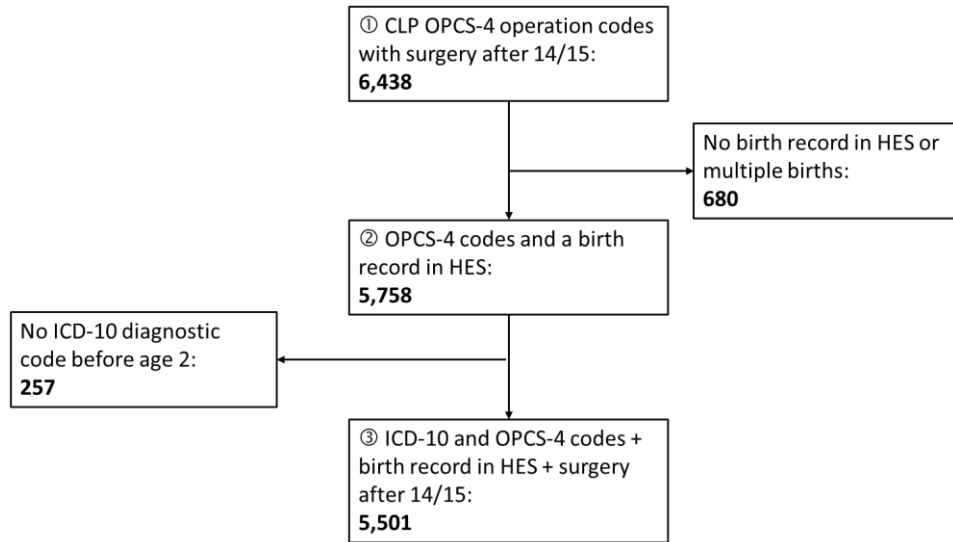


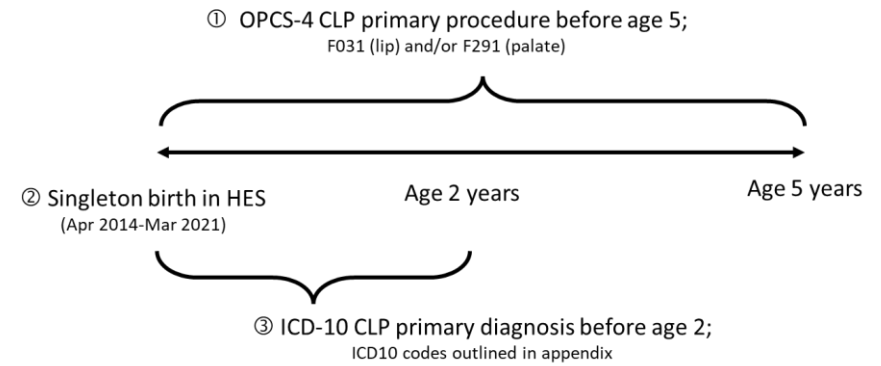
SUPPLEMENTARY MATERIALS

Supplementary Figure 1: Flow chart showing inclusion criteria into the study



Study inclusion criteria

① Circled numbers relate to boxes on the flow chart



Supplementary information 1: OPCS-4 CLP surgery procedure code lists

OPCS-4 code	Surgery type
F031	Primary closure of cleft lip
F291	Primary palate repair

Supplementary information 2: Cleft lip and palate ICD-10 codes

ICD-10 codes	Cleft type
Q35x	Cleft lip
Q36x	Cleft palate
Q371, Q373, Q375, Q379	Unilateral cleft lip and palate
Q370, Q372, Q374, Q378	Bilateral cleft lip and palate

Supplementary information 3: Congenital anomalies code list

Code	Description
<i>Congenital malformations of the nervous system</i>	
Q00	Anencephaly and similar malformations
Q01	Encephalocele
Q02	Microcephaly
Q03	Congenital hydrocephalus
Q04	Other congenital malformations of brain
Q05	Spina bifida
Q06	Other congenital malformations of spinal cord
Q07	Other congenital malformations of nervous system
<i>Congenital malformations of eye, ear, face and neck</i>	
Q10	Congenital ptosis
Q11	Anophthalmos, microphthalmos and macrophthalmos
Q12	Congenital lens malformations
Q13	Congenital malformations of anterior segment of eye
Q14	Congenital malformations of posterior segment of eye
Q15	Other congenital malformations of eye
Q16	Congenital malformations of ear causing impairment of hearing
Q17	Other congenital malformations of ear

