different underlying biology, injury patterns and recovery trajectories. This paper does not attempt to resolve that debate.

What is not in dispute is the scale of incomplete recovery and the near-total absence of follow-up for those affected. That is the subject of the sections that follow.

4.3 Outcome Evidence: Persisting Symptoms After Mild TBI

The traditional view of mild traumatic brain injury has been shaped by the acute setting in which it is diagnosed. A patient arrives at an emergency department, is assessed, receives a normal CT scan, and is sent home. The clinical narrative that follows is one of reassurance:

the injury is mild, recovery is expected, and most people will be fine within weeks. For decades, that narrative went largely unchallenged.

The evidence now challenges it directly. Around 50% of people meeting the clinical criteria for mild traumatic brain injury who present at hospital and receive a CT Scan, consistent with the TRACK-TBI cohort, have not recovered to their pre-injury level of health by 12 months after injury. At five years, that proportion is virtually unchanged. [1] [2] [3]

The most substantial outcome data in this field comes from two large prospective cohort programmes. In the United States, the Transforming Research and Clinical Knowledge in Traumatic Brain Injury study, known as TRACK-TBI, was specifically designed to address the limitations of earlier research: small sample sizes, heterogeneous populations, short follow-up periods, and absence of appropriate control groups [2]. In Europe, the Collaborative European NeuroTrauma Effectiveness Research in Traumatic Brain Injury study, known as CENTER-TBI, was developed with the same purpose. Together, these programmes represent the largest and most rigorously designed cohorts ever assembled to study traumatic brain injury outcomes. Their combined enrolment runs to several thousand patients. They were not designed to confirm the traditional view. They were designed to test it.

TRACK-TBI enrolled patients presenting within 24 hours of injury to US level I trauma centres with a clinical diagnosis of mTBI, defined by a GCS score of 13 to 15 on admission. Critically, inclusion required that a clinical head CT scan had been ordered as part of the patient's care (the inclusion criterion was that a scan had been ordered, not that it showed anything; by definition, the great majority of mTBI scans are normal, since positive findings would reclassify the injury as moderate or severe under many classification systems). This is an important methodological point. It means the TRACK-TBI cohort represents the more clearly confirmed end of the mTBI spectrum: patients whose injury was considered significant enough by the treating clinician to warrant imaging. It does not represent every head injury attendance. That distinction matters for the calculation in Section 4.4 and is addressed there directly.

The findings from TRACK-TBI at 12 months were published by Nelson and colleagues in JAMA Neurology in 2019. [2] At 12 months post-injury, 53% of mTBI patients reported functional limitations compared with 38% of matched orthopaedic trauma controls. The gap had widened over the course of follow-up. Within the mTBI group, those with positive CT findings showed a higher rate of incomplete recovery at 61%. But those with a normal CT scan were not far behind at 49%, still substantially above the 38% seen in controls. The difference between a positive and a normal CT scan narrowed the gap but did not close it. Incomplete recovery was the norm across both groups.

A normal scan did not predict recovery. CT imaging is designed to detect macroscopic structural injury: bleeding, contusion, damage visible to the naked eye. It cannot detect the microscopic damage to the brain's white matter that is increasingly understood to underlie

persistent symptoms. A normal scan means there is no bleeding that requires urgent intervention. It does not mean the brain is uninjured. Those are not the same thing.

Advanced neuroimaging techniques developed over the past decade have provided important new lines of evidence suggesting that a single concussion can result in lifetime impairment for some individuals and the neuropathology may be present long after the concussion. [7]

The five-year longitudinal follow-up from the same TRACK-TBI cohort, published by Nelson and colleagues in JAMA Network Open in 2023, is the most important piece of evidence in this section. [3] The question it answered was whether the incomplete recovery seen at 12 months would resolve over time. It did not. Group differences between mTBI patients and matched orthopaedic trauma controls remained stable across the full five-year follow-up period. There was no significant improvement in the trajectory over time. The proportion who had not achieved complete functional recovery at five years was virtually identical to the proportion at six months. For a substantial number of people who sustain a mild traumatic brain injury, the injury does not resolve. It persists.

