

Congenital Anomaly Register & Information Service for Wales

CARIS review 2026

Data from 1998 to 2025

This annual report includes the prevalence rates of key congenital anomalies and rare diseases in Wales, with a focus on abdominal wall defects. The updated prevalence rates includes the Official Statistics release of 2025 data.

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Introduction

This annual report:

1. Summarises the congenital anomalies prevalence rates updates from the recent Official Statistics release that includes 2025 data.

2. Provides a detailed focus on anterior abdominal wall defects.

3. Lists our contribution to research since November 2025.

This report is intended to be informative for healthcare professionals, patients, the public, and service planners.

Update on Congenital Anomalies

Welcome to this year's annual report of the Congenital Anomaly Register and Information Service (CARIS). In this report we will be showing the latest population level data on congenital anomalies in Wales up to 2025. This includes key statistics on cases registered, prevalence rates and some breakdowns including trends, main anomaly groups, and geographic variation. This year, the clinical focus of the report was abdominal wall defects.

The report includes a clinical focus particularly aimed at healthcare professionals. The report is also available to all via the CARIS website with the aims of:

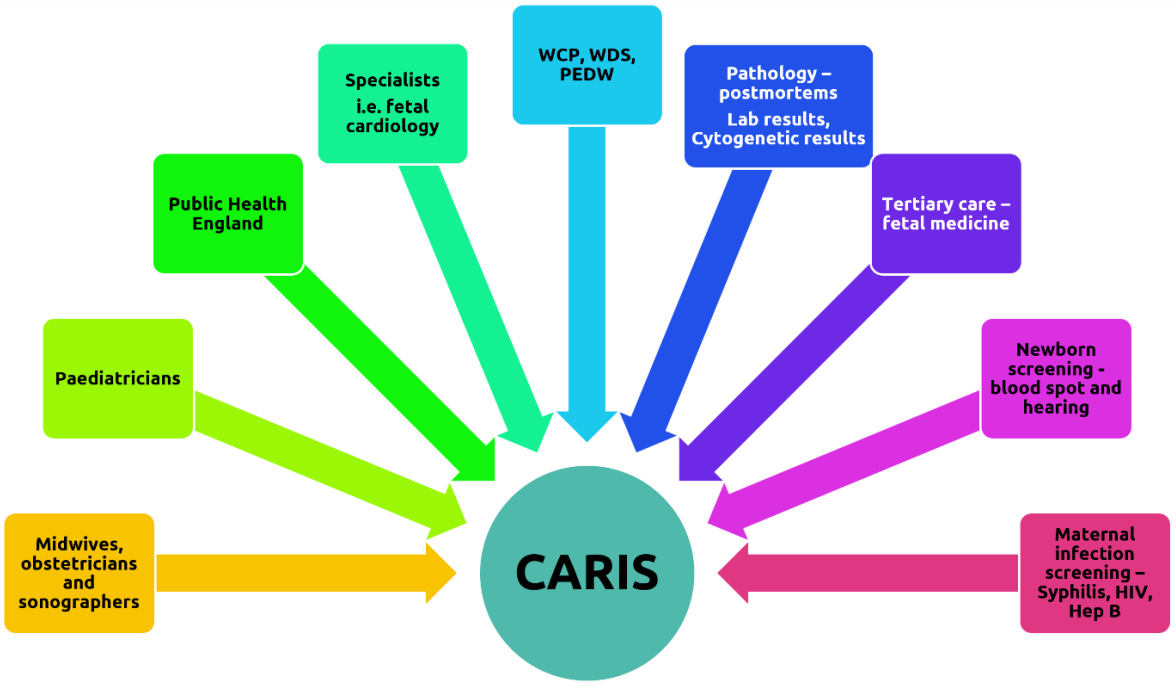
1. Informing and galvanising support for the role of high-quality information and surveillance in better understanding the public health impact of congenital anomalies; and

2. Informing prevention strategies and healthcare system planning with the aim of reducing infant mortality and improving infant health.

CARIS collaborates with a range of healthcare professionals and clinical systems to provide as complete as possible data and information on congenital anomalies in Wales (see figure 1). We would like to take this opportunity to thank everyone who contributes towards building a high-quality register, helping to enable the best possible impact.

For further information about CARIS please visit our website: https://phw.nhs.wales/knowledge-article/about-caris/

Figure 1. Who we work with.



Data quality

Last year's report emphasised the importance of data quality as a focus for CARIS. Since then, we have been reaching out to healthcare professionals to raise awareness of CARIS and the importance of reporting congenital anomalies. In spring 2026 we published the first of our quarterly newsletters and we encourage feedback and ideas for future content. In addition, our Clinical Lead, Prof Kinza Younas, has been meeting with colleagues across hospitals in Wales to raise awareness.

Each health board has dedicated CARIS co-ordinators who are available to provide local help and encouragement to report cases.