Q18 Other congenital malformations of face and neck

Congenital malformations of the circulatory system

Q20 Congenital malformations of cardiac chambers and connections

Q21 Congenital malformations of cardiac septa

Q22 Congenital malformations of pulmonary and tricuspid valves

Q23 Congenital malformations of aortic and mitral valves

Q24 Other congenital malformations of heart

Q25 Congenital malformations of great arteries

Q26 Congenital malformations of great veins

Q27 Other congenital malformations of peripheral vascular system

Q28 Other congenital malformations of circulatory system

Congenital malformations of the respiratory system

Q30 Congenital malformations of nose

Q31 Congenital malformations of larynx

Q32 Congenital malformations of trachea and bronchus

Q33 Congenital malformations of lung

Q34 Other congenital malformations of respiratory system

Other congenital malformations of the digestive system

Q38 Other congenital malformations of tongue, mouth and pharynx

Q39 Congenital malformations of oesophagus

Q40 Other congenital malformations of upper alimentary tract

Q41 Congenital absence, atresia and stenosis of small intestine

- Q42 Congenital absence, atresia and stenosis of large intestine
- Q43 Other congenital malformations of intestine
- Q44 Congenital malformations of gallbladder, bile ducts and liver
- Q45 Other congenital malformations of digestive system

Congenital malformations of the genital organs

- Q50 Congenital malformations of ovaries, fallopian tubes and broad ligaments
- Q51 Congenital malformations of uterus and cervix
- Q52 Other congenital malformations of female genitalia
- Q53 Undescended testicle
- Q54 Hypospadias
- Q55 Other congenital malformations of male genital organs
- Q56 Indeterminate sex and pseudohermaphroditism

Congenital malformations of the urinary system

- Q60 Renal agenesis and other reduction defects of kidney
- Q61 Cystic kidney disease
- Q62 Congenital obstructive defects of renal pelvis and congenital malformations of ureter
- Q63 Other congenital malformations of kidney
- Q64 Other congenital malformations of urinary system

Congenital malformations and deformations of the musculoskeletal system

- Q65 Congenital deformities of hip
- Q66 Congenital deformities of feet
- Q67 Congenital musculoskeletal deformities of head, face, spine and chest

- Q68 Other congenital musculoskeletal deformities
- Q69 Polydactyly
- Q70 Syndactyly
- Q71 Reduction defects of upper limb
- Q72 Reduction defects of lower limb
- Q73 Reduction defects of unspecified limb
- Q74 Other congenital malformations of limb(s)
- Q75 Other congenital malformations of skull and face bones
- Q76 Congenital malformations of spine and bony thorax
- Q77 Osteochondrodysplasia with defects of growth of tubular bones and spine
- Q78 Other osteochondrodysplasias
- Q79 Congenital malformations of the musculoskeletal system, not elsewhere classified

Other congenital malformations

- Q80 Congenital ichthyosis
 - Q81 Epidermolysis bullosa
 - Q82 Other congenital malformations of skin
 - Q83 Congenital malformations of breast
 - Q84 Other congenital malformations of integument
 - Q85 Phakomatoses, not elsewhere classified
 - Q86 Congenital malformation syndromes due to known exogenous causes, not elsewhere classified
 - Q87 Other specified congenital malformation syndromes affecting multiple systems
 - Q89 Other congenital malformations, not elsewhere classified
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Chromosomal abnormalities, not elsewhere classified

- Q90 Down syndrome
 - Q91 Edwards syndrome and Patau syndrome
 - Q92 Other trisomies and partial trisomies of the autosomes, not elsewhere classified
 - Q93 Monosomies and deletions from the autosomes, not elsewhere classified
 - Q95 Balanced rearrangements and structural markers, not elsewhere classified
 - Q96 Turner syndrome
 - Q97 Other sex chromosome abnormalities, female phenotype, not elsewhere classified
 - Q98 Other sex chromosome abnormalities, male phenotype, not elsewhere classified
 - Q99 Other chromosome abnormalities, not elsewhere classified
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