The 2022 Lancet Neurology Commission on traumatic brain injury synthesised this evidence alongside findings from CENTER-TBI and concluded that around 50% of adults presenting to hospital with mTBI have not recovered to their pre-injury level of health by six months after injury. [1] The Commission described the ongoing use of the term mild as increasingly difficult to justify in light of the outcome data. It noted that the heterogeneous nature of mTBI means that the same acute clinical classification covers a wide range of underlying biology, injury patterns, and recovery trajectories. Not everyone with a mTBI will have a poor outcome. But a substantial and predictable proportion will. And the system that classified their injury as mild is almost entirely unequipped to identify them, monitor them, or help them.

The clinical picture is mirrored by the occupational one. The consequences of mTBI do not stay within the medical system. They follow people into their working lives, their finances, and their families. And like the clinical outcome data, the occupational evidence contradicts the assumption that mild means temporary.

A nationwide study from New Zealand, published in Health Economics in 2024, linked every medically diagnosed concussion in the country to employment and tax records over a four-year period. [4] The methodology was unusually robust. Rather than relying on clinical cohorts or self-reported data, it used population-wide administrative records, constructing a comparison group from people who would later sustain a concussion, to address the confounding that undermines most earlier work in this area; the findings were stark. Employment fell by around 20 percentage points. Earnings fell by approximately a third. And crucially, these effects did not fade over time. They worsened. The trajectory of occupational loss ran in the opposite direction to what the traditional narrative predicts.

A nationwide Danish cohort study with five-year register follow-up corroborates that picture. [5] 43% of people diagnosed with mTBI were not in ordinary work five years after their injury. Not a small or atypical subgroup. Nearly half.

A second Danish study, published in BMC Public Health in 2023, examined not just whether people returned to work but the dynamics of what happened to them in the labour market over time. [8] It tracked transitions between employment states: from work into sick leave, from sick leave into disability, from disability into permanent labour market exclusion. People with mTBI showed significantly lower rates of favourable transitions back toward employment and significantly higher rates of adverse transitions away from it. The picture that emerges is not of people who fail to return to work. It is of people who return, struggle, and then deteriorate. The occupational consequences of mTBI are progressive, not immediate.

One finding in that study deserves particular attention. The effect of mTBI on labour market outcomes was not evenly distributed. It was most pronounced in higher earners and in people with management experience. Those in the highest income brackets showed markedly lower rates of favourable transitions and markedly higher rates of adverse ones compared to controls. Those with management experience showed the most severe reduction in the likelihood of returning to stable employment among all subgroups examined.

The study does not establish the mechanism behind this finding. But the most credible explanation is also the most intuitive one. The cognitive and executive functions most vulnerable to the effects of mTBI are precisely the functions on which those roles depend. Sustained concentration. Complex decision-making. Processing competing information streams simultaneously. Managing people and projects under pressure. A person whose work does not place heavy demands on those functions may accommodate a deficit that remains largely invisible. A senior manager, a professional, an executive cannot. The gap between who they were before the injury and what they can do after it is not abstract. It is visible every day, in every meeting, in every decision that takes longer than it should or goes wrong in a way it would not have done before.

This is not speculation. It is the most coherent reading of data from a nationwide cohort of tens of thousands of people. The injury does not need to be severe to be career-defining. It needs only to affect the functions on which that career depends.

4.4 Estimating the Annual Number of People with Persisting Symptoms

There is no single national dataset in England and Wales that captures the full pathway from head injury attendance through to long-term outcome. The estimate set out in this section therefore brings together data from different sources, each with a distinct purpose. The approach is conservative at every step. Where assumptions are required, they are stated explicitly. The purpose is not to produce a precise count but to demonstrate scale in a way that is transparent and defensible.

Step one: the scale anchor

The starting point is one million emergency department head injury attendances per year in England and Wales, consistent with current NICE guidance NG232. As noted in Section 4.1, this figure is deliberately conservative. If the true figure is higher, the downstream estimate would be higher still.

Step two: applying the mTBI rate

Not every head injury attendance represents a traumatic brain injury. International evidence has historically placed the proportion of traumatic brain injuries presenting to hospital that are classified as mil at between 80% and 90%. More recent large studies including the 2022 Lancet Neurology Commission, report figures above 90%. [1] This paper adopts 85% as a conservative midpoint. Applying this proportion to one million attendances gives an estimated 850,000 cases of mTBI per year.

Step three: bridging to the research cohort

The outcome evidence in Section 4.3 draws primarily from TRACK-TBI, which enrolled patients who had a clinical CT scan ordered as part of their care. This represents a more clearly confirmed subset of the mTBI population. A practical distinction can therefore be drawn between patients who are assessed via the CT pathway and those who are not.