In recent years there has been increased digitisation of the reporting of congenital anomalies to CARIS with the aim of facilitating high-quality, timely reporting including:

- A safe, confidential **email** address
- An **e-Alert** form - a web-based version of the CARIS card
- **Data forms**
- **Warning cards**

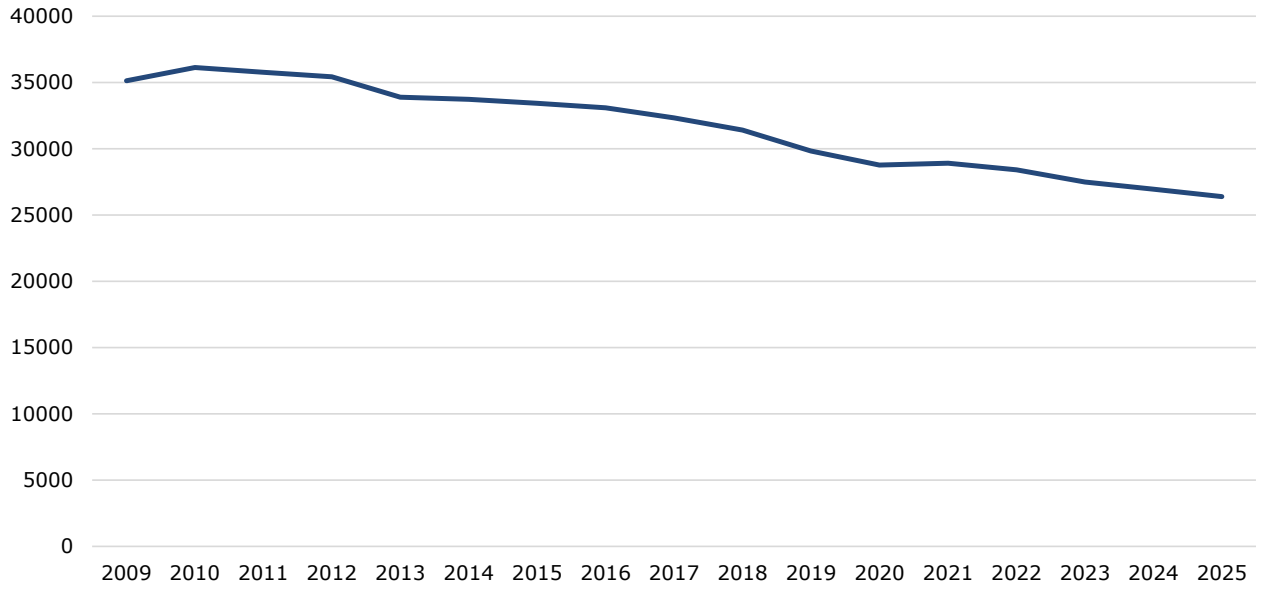
Further information is available via our website: CARIS website

CARIS reports data at national level annually as official statistics to monitor trends in prevalence and help inform public health or healthcare actions. CARIS has registered 619 new cases for 2025 and further additional cases for previous years, taking the total number of registrations since our establishment in 1998 to 42,756. Of these, 36,026 (84.3%) were liveborn.

The proportion of all liveborn babies with a congenital anomaly between 1998 and 2025 was 4.0%. However, the proportion was lower at 3.0% for the last 10 years (2016-2025). Of all live and still births in Wales from 1998-2025, 4.8% were affected by a congenital anomaly, while, for the last 10 years (2016-2025), the proportion was lower at 3.8%. Between 1998 and 2025 the rate of congenital anomalies was 476.9 per 10,000 births.

When considering trends, the rate of congenital anomalies per 10,000 births provides a better picture than the number of cases registered as it accounts for changes in the number of births. This is particularly important given the number of births in Wales has fallen sharply from 35,118 in 2009 to 26,397 in 2025 (see figure 2), hence we would expect the number of congenital anomaly cases to also fall.

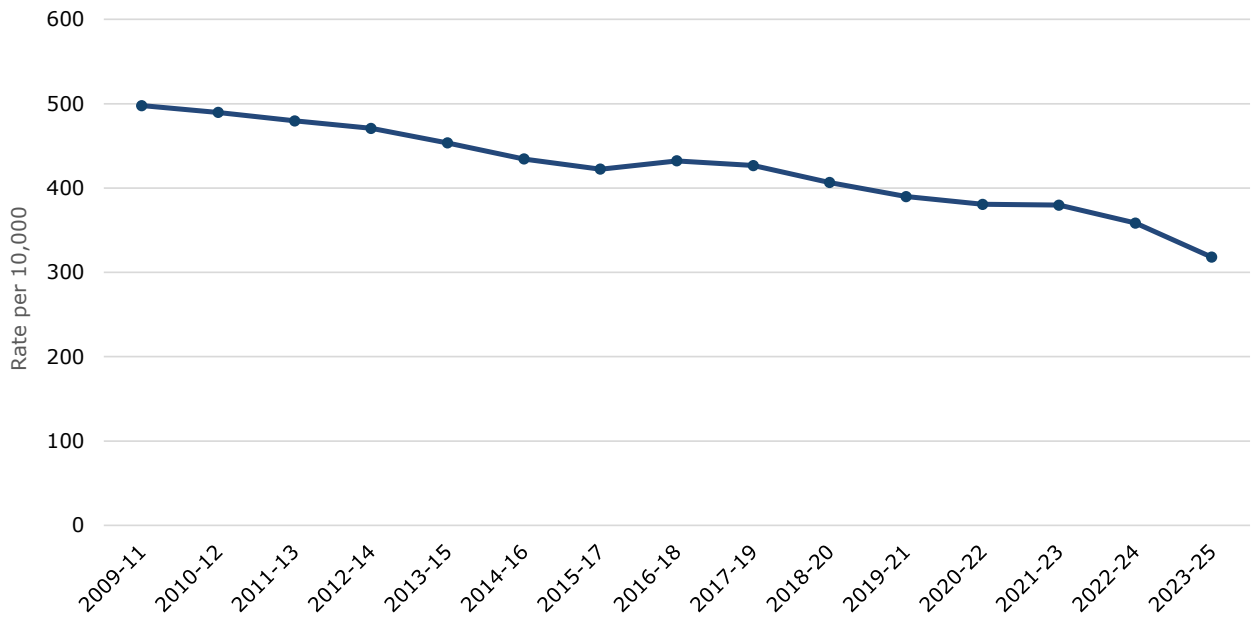
Figure 1. Total Births, Wales residents, 2009 to 2025.
Source: produced by PHW using data from ONS Births (2009-2024) and NCCHD (2025)



