Operative procedure codes (OPCS 4.8) that we used to identify hip revision in the Hospital Episode Statistics (HES) registry.

Procedure type 1: : W39.4, "Attention to total prosthetic replacement of hip joint (Not Elsewhere Classified, NEC)"; W39.6, "Closed reduction of dislocated total prosthetic replacement of hip joint"; W78.2, "Release of contracture of hip joint"; W95.4, "Attention to hybrid prosthetic replacement of hip joint using cement NEC"; X09.1, "Hindquarter amputation"; X09.2, "Disarticulation of hip"; X09.3, "Amputation of leg above knee". Procedure type 2: W07.2, "Excision of periarticular ectopic bone"; W18.1, "Fenestration of cortex of bone"; W18.2, "Saucerisation of bone"; W18.3, "Sequestrectomy of bone"; W18.4, "Decompression of fourage of bone"; W18.5, "Insertion of drainage system into bone"; W33.6, "Debridement of bone NEC"; W33.7, "Lavage of bone"; W33.8, "Other specified other open operations on bone"; W33.9, "Unspecified other open operations on bone"; W45.4, "Attention to total prosthetic replacement of joint NEC"; W54.4, "Attention to prosthetic interposition arthroplasty of joint NEC"; W60.3, "Conversion to arthrodesis and extra-articular bone graft NEC"; W60.8, "Other specified fusion of other joint and extraarticular bone graft"; W60.9, "Unspecified fusion of other joint and extra-articular bone graft"; W61.3, "Conversion to arthrodesis and articular bone graft NEC"; W61.8, "Other specified fusion of other joint and other articular bone graft"; W61.9, "Unspecified fusion of other joint and other articular bone graft"; W63.1, "Revision of arthrodesis and internal fixation NEC"; W63.2, "Revision of arthrodesis and external fixation NEC"; W63.8, "Other specified revisional fusion of other joint"; W63.9, "Unspecified revisional fusion of other joint"; W64.0, "Conversion from previous arthrodesis NEC"; W64.1, "Conversion to arthrodesis and internal fixation NEC"; W64.2, "Conversion to arthrodesis and external fixation NEC"; W64.8, "Other specified conversion to fusion of other joint"; W64.9, "Unspecified conversion to fusion of other joint"; W69.1, "Total synovectomy"; W69.2,

"Subtotal synovectomy"; W69.3, "Partial synovectomy"; W69.4, "Open biopsy of synovial membrane of joint"; W69.5, "Open division of synovial plica"; W69.8, "Other specified open operations on synovial membrane of joint"; W69.9, "Unspecified open operations on synovial membrane of joint"; W71.2, "Open excision of intra-articular osteophyte"; W71.3, "Forage of joint"; W71.8, "Other specified other open operations on intra-articular structure"; W71.9, "Unspecified other open operations on intra-articular structure"; W77.1, "Repair of capsule of joint for stabilisation of joint NEC"; W77.2, "Transposition of muscle for stabilisation of joint"; W77.3, "Blocking operations on joint using prosthesis for stabilisation of joint"; W77.4, "Blocking operations on joint using bone for stabilisation of joint"; W77.5, "Periarticular osteotomy for stabilisation of joint"; W77.8, "Other specified stabilising operations on joint"; W77.9, "Unspecified stabilising operations on joint"; W78.4, "Limited release of contracture of capsule of joint"; W78.8, "Other specified release of contracture of joint"; W78.9, "Unspecified release of contracture of joint"; W80.1, "Open debridement and irrigation of joint"; W80.2, "Open debridement of joint NEC"; W80.3, "Open irrigation of joint NEC"; W80.8, "Other specified debridement and irrigation of joint"; W80.9, "Unspecified debridement and irrigation of joint"; W81.1, "Excision of lesion of joint NEC"; W81.2, "Open removal of loose body from joint"; W81.3, "Drainage of joint"; W81.4, "Incision of joint NEC"; W81.5, "Exploration of joint NEC"; W81.6, "Capsulorrhaphy of joint"; W81.7, "Insertion of therapeutic spacer into joint"; W81.8, "Other specified other open operations on joint"; W81.9, "Unspecified other open operations on joint"; W84.3, "Endoscopic division of synovial plica"; W84.4, "Endoscopic decompression of joint"; W84.6, "Endoscopic excision of synovial plica"; W84.8, "Other specified therapeutic endoscopic operations on other joint structure"; W84.9, "Unspecified therapeutic endoscopic operations on other joint structure"; W86.1, "Endoscopic removal of loose body from joint NEC"; W86.8, "Other specified therapeutic endoscopic operations on cavity of other joint";

W86.9, "Unspecified therapeutic endoscopic operations on cavity of other joint"; W88.1, "Diagnostic endoscopic examination of joint and biopsy of lesion of joint NEC"; W88.8, "Other specified diagnostic endoscopic examination of other joint"; W88.9, "Unspecified diagnostic endoscopic examination of other joint"; W90.1, "Aspiration of joint"; W90.2, "Arthrography"; W90.3, "Injection of therapeutic substance into joint"; W90.4, "Injection into joint NEC"; W90.8, "Other specified puncture of joint"; W90.9, "Unspecified puncture of joint"; W91.1, "Manipulation of joint using traction NEC"; W91.3, "Manipulation of prosthetic joint NEC"; W91.8, "Other specified other manipulation of joint"; W91.9, "Unspecified other manipulation of joint"; W92.1, "Biopsy of lesion of joint NEC"; W92.2, "Distension of joint"; W92.3, "Examination of joint under image intensifier"; W92.4, "Examination of joint under anaesthetic"; W92.5, "Examination of joint NEC"; W92.8, "Other specified other operations on joint"; W92.9, "Unspecified other operations on joint"; O19.8, "Other specified other therapeutic endoscopic operations on other joint structure"; O27.1, "Extra-articular ligament reconstruction for stabilisation of joint"; O27.8, "Other specified other stabilising operations on joint"; O27.9, "Unspecified other stabilising operations on joint"; S57.1, "Debridement of skin NEC"; S57.2, "Removal of slough from skin NEC"; S57.3, "Toilet of skin NEC"; S57.4, "Dressing of skin NEC"; S57.5, "Attention to dressing of skin NEC"; S57.6, "Cleansing and sterilisation of skin NEC"; S57.7, "Dressing of skin using vacuum assisted closure device NEC"; S57.8, "Other specified exploration of other skin of other site"; S57.9, "Unspecified exploration of other skin of other site"; S58.2, "Larvae debridement therapy of skin NEC"; X09.8, "Other specified amputation of leg"; X09.9, "Unspecified amputation of leg".

Site for revision: Z84.3, "Hip joint"; Z76.1, "Head of femur"; Z75.6, "Acetabulum"; Z84.9, "Joint of pelvis or upper leg NEC".

<u>Algorithm</u>: One code from procedure type 1 or a combination of one code from procedure type 2 and site for revision were used to identify hip revision.