Based on available data, approximately 40% of mTBI presentations proceed via the CT pathway, giving an estimated 340,000 patients per year in that group. The remaining 60% are assessed without CT imaging, giving an estimated 510,000 patients per year. Estimates of the proportion proceeding via the CT pathway under strict application of NICE criteria range from 40-50%. [14] This paper adopts 40%, the conservative end of that range, for the purposes of the calculation that follows.

Step four: applying outcome data

For the CT pathway group, the outcome evidence from TRACK-TBI and the Lancet Commission is applied directly. Around 50% of this group have not recovered to their pre-injury level of health at 12 months, a figure that remains stable at five years. [1] [2] [3]

340,000 multiplied by 50% gives 170,000 people per year with persisting symptoms in the CT pathway group.

For the non-CT pathway group, a more conservative non-recovery rate is applied, reflecting the less clinically confirmed nature of this population. The available evidence supports a figure of approximately 16% for this group. [12] 510,000 x 16% = approximately 81,600 people per year with persisting symptoms in the non-CT pathway group.

The Calculation at a Glance	Figure
Annual ED head injury attendances (NICE NG232)	1,000,000
Applying 85% mTBI rate	850,000
CT pathway group (40%)	340,000
Non-CT pathway group (60%)	510,000
CT group: applying 50% non-recovery rate	170,000
Non-CT group: applying 16% non-recovery rate	81,600
Estimated total with persisting symptoms	**~250,000**

Adding the two groups together gives an estimated total of approximately 251,600 people per year in England and Wales living with persisting symptoms following concussion or mild traumatic brain injury. This paper uses 250,000 as the central estimate, with a reasonable range of approximately 200,000 to 300,000 per year.

This is not a precise count. It is a structured estimate derived from combining datasets with different purposes and different populations. Its value lies in demonstrating scale rather than precision. Throughout, the approach has been conservative. The true figure may well be higher.

What it represents is this: a quarter of a million people every year in England and Wales whose injury was classified as mild, who were sent home with little or no follow-up, and who are living with consequences the system that treated them did not anticipate and is not equipped to address.

That gap in the data is itself part of the problem this paper describes. There is no single dataset in England and Wales that follows a person from emergency department attendance through to long-term outcome. For an injury affecting a quarter of a million people a year, the absence of that data is not a minor limitation of this paper's methodology. It is a feature of the system being described. A condition this common is not being tracked well enough for anyone, researcher, clinician, or policymaker, to know with precision what happens to the people who have it.

4.5 Follow-up After Emergency Department Discharge

The evidence set out in the preceding sections establishes two things beyond reasonable dispute. Around 50% of people meeting the clinical criteria for mild traumatic brain injury and presenting to hospital consistent with the TRACK-TBI cohort have not recovered at 12 months. At five years, that proportion is virtually unchanged.

What follows from those two findings should be a system designed to identify, monitor, and support the people who do not recover. What exists instead is almost nothing.

The 2022 Lancet Neurology Commission examined follow-up provision across Europe following emergency department discharge for traumatic brain injury, drawing on CENTER-TBI data. [1] Only 6% of patients received a follow-up appointment. Only 26% received written information at discharge. In the United States, TRACK-TBI found that fewer than half of participants received educational material at discharge from the emergency department and saw a healthcare provider within three months of their mTBI. [1] Two continents. Two of the largest research programmes ever conducted in this field. The same picture.

These figures do not reflect a system that is trying and failing to follow patients up. They reflect a system that does not expect to need to. The clinical assumption embedded in emergency department practice is that mild traumatic brain injury is self-limiting. Most people will recover. Those who do not are the exception. Follow-up is therefore not routine because routine follow-up is not considered necessary.

That assumption is wrong. The evidence in this paper demonstrates it is wrong at scale.

This is not an abstract concern. A 2019 study of emergency physicians' predictions on the day of injury found they expected more than 90% of mTBI patients to make a complete functional recovery. In reality, around 50% had delayed functional recovery and persisting symptoms. [13]

That assumption is also embedded in the documents patients receive at discharge. Patient advice leaflets for head injury issued across NHS England follow a broadly consistent format, shaped by NICE guidance NG232. The phrase mild traumatic brain injury rarely appears in them. The NICE suggested discharge card itself opens with the words: "We have assessed your head injury and it's very unlikely to cause worrying symptoms in the coming days." The language is gentler throughout: head injury, concussion. The diagnostic label that might connect a patient to the body of evidence set out in this paper is absent.

