

The Late Effects of Paediatric Acquired Brain Injury

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Introduction

- Acquired Brain Injury (ABI) is lifelong and the biggest cause of disability in children and young people (CYP)¹, occurring on the background of development
- Effects may be subtle and not become apparent until the impaired area of the brain fully matures²
- The Children's Trust Brain Injury Community Team (BICT) provides a consultative, non-intensive programme of support for CYP with ABI
- CYP with ABI are often referred sometime after their brain injury

Methods

Thematic analysis of retrospective data on difficulties identified at initial assessment following referral to BICT (n=102) over a 4 year period (April 2012 - April 2016)

Results

- Most frequent age of CYP at time of referral to BICT = **11 and 16 years old**
- Average age of CYP at time of injury = **9.2 years old** (range = 0 to 17 years old)
- Average length of time from time of injury to BICT referral = **2.9 years** (range = 0 to 16 years) [Fig. 1]
- Following thematic analysis, **8 areas of difficulties** were identified [Fig. 2]
- Largest areas of difficulties identified were [Fig. 3]:
 - Executive dysfunction** (n=240)
 - Communication difficulties** (n=165)
- Multiple difficulties were often identified on initial assessment: as many as 12 deficits with a single CYP
- BICT has worked collaboratively with CYP, families, school and community services to address the impact of these persistent difficulties. This is crucial at key transitional ages of the CYP's development when more complex skills are being acquired