The rate of congenital anomalies per 10,000 births has gradually reduced from 507 in 2009 to 354 in 2024. There is a marked fall to 235 in 2025, however, this is normal since a significant proportion of cases for the most recent birth year will not yet have been reported to CARIS. Sometimes, there are delays in reporting cases to CARIS, or in registering cases reported to us. In addition, some congenital anomalies only become apparent as the child develops. This means that it can take up to three years after birth to gain a full picture and this is in line with experience in England [1].

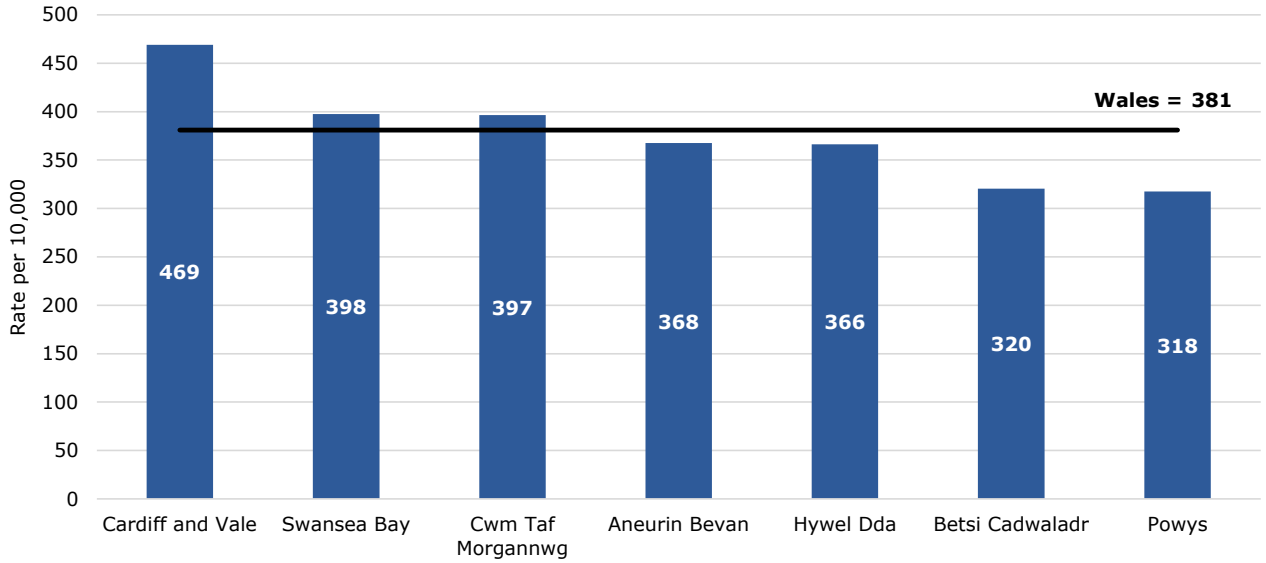
Figure 3 shows the trend in prevalence as a three-year rolling rate. This smooths out year-on-year variation to provide a clearer picture. Congenital anomaly registration rates exhibit a downward trend over the period from 498 per 10,000 in 2009-11 to 318 in 2023-25. Note that the final period in particular is impacted by cases that have yet to be identified and registered.

Figure 2. All anomalies including minor anomalies, 3-year rolling rate per 10,000 births, Wales.
Source: produced by PHW using data from CARIS, ONS Births (2009-2024) and NCCHD (2025)



At Health Board level, congenital anomaly rates vary considerably (see figure 4). Across the period, rates were highest in Cardiff. Betsi Cadwaladr and Powys had the lowest rates, and this is likely to be due to reduced levels of reporting to CARIS where births have taken place in English hospitals such as the Countess of Chester Hospital and Princess Royal Hospital, Telford.

Figure 3. All anomalies including minor anomalies, rate per 10,000 births, Health Boards, Wales, 2016-2026.
Source: produced by PHW using data from CARIS, ONS Births (2016-2024) and NCCHD (2025)