A 2025 national audit assessed 99 head injury discharge leaflets from across all eligible NHS England trusts against NICE NG232 guidance. [11] Not one of the 99 leaflets fully complied with NICE guidance. Not one. The mean compliance score was 0.42 out of 1.0 against a target of 0.95. The audit specifically identified concussion management advice, including symptoms to expect, return to normal activities, and recovery expectations, as consistently falling short.

The consistent message given to patients across those leaflets indicates a genuinely held clinical belief: that long-term problems following concussion are unusual, that recovery is the expected trajectory, and that the injury is self-limiting. It is not a cynical act of misdirection. Those who drafted the guidance believed it. Many still do. But it is a belief that the research has now dismantled, and it is the belief that produces the behaviour: reassure, discharge, do not follow up.

The consequence for patients is profound. A person who leaves hospital having been told their injury is mild, that long-term problems are unusual, and that they should see their GP if

things have not improved in a few weeks, has no framework within which to understand what is happening to them if they are still struggling at six months. They were not told they had a mild traumatic brain injury. They were told they had a concussion or a head injury. They were not told that around 50% of people in a comparable clinical situation do not fully recover. They were told the opposite. When their life begins to fall apart, they have no language for it, no pathway back into care, and no explanation.

This is not an unrecognised problem. In 2025, an international working group convened through the TBI Forum's Action Collaborative on TBI Care, involving clinicians, researchers, and people with lived experience from across the world, produced a formal priority-setting exercise to identify what basic outpatient care for non-hospitalised TBI should look like. [9] The paper's opening statement describes outpatient care following non-hospitalised traumatic brain injury as variable and often sparse. That a major international body in 2025 needed to convene simply to agree what basic follow-up should include is itself a measure of how far the system has fallen short.

In the same year, a paper published in The Lancet Neurology described a new framework for classifying traumatic brain injury, developed over three years by 94 participants from 14 countries. [10] The reason for that initiative is stated plainly: the current classification system invokes stigma and bias. Patients classified as having mTBI are assumed to recover quickly, and so they often experience barriers to follow-up care. The field's own leaders have identified the label itself as part of the problem.

The people behind that finding are not statistics. At the NINDS workshop convened as part of that initiative, people with lived experience of traumatic brain injury were asked to describe what the label mild had meant for them. Their words were recorded in the Lancet Neurology paper:

> *"Having been diagnosed with a mild traumatic brain injury has created substantial challenges in my recovery. I've constantly had to fight to have my symptoms be taken seriously."*

> *"Mine was categorised as mild TBI, and it worked against me. That label evokes a passive detrimental attitude in care providers and patients."*

These are not isolated experiences. They are the predictable human consequence of a system operating on an assumption that the evidence has now dismantled. A quarter of a million people every year in England and Wales are classified as mild, sent home, and left without explanation for what is happening to them.

The scale of that failure is not marginal. It is systemic. And it is the subject, finally, of the most serious scientific attention this field has ever directed at it.

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5. The Human Impact

Behind every data point in this report is a person whose life has been altered by a brain injury they may not even know they have. The statistics in Chapter 4 help outline the scale and scope, but they don't fully capture what it is like to live with symptoms that are invisible, misunderstood, and often are dismissed.

The Lingering Effects

Mild traumatic brain injury is rarely life-threatening, but it can be life-limiting. The symptoms that persist, often described as post-concussion syndrome, may include:

- Memory and concentration problems
- Sleep disturbance and chronic fatigue
- Mood swings, anxiety, and depression
- Sensitivity to noise or light
- Difficulty processing information
- A sense of emotional blunting or personality change

These can last for months or years, affecting work, relationships, and day to day life. Many people try to carry on. They may not link their symptoms to the head injury weeks or months earlier. Others are told it's stress or some kind of burnout. Some are misdiagnosed with anxiety or depression, masking the neurological origin of their symptoms.

"It's like the network in my brain no longer functions"

A consistent theme among those later diagnosed with mTBI is the sense of confusion and doubt that comes with being dismissed. One of our own clients was a passenger in a car that was struck from behind and shunted into an oncoming vehicle before colliding with a wall. Despite the severity of the impact, her CT scan came back clear and she was discharged with cuts, bruises and shoulder pain.