Figure 1: Time between ABI and difficulties identified

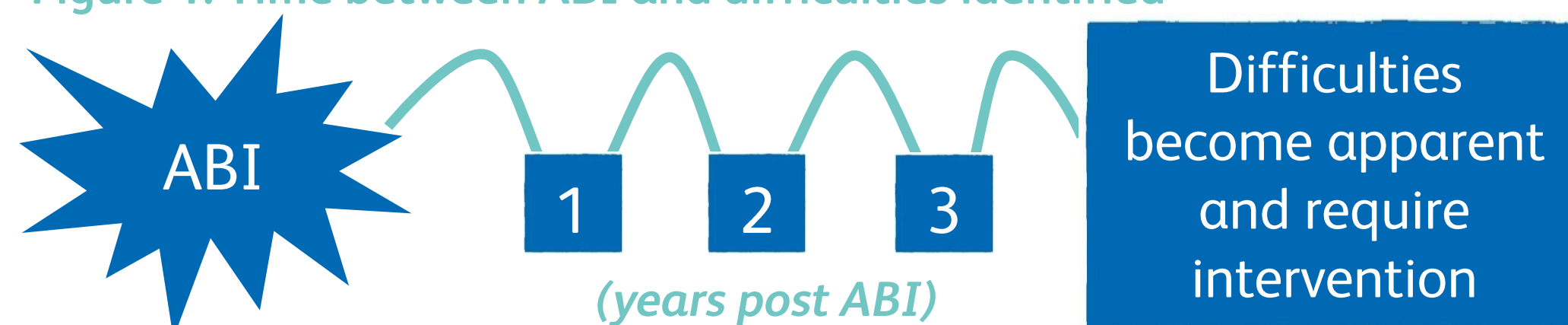


Figure 2: Areas of difficulty and most frequent type of deficit within area

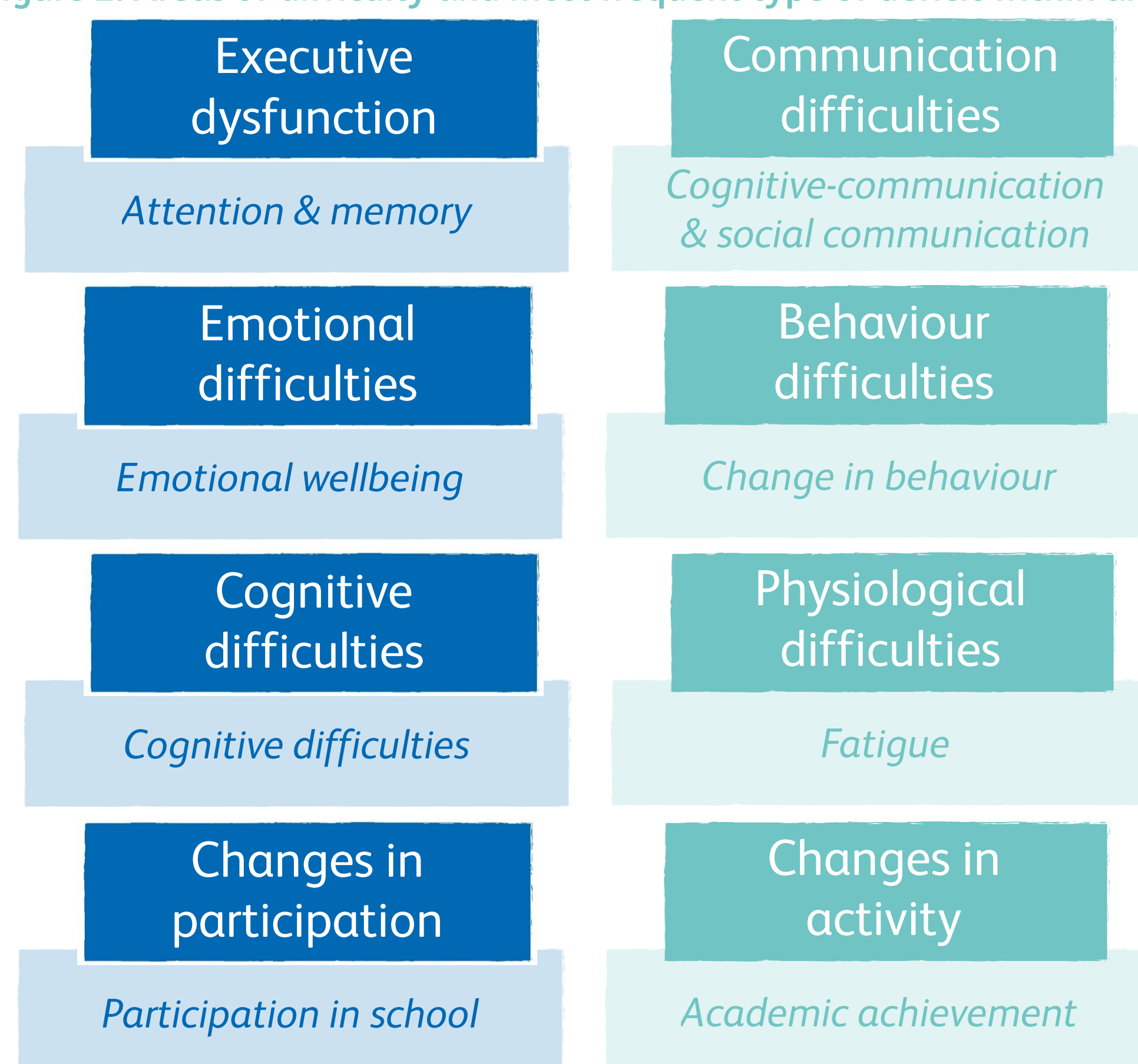
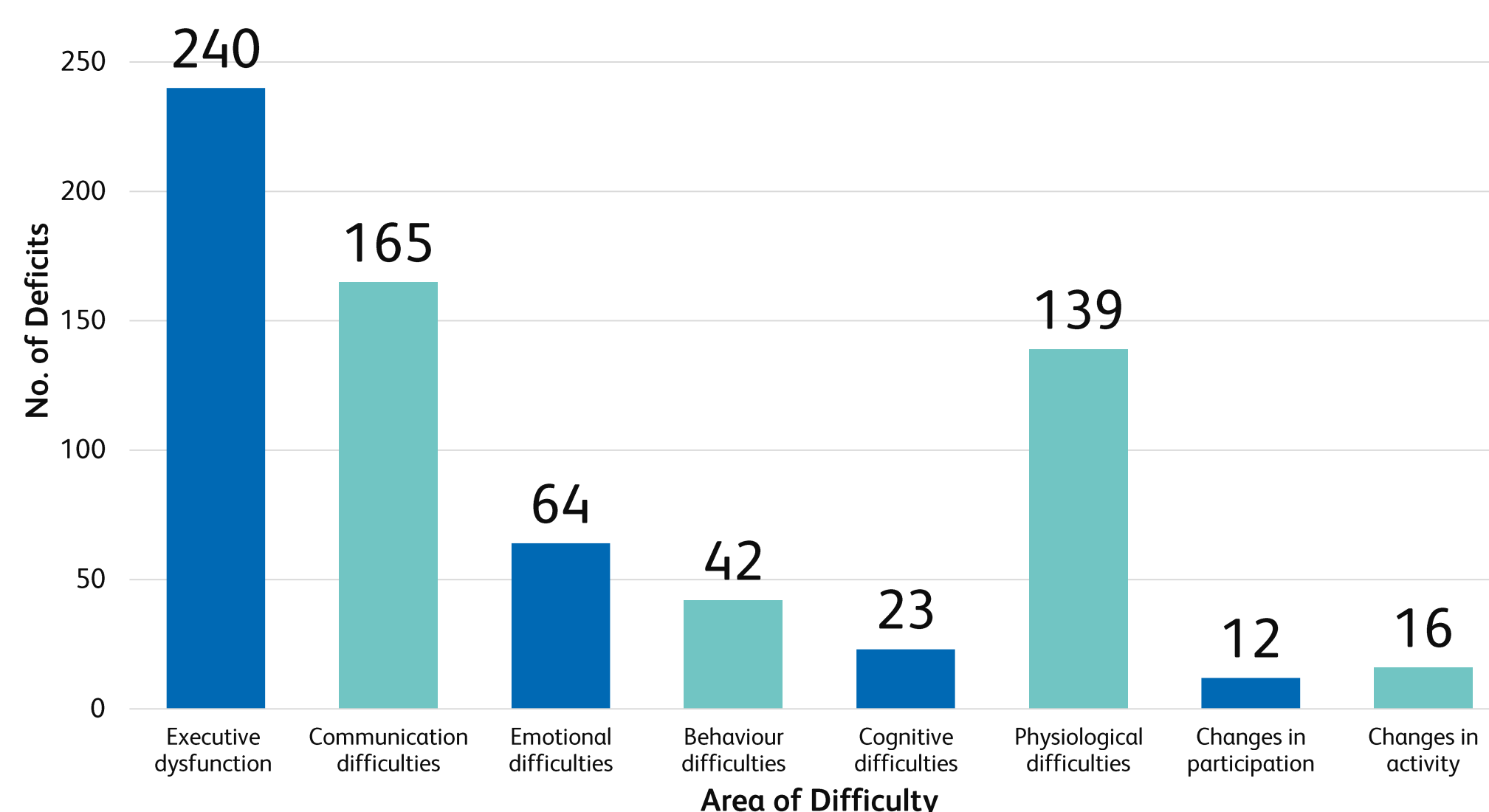