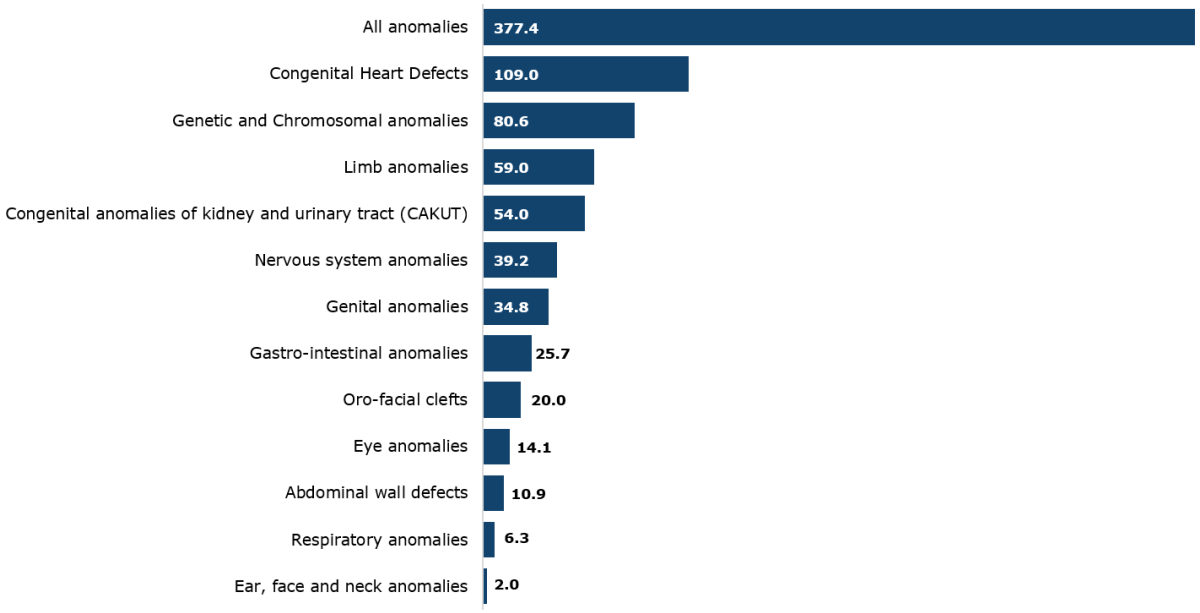
Looking at the breakdown for cases with a recorded sex at birth between 1998-2025, 59.3% were male. This proportion remains similar to those reported previously and has not changed over time (58.6% for 2016-2025). Congenital anomalies are consistently higher in males due to more genital anomalies such as hypospadias, urinary tract anomalies such as posterior urethral valves, and genetic cases due to X linked recessive conditions.

A singular anomaly was reported in 61.4% of cases between 1998-2025. Over the past 10 years (2016-2025) the proportion of singular anomaly cases was 57.3%, slightly above the 10-year period reported in last year's report (56.9% for 2015-2024). Singular anomaly cases are an indication of reporting completeness because this will include less severe cases that are less likely to be reported.

Main anomaly groups and survival analysis

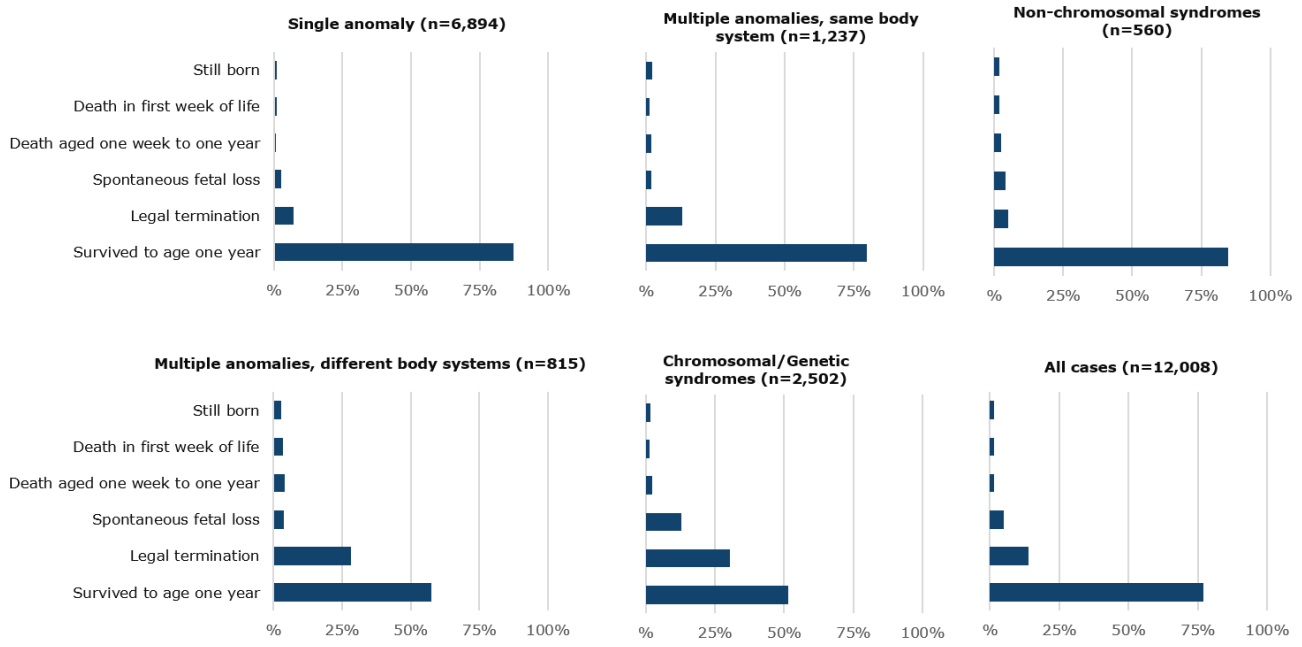
The main anomaly groups and corresponding prevalence rates for 1998-2025 are shown in Figure 5. The pattern exhibited has remained stable.