It was not until a year later, after relentlessly seeking answers for crippling dizziness, memory problems and nausea, that she discovered she had been living with an undiagnosed brain injury.

During that year she had been repeatedly dismissed. Doctors suggested her symptoms were the perimenopause, a urinary tract infection, or simply her personality. "I've basically had to farm out the administration of my life," she says. "It's like the network in my brain no longer functions as it once did. I struggle with severe dizziness and altered perceptions. These changes cause me to misjudge distances, making me clumsy and unsteady on my feet."

The turning point came when she completed an online survey run by a consultant neurologist researching concussion, who suggested she may have sustained a brain injury. A subsequent specialist advanced scan, arranged through our medical connections, revealed 22 areas of damage to her brain, affecting balance, memory and planning.

From our first meeting with this client and what she described of her symptoms, there was a real possibility she had sustained a brain injury that had been missed. Mild traumatic brain injuries are among the most overlooked and misunderstood injuries we deal with. They are often not properly diagnosed, lack clear treatment pathways or support, and are frequently missed or misinterpreted.

Others echo this. The emotional toll of not being believed, by doctors, by employers, and sometimes by their own families, can be devastating. By the time they reach a specialist solicitor, many have spent years trying to navigate a system not designed to recognise the condition.

Impact on Work and Livelihoods

For lots of people, mTBI means the end of the job they trained for. Difficulties in focus, processing speed, or fatigue make full-time employment unsustainable. The Danish nationwide data found 43% of mTBI patients were not in ordinary work five years after injury. [1]

Those who stay employed can also still struggle. They often end up facing disciplinary action or performance reviews linked to a reduction in productivity or absenteeism. Without a formal diagnosis, they have little protection under disability law, and reasonable adjustments are rarely offered. [1]

Family and Relationships

Family life can often be deeply affected. Irritability, emotional detachment, and even reduced impulse control strain even long-established relationships. Partners sometimes feel they are living with a different person. In families with children, brain injury can also subtly alter parenting capacity in ways that are rarely acknowledged or supported.

For those injured in their teens or early 20s, the impact can sometimes be even more disruptive. Missed education, social withdrawal, and mental health issues compound the injury's effects. TBI in adolescence is associated with increased risk of long-term unemployment, criminal behaviour, and mental health disorders.

Children and Misunderstood Behaviour

In younger children, brain injuries are even more difficult to detect. A mild head injury on a playground may lead to no immediate obvious symptoms, but changes in attention, mood, or behaviour may persist for months. Parents and teachers often attribute these to emotional problems or developmental disorders.

Ageing and Early Decline

At the other end of the age spectrum, older adults face a different risk. Mild brain injuries in later life are often wrongly attributed to normal ageing or early dementia. Evidence suggests

that even a single mTBI can increase the risk of a decline in cognitive function in older adults. [2]

Why Recognition Matters

None of these outcomes are inevitable. With early diagnosis, neurorehabilitation, and the appropriate support, many people with mTBI recover or adapt. Raising awareness isn't just about the general public. It is about how GPs, teachers, social workers, and employers can be equipped to ask the right questions. A clear scan does not always mean a clear bill of health.

References

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6. The Legal Blind Spot: Missed Claims and Misunderstood Rights

Traumatic brain injury isn't always just a medical issue. When another party is responsible for the circumstances that caused the injury, whether through negligence, assault, or workplace conditions, there can be a legal basis for a compensation claim. But for thousands of people with an undiagnosed or undocumented TBI, the opportunity to pursue a claim is missed before it ever begins.

Legal Pathways for TBI Claims in the UK

Compensation for brain injury is typically pursued under existing personal injury law, most often in one of the following contexts:

- Road traffic accidents (as driver, passenger, cyclist, or pedestrian)
- Employer liability (falls, workplace accidents, equipment-related injury)
- Public liability (slips, trips, or injuries in public or commercial spaces)
- Criminal injury (assault, domestic violence, pursued via the Criminal Injuries Compensation Authority)

A successful claim depends on proving three things:

8. That the defendant owed the claimant a duty of care
9. That the duty was breached
10. That the breach caused the injury

For moderate and severe brain injuries, causation tends to be more straightforward. For mTBI, however, these elements frequently fall apart. The absence of positive CT findings, entirely consistent with genuine and lasting brain injury, as the Lancet Neurology Commission confirms [1], is frequently used to dispute causation. [1] [2]

