

**Supplementary Material 1:** A detailed list of the *ICD-9-CM* codes used in the study and their corresponding definitions.

<i>ICD-9-CM</i> Codes and Definitions	
<b>Code</b>	<b>Definition</b>
<i>Diagnosis codes used to define CNS Infection or abscess</i>	
003.21	Salmonella meningitis
006.5	Amebic brain abscess
013.00	Tuberculous meningitis, unspecified
013.01	Tuberculous meningitis, bacteriological or histological examination not done
013.02	Tuberculous meningitis, bacteriological or histological examination unknown (at present)
013.03	Tuberculous meningitis, tubercle bacilli found (in sputum) by microscopy
013.04	Tuberculous meningitis, tubercle bacilli not found (in sputum) by microscopy, but found by bacterial culture
013.05	Tuberculous meningitis, tubercle bacilli not found by bacteriological examination, but tuberculosis confirmed histologically
013.06	Tuberculous meningitis, tubercle bacilli not found by bacteriological or histological examination, but tuberculosis confirmed by other methods [inoculation of animals]
036.0	Meningococcal meningitis
047.0	Meningitis due to coxsackie virus
047.1	Meningitis due to echo virus
047.8	Other specified viral meningitis
047.9	Unspecified viral meningitis
049.0	Lymphocytic choriomeningitis
049.1	Meningitis due to adenovirus
053.0	Herpes zoster with meningitis
054.72	Herpes simplex meningitis
072.1	Mumps meningitis
091.81	Acute syphilitic meningitis (secondary)
094.2	Syphilitic meningitis
098.82	Gonococcal meningitis
100.81	Leptospiral