Figure 4. Main anomaly groups for cases reported to CARIS 1998-2025, rate per 10,000 total births.
Source: produced by PHW using CARIS, ONS Births (1998-2024) and NCCHD (2025)



Between 1998 and 2025 84.3% of all congenital anomaly cases reported to CARIS resulted in a live birth, falling to 79.6% for the most recent 10-year period (2016-2025). This drop may be explained by decreased reporting of less serious conditions. Survival to 1 year of age has remained constant with time at 96.8% (1998-2025). Survival summaries by high level groupings of anomaly types are shown in Figure 6. Survival is poorer for babies with multiple anomalies across different body systems, or babies with chromosomal syndromes.

Figure 5 Congenital anomalies, outcome of pregnancy by pattern of anomalies, percentage, pregnancies ending 2015-2024 (followed up to end 2025).
Source: produced by PHW using data from CARIS, ONS Births (1998-2024) and NCCHD (2025)



In addition to the headline summary provided in this report, the data tables and outputs that form our Official Statistics release are available via our website, including breakdowns at Local Health Board level. The release also includes data on ultrasound scan antenatal screening detection rates. These data are also provided to Antenatal Screening Wales for review as an annual audit.

Focus on abdominal wall defects

This year's annual report focuses on anterior abdominal wall defects including diaphragmatic hernia and eventration, prune belly syndrome and limb body wall complex under the Q79 section of ICD10 (International Classification of Diseases 10th Revision).

Anterior wall defects

Anterior abdominal wall defects are among the most common anomalies within the musculoskeletal group. Prenatal detection of abdominal wall defects is possible by visualisation of a mass outside of the abdominal wall that can be visible early in pregnancy, with most cases detected at the detailed anomaly scan at 18-21 weeks gestation [2-3].

Figure 6. Cases with abdominal wall and diaphragmatic defects, rates per 10,000 total births and percentage of cases liveborn, Wales, 1998-2025.
Source: produced by PHW using data from CARIS, ONS Births (1998-2024) and NCCHD (2025)

Anomaly	Total cases	Average cases per year	Rate	% of cases liveborn	Trend (3 year rolling rate)
Exomphalos (Omphalocele)	454	16	5.1	30.6	
Gastroschisis	437	16	4.9	87.9	
Diaphragmatic hernia	358	13	4.0	68.7	
Eventration of diaphragm	72	3	0.8	51.4	
Limb Body Wall complex	62	2	0.7	4.8	
Prune Belly syndrome	9	0	0.1	100	

Produced by Public Health Wales using CARIS, PHB (ONS) & NCCHD (DHCW)

The case numbers and rates of anterior abdominal wall defects are shown in Figure 7 as a 3-year rolling rate from 1998 to 2025. Rates of exomphalos increased, from approximately 3.4 per 10,000 births in the earlier period to 4.5 per 10,000 births in 2023-2025. In contrast, the cases of gastroschisis were lower in 2023-2025 compared with earlier years. Rates of diaphragmatic hernia, eventration of diaphragm, limb body complex and prune belly syndrome remained relatively unchanged.

Gastroschisis:

Gastroschisis is classified as a musculoskeletal anomaly because it results from an abnormal formation of the anterior abdominal wall, typically to the right of the umbilical cord. The defect allows abdominal contents, most commonly the small bowel, to herniate freely into the amniotic cavity without a protective covering. The defect occurs at approximately six to ten weeks' gestation and typically occurs in isolation [4-5]. In Wales, over 95% of gastroschisis cases were detected at or before the anomaly scan (2016-2025). The high proportion of cases detected antenatally allows appropriate ongoing fetal surveillance and multidisciplinary planning for delivery and postnatal surgical management.



Risk Factors

Several maternal factors have been associated with an increased risk of gastroschisis, including:

- Young age
- Smoking
- Cannabis
- Low body mass index (BMI) [6]

Gastroschisis is a relatively common congenital anomaly in Wales, with a prevalence of approximately 3.7 per 10,000 live births (2016-2025) compared with 2.5 per 10,000 live births across Europe (2015-2024). Although prevalence has fluctuated historically, prevalence is declining across Europe [7].

Exomphalos

Also known as Omphalocele is a ventral abdominal wall defect at the umbilicus, through which the small bowel and liver herniate within a peritoneal covering. Although herniation is normal between 6–10 weeks of development, exomphalos results from failure of the bowel to return to the abdominal cavity.