Why Many People Never Claim

- **No diagnosis:** Without medical confirmation, most people assume no claim exists.
- **Delayed symptom onset:** When symptoms appear days or weeks after injury, the link may not be obvious to the person or their GP.
- **Lack of awareness: many people don't realise that symptoms like fatigue, cognitive difficulty, or mood changes can result from brain trauma.**
- **Undervalued claims:** If other injuries were settled early, the brain injury may have been overlooked entirely.
- **Stigma and disbelief:** In cases that involve domestic violence, self-blame and fear of not being believed deter disclosure.
- **No legal trigger:** Without an early consultation with a solicitor experienced in brain injury, the signs are often missed.

A further pattern in our own case files deserves stating plainly. In the great majority of the mTBI cases we take on, there is no diagnosis at the point we are instructed. The referral for specialist assessment and advanced imaging is arranged by the solicitor rather than by a treating clinician. That is not how the system is designed to work, and the implication is an uncomfortable one: for people with an unrecognised brain injury, reaching a solicitor has become one of the more reliable routes to a diagnosis. Those who never take legal advice are unlikely to receive one at all.

The Consequences of Missed Claims

Missed claims represent more than lost financial awards. For many individuals, legal claims provide access to private rehabilitation and therapy, interim payments for income support, case management, and formal recognition of the injury. Without a diagnosis, none of these resources are typically accessed.

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7. The Wider Economic and Social Cost

When a brain injury goes unrecognised, the costs don't disappear. They shift. Instead of being managed through the appropriate neurological or rehabilitation pathways, the person's symptoms are absorbed by other parts of the healthcare and welfare system, often at greater overall cost.

Loss of Earnings and Employment Disruption

The occupational picture is now well established in the prospective data. Population-wide evidence from New Zealand shows employment falling by around 20 percentage points and earnings by approximately a third over four years, with effects worsening, not improving, over time. [1] Danish nationwide data shows 43% of mTBI patients not in ordinary work at five years. [2]

For people without a formal diagnosis, workplace accommodations are rarely made. For an employee earning £30,000 per year, a five-year period of disrupted employment equates to £150,000 in lost earnings, excluding pension and career progression effects.

NHS Use and Mental Health Burden

Undiagnosed TBI patients frequently re-present to the NHS with symptoms that are poorly understood: chronic fatigue, anxiety, unexplained headaches, insomnia, or difficulty in coping. Without a diagnosis, there is no pathway to specialist neurorehabilitation. UKROC data shows that specialist rehabilitation for acquired brain injury has a mean cost of approximately £42,900, offset within roughly 18 months. UKROC data shows mean lifetime care savings of approximately £680,000 per patient. [3] The failure to diagnose and treat mTBI at the appropriate stage therefore compounds costs over time.

Informal Care and Family Strain

When a person's symptoms are not formally recognised as injury-related, their care needs often fall to partners, parents, or adult children. Family members report feeling unsure how to

best help, or struggling to get others to take the symptoms seriously, which affect mental health stress, strain on relationships, and financial hardship.

Educational and Long-Term Social Effects

For children and adolescents with undiagnosed TBI, the effects may surface as low academic performance, behavioural change, or social withdrawal. Without recognition, students are unlikely to receive adjustments or access additional support, resulting in lower educational attainment, limited career options, and a higher rate of school exclusion.

Cumulative National Cost

Add these factors together, disrupted employment, increased health service use, informal care burden, and reduced educational outcomes, and the economic and social cost of undiagnosed brain injury is substantial. The 2022 Lancet Neurology Commission estimates the global economic cost of TBI at $400 billion annually, with mild cases accounting for the largest share of unmeasured long-term cost. [4]

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8. The Hidden Victims: Who's Most at Risk of Being Missed

Undiagnosed traumatic brain injuries do not affect everyone equally. Certain groups of people are more likely to have their injuries overlooked, misattributed, or dismissed, often compounding existing vulnerabilities.

Women: Underreported and Misunderstood

Growing evidence shows that women may be more susceptible to persistent and ongoing symptoms, and are less likely to be given a timely diagnosis or referral to specialist services. In domestic abuse contexts, brain injuries are especially likely to be missed. Studies suggest that almost three quarters of women in refuge services have experienced at least one partner-related brain injury, with half sustaining multiple. [1] Symptoms are commonly mislabelled as anxiety or emotional distress.