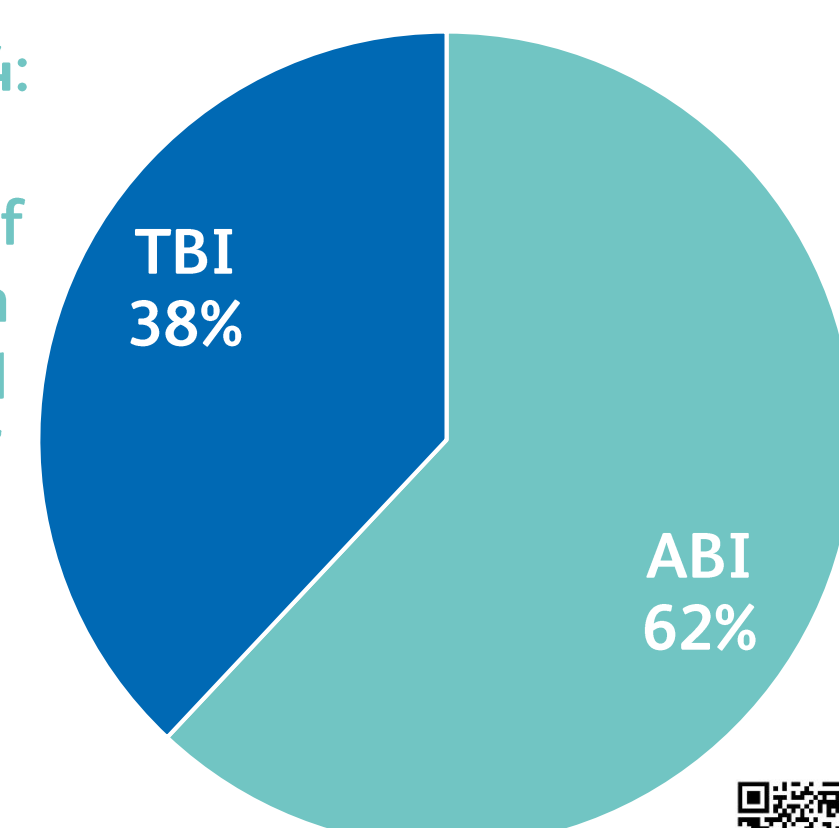
Figure 3: Thematic areas of difficulty and number of deficits identified at initial assessment



Conclusions

- Community services, such as GPs and paediatricians, should be alert to these persistent, albeit less obvious, difficulties and support families with onward referrals
- Effects of ABI may not be immediately apparent
 - Residual deficits such as social communication and interaction, learning and self-regulation may continue to emerge as the child develops
 - These deficits form part of a 'hidden' disability of ABI which can impact long-term participation within society
- Follow up of CYP with ABI throughout development is indicated
 - Onward referral for assessment and intervention to address these high level difficulties is warranted
 - Examples where specialist brain injury services and community therapy services have worked in partnership to meet these long term needs are encouraging

Figure 4: Type of injury of children referred to BICT



References

- NHS England 2013. 2013/14 NHS Standard Contract for Paediatric Neurosciences: Neurorehabilitation, England, NHS England
- Anderson V, Catroppa C, Morse S, Haritou F and Rosenfeld J. Functional plasticity or vulnerability after early brain injury? Pediatrics. 2005; 116: 1374-1382