Risk Factors

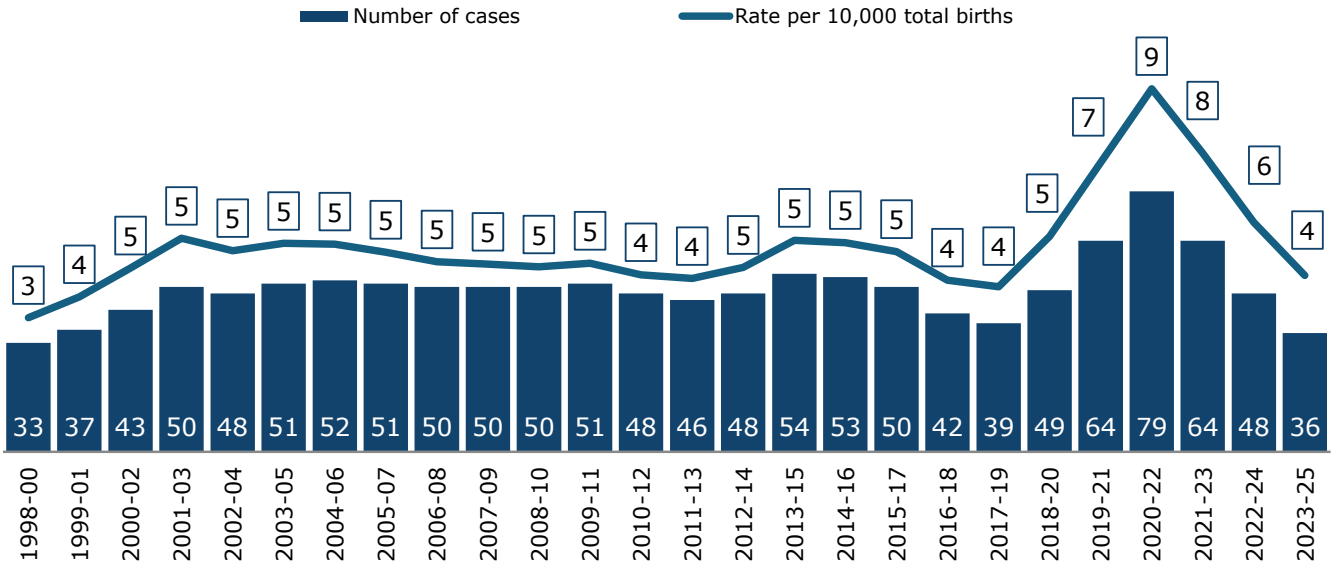
- Maternal obesity
- Pre-existing diabetes
- Folate deficiency
- Multiparity
- Older maternal age, particularly over 40 years

Important genetic associations

Unlike gastroschisis, more than half of babies with omphalocele have additional congenital anomalies, particularly cardiac, neurological, gastrointestinal, genitourinary, chromosomal, and epigenetic anomalies including:

- Trisomy 18 (Edwards syndrome) & Trisomy 13 (Patau syndrome)
- Beckwith–Wiedemann syndrome
- Pentalogy of Cantrell [8]

Figure 7. Prevalence of Exomphalos (Omphalocele), 1998-00 to 2023-25.
Source: produced by PHW using data from CARIS, ONS Births (1998-2025) and NCCHD (2025)



Prevalence of exomphalos has been rising in Wales (see Figure 8) and across Europe since 2018 [7]. This may, in part, reflect the increasing proportion of pregnancies in older mothers, as advancing maternal age is associated with a higher risk of chromosomal abnormalities, which are strongly associated with exomphalos.

Management of Gastroschisis /Exomphalos

Vaginal delivery is possible for pregnancies complicated by exomphalos and gastroschisis, provided there are no obstetric indications for caesarean delivery.

Delivery should ideally take place in a specialist centre with access to neonatal intensive care and paediatric surgery, allowing prompt assessment and surgical management after birth.

The prognosis depends on many factors, particularly:

- Size of the defect
- Presence and severity of associated anomalies
- Presence of chromosomal abnormalities

Isolated exomphalos without associated anomalies is associated with better prognosis. Large exomphalos, and those associated with significant cardiac, chromosomal, or other structural anomalies have a poorer prognosis.

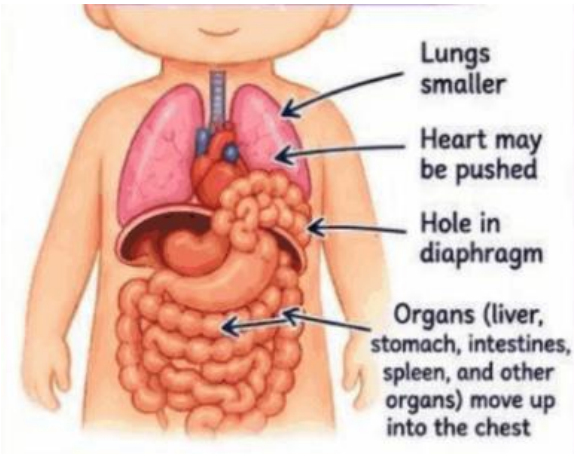
Congenital Diaphragmatic hernia (CDH)

Congenital diaphragmatic hernia (CDH) is a developmental defect of the diaphragm occurring around 6 weeks' gestation which allows the abdominal organs to enter the thorax. The commonest type is a left-sided posterolateral Bochdalek hernia. Herniation can impair lung development, causing pulmonary hypoplasia and pulmonary hypertension after birth [9].

The cause is usually unknown and sporadic, although CDH may occur with chromosomal or genetic syndromes. Associated anomalies include cardiac, central nervous system (CNS), genitourinary and musculoskeletal [10].

Antenatal detection at anomaly scan may show:

- Stomach or bowel in the thorax
- Mediastinal/cardiac displacement
- Small or absent abdominal stomach
- Reduced lung size
- Liver herniation in severe cases
- Polyhydramnios



The prevalence in Wales is 4.0 per 10,000 total births between 2016-2025 with 70.8% of cases detected by the anomaly scan (18-21 weeks).

On suspicion of CDH, a detailed ultrasound assessment is undertaken to detect any **associated structural abnormalities**. Fetal echocardiography and genetic assessment may also be considered.

Eventration of diaphragm

Diaphragmatic eventration is a rare developmental anomaly in which the diaphragm is abnormally elevated and thinned due to abnormal muscular development of the diaphragm. Unlike congenital diaphragmatic hernia (CDH), there is **no true hole in the diaphragm**. The abdominal organs remain below the diaphragm, but the affected hemidiaphragm is pushed upwards into the chest [11].

On ultrasound it mimics CHD in appearance, and the correct diagnosis is usually confirmed after birth. The prevalence in Wales was 0.5 per 10,000 live births (2016-2025).