Children and Teenagers: Behavioural Changes Misread

TBIs in children and teens (often the result of sports injuries, falls, or accidents) can lead to behavioural changes, emotional dysregulation, or academic decline. These are frequently misinterpreted as ADHD or autism, or 'acting out,' rather than recognised as possible signs of post-concussive symptoms. In adolescence, undiagnosed brain injury can derail an educational trajectory, and increase the risk of exclusion and contact with the criminal justice system.

Older Adults: Symptoms Dismissed as Ageing

Among older adults, brain injuries often go unrecognised because the symptoms mirror cognitive decline: forgetfulness, confusion, mood shifts. Many never receive scans or neurological assessments, particularly if the fall or injury was not witnessed. This misattribution can delay access to rehabilitation or lead to wrongly prescribed medication.

Prisoners and Offenders: Brain Injury Behind Bars

A 2016 report by the Disabilities Trust found that 47% of male prisoners screened at HMP Leeds had a history of traumatic brain injury. [2] Many of these injuries occurred before their first offence and may have contributed to poor decision-making, aggression, or impulse control. Without diagnosis or understanding, their behaviour is punished rather than treated.

Marginalised Communities

Socioeconomic status and housing instability both correlate with higher rates of injury and lower rates of recognition. People in unstable housing are less likely to attend for assessment in the first place, less likely to have a consistent GP who might connect symptoms to an earlier injury, and less likely to be followed up at all.

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9. Moving Forwards, Recommendations and Reform

The clinical gaps, legal blind spots, and societal costs identified throughout this report all tend to point to the same conclusion: recognition must improve. This final chapter sets out practical, evidence-based recommendations to reduce the number of people that are left unsupported and untreated.

These recommendations are informed by the 2025 Action Collaborative on TBI Care clinical practice guideline, which identified 11 priority clinical actions for the outpatient management of non-hospitalised TBI. [1]

1. Improve Diagnostic and Discharge Pathways

The 2025 national audit found not one of 99 NHS discharge leaflets fully compliant with NICE NG232. [2] Expanding follow-up protocols for suspected mTBI, standardising discharge tools that flag post-concussive risk, and increasing GP training to recognise persistent symptoms are the right place to start.

2. Investment in Neuropsychological Services and Community Rehab

The 2025 Action Collaborative guideline specifically prioritises neuropsychological assessment and referral to specialty care. [1] Increased NHS commissioning of neuropsychology services, community-based occupational therapy, and regional mTBI clinics are all achievable and cost-effective given the downstream savings from early intervention.

3. Mandatory Training Across Key Frontline Professions

Basic TBI awareness training should become mandatory across medicine, including GPs and emergency department staff, teachers and school counsellors, police officers and custody staff, social workers and safeguarding teams, domestic abuse service providers, and prison and young offender institution staff.

4. Data Collection and Research Investment

Funding longitudinal studies, creating a central brain injury register, and improving A&E coding practices for head injury attendances where no scan was performed are all part of the necessary steps toward making under-recognised mTBI visible in national data on attendances at hospital and outcomes. [3]

5. Legal Reform and Public Legal Education

Legal information about brain injury claims should be accessible, plain-English, and distributed via health, education, and support services. Legal outreach via Citizens Advice and head injury charities, and the development of best-practice medico-legal protocols for mTBI litigation, particularly around causation and expert evidence, would improve access to justice.

6. Workplace and Educational Policy Reform

Return-to-learn and return-to-work guidelines should be mandated for schools and employers, modelled on concussion policies in elite sport. Inclusive employment practices and head injury support coordinators in large educational institutions would reduce the occupational impact identified in the Danish and New Zealand datasets.

7. Public Awareness and De-Stigmatisation Campaigns

A nationwide public health campaign on post-concussion syndrome, real-life survivor stories, and inclusion of brain injury awareness in school health education are all achievable and would materially reduce the time between injury and recognition.

A Final Word

Mild traumatic brain injury is often invisible, but its effects are not. They show up in GP surgeries, job centres, school exclusions, prison cells, and broken relationships. Each undiagnosed injury is a missed opportunity for treatment, recovery, and justice.

A quarter of a million people every year in England and Wales are classified as mild, sent home, and left without explanation for what is happening to them. The evidence base to support them now exists. The frameworks to care for them can be built. The question is whether the will to act on that evidence is there.

The cost of action is far less than the cost of inaction.

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