Management depends upon the severity of cases, varying from observation for asymptomatic cases to respiratory support and definitive treatment with surgical diaphragmatic plication for symptomatic cases.

Prune Belly syndrome

Also called Eagle–Barrett syndrome, is a rare congenital multisystem disorder. It is characterised by the classic triad of:

1. **Deficient or absent abdominal wall musculature** - giving the abdomen a wrinkled, "prune-like" appearance.
2. **Urinary tract abnormalities** - typically megacystis, hydroureter, hydronephrosis and variable renal dysplasia.
3. **Bilateral cryptorchidism** in affected males.

Prune belly syndrome predominantly affects males (~95%), with an estimated incidence of **1 in 30,000–50,000 births** [7]. In Wales, the prevalence is 0.1 per 10,000 births (2016-2025). Its pathogenesis remains uncertain, with proposed mechanisms including abnormal mesoderm development or early urinary tract obstruction.

Antenatal detection is possible from 11–12 weeks, although most cases are diagnosed in the second trimester. Key ultrasound features include:

- Markedly enlarged bladder (megacystis)
- Bilateral hydroureteronephrosis
- Dilated urinary tract
- Reduced or absent abdominal musculature
- Oligohydramnios, with possible pulmonary hypoplasia



The combination of megacystis, bilateral urinary tract dilatation and deficient abdominal musculature raise suspicion of prune belly syndrome.

Postnatal Management

Management is individualised according to severity and requires a multidisciplinary approach with input from neonatology, paediatric urology, and nephrology to **preserve renal function and ensure adequate urinary drainage**.

Treatment may include:

- Bladder drainage/catheterisation
- Management of obstruction, reflux, and urinary tract infections
- Orchidopexy for undescended testes
- Abdominal wall reconstruction in selected cases
- Respiratory support for pulmonary hypoplasia
- Long-term renal and urinary tract monitoring

Prognosis is variable with mortality around 10-25% [12]. This is primarily determined by renal dysplasia and pulmonary hypoplasia, and early diagnosis positively affects neonatal outcome. Severe cases with marked renal dysplasia, oligohydramnios and pulmonary hypoplasia may result in stillbirth or death shortly after birth. Conversely, children with mild disease and preserved renal function can have a near-normal life expectancy.

Limb Body Wall complex

The prevalence of limb-body wall complex (LBWC) in Wales is 0.6 per 10,000 births. It is a rare, severe, and usually lethal congenital malformation complex characterised by major defects of the fetal body wall together with **spinal/cranial and limb anomalies**. It is also known as **body-stalk anomaly** or **body-stalk complex**, although these terms are not always used interchangeably [13].

The exact cause is not known. In early embryogenesis at around 4-6 weeks, vascular disruption can result in abnormal embryo folding, abnormal body wall formation and amniotic bands. LBWC is often diagnosed early in pregnancy with most cases detected in the first trimester [14]. It is important to distinguish LBWC from gastroschisis or omphalocele because LBWC is a much more extensive developmental anomaly with a poorer prognosis.

Typical features include:

- Large thoraco-abdominal wall defects with herniation of abdominal or thoracic organs
- Severe scoliosis or kyphoscoliosis
- Limb anomalies, including severe limb reduction or amputation defects
- Short or absent umbilical cord, sometimes with abnormal placental attachment
- Craniofacial anomalies, such as encephalocele or facial clefts, in some cases
- Anomalies of the spine and internal organs.

The prognosis is extremely poor with most affected pregnancies resulting in miscarriage, termination, stillbirth, or neonatal death [15]. Unfortunately, there is no curative fetal or postnatal surgical treatment for LBWC, because the anomalies are usually extensive and incompatible with long-term survival.

References

1. Broughan JM, Wreyford B, Martin D, Melis G, Randall K, Ewoma Obaro, et al. Cohort profile: the National Congenital Anomaly Registration Dataset in England. BMJ Open. 2024 1:14(1):e077743-3.
2. Prefumo F, Izzi C. Fetal abdominal wall defects. Best Practice & Research Clinical Obstetrics & Gynaecology. 2014 Apr;28(3):391–402.
3. BMJ Best Practice [Internet]. Bmj.com. 2024 [cited 2026 Oct 1]. Available from: https://bestpractice.bmj.com/topics/en-gb/1158/pdf/1158/Omphalocele%20and%20gastroschisis.pdf
4. Rentea, R.M. and Gupta, V. (2022) Gastroschisis. In StatPearls, StatPearls Publishing, Treasure Island. - References - Scientific Research Publishing [Internet]. Scirp.org. 2022 [cited 2026 Oct 15]. Available from: https://www.scirp.org/reference/referencespapers?referenceid=3562095
5. O'Connell RV, Dotter-Katz SK, Kuller JA, Strauss RA. Gastroschisis: A Review of Management and Outcomes. Obstetrical & Gynecological Survey. 2016 Sep;71(9):537.
6. Frolov P, Alali J, Klein MD. Clinical risk factors for gastroschisis and omphalocele in humans: a review of the literature. Pediatr Surg Int. 2010;26(12):1135–48.
7. European Platform on Rare Disease Registration [Internet]. eu-rd-platform.jrc.ec.europa.eu. [cited 2026 Oct 1]. Available from: https://eu-rd-platform.jrc.ec.europa.eu/eurocat/eurocat-data/prevalence_en
8. Verla MA, Style CC, Olutoye OO. Prenatal diagnosis and management of omphalocele. Semin Pediatr Surg. 2019;28(2):84–8.
9. Kosiński P, Wielgoś M. Congenital diaphragmatic hernia: Pathogenesis, prenatal diagnosis, and management - literature review. Ginekol Pol. 2017;88:24–30. doi: 10.5603/GP.a2017.0005.
10. Enns GM, Cox VA, Goldstein RB, Gibbs DL, Harrison MR, Golabi M. Congenital diaphragmatic defects and associated syndromes, malformations, and chromosome anomalies: A retrospective study of 60 patients and literature review. Am J Med Genet. 1998;79:215–225.
11. Panicek DM, Benson CB, Gottlieb RH, Heitzman ER. The diaphragm: anatomic, pathologic, and radiologic considerations. Radiographics 1998;8(3): 385-425.
12. Chu E, Press B, Weinstein C, Arlen AM, Smith EA, Kirsch AJ. Clinical manifestations and management of prune-belly syndrome: A 20-year single center experience. J Pediatr Urol. 2026 Jun;22(3):105806.
13. Martín-Alguacil N. Anatomy-based diagnostic criteria for complex body wall anomalies (CBWA). Molecular Genetics & Genomic Medicine. 2020 Aug 27;8(10).
14. Ye CH, Li S, Ling L. Analysis of characteristic features in ultrasound diagnosis of fetal limb body wall complex during 11-13+6 weeks. World Journal of Clinical Cases. 2023 June 30;11(19):4544–52.
15. Bermejo-Sánchez E, Cuevas L, Amar E, Bakker MK, Bianca S, Bianchi F, et al. Amelia: A multi-center descriptive epidemiologic study in a large dataset from the International Clearinghouse for Birth Defects Surveillance and Research, and overview of the literature. American Journal of Medical Genetics Part C: Seminars in Medical Genetics. 2011 Oct 14;157(4):288–304.

CARIS Research Contribution 2025/2026

Is SARS-CoV-2 Infection (COVID-19) Associated With Congenital Anomalies? A Population Study of Congenital Anomaly Surveillance Data and Maternal SARS-CoV-2 Infection in Wales
Samantha Fisher, Robert Maddison-Jarvis, Penelope Cresswell-Jones, David Tucker and Llion Davies
Wiley – Birth Defects Research Volume 118, Issue 11

Genetic Diagnoses Among Congenital Anomaly Cases in Europe: Data from the EUROCAT Network
Jorieke E. H. Bergman, Lea Bruneau, Annie Perraud, Ester Garne, Clara Cavero-Carbonell, David Tucker, Elisa Ballardini….
Wiley - Paediatric and Perinatal Epidemiology

Children With Biliary Atresia Have Substantial Morbidity in Early Childhood and a High Risk of Liver Transplantation
Mads Damkjær, Joachim Tan, Maria Loane, Joanne Given, Elisa Ballardini……
Wiley – Birth Defects Research Volume 118, Issue 2

Establishing an adult rare diseases surveillance registry during the COVID-19 pandemic: the Wales experience
Michael Olson, Annie Ashman, Llion Davies, David Tucker, Ceri Williams, and Helen Crowther
Journal of Rare Diseases

The EUROmediCAT network and databases: a resource for pharmacovigilance in pregnancy short running title: The EUROmediCAT network and databases
Christine Damase-Michel, Joan Morris, Amanda Neville, Garne E…..
Pharmacoepidemiology and Drug Safety

The children left behind – the cumulative impact of congenital anomalies, long-term conditions, and poverty on educational attainment in Wales: a population databank linkage study
Ieuan Scanlon, Anna Rawlings, David Tucker, Daniel S. Thayer…….
MedRxiv

P12-8 Morbidity in children with gastroschisis: a population-based data linkage study
Shivparakash Arun, Samantha Fisher, Elisa Ballardini, Clara Cavero Carbonell, Alessio Coi, Llion Davies…..
Journal of Epidemiology & Community Health

Sirenomelia: A Review of European Prevalence Data and Epidemiological Analysis *of 17 Cases Registered in Wales*
Chris Emmerson, Michael Olson, Ceri Williams, Robert Maddison, David Tucker, Llion Davies, Annie Perraud……
Wiley - Birth Defects Research

Estimating the impact of parvovirus B19 outbreaks on congenital anomalies and fetal outcomes in Wales
Samantha Fisher, Robert Maddison, David Tucker, Llion Davies
Science Direct, Public Health Volume 257

Case-malformed signal detection and prioritisation using EUROmediCAT data for pharmacovigilance in pregnancy
Hannah Johnson, Helen Dolk, Maria Loane, Christine Damase-Michel, Joanne Given, Hedvig Nordeng, Jorieke E. H. Bergman……
British Journal of Clinical Pharmacology Volume 92, Issue 10

Heterogeneity of the prevalence of congenital hip dislocation in Europe
Esther Garne, Anke Rissmann, Carlos Matias Dias, Calotta Buzzoni……
World Journal of Paediatrics

Mortality amongst European children with congenital anomalies: Associations with socio-economic status in the EUROLINKCAT cohort
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Analysis of Prevalence and Mortality Among Neonates and Children with Intestinal Atresia: A Multinational Study, 1974-2015
Angie Carreño, Maria Paula Aguilera, Lina Ibañez, Karen Sarmiento, Juan A Gili, Csaba Siffel……
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Prevalence and mortality among children with anorectal malformation: A multi-country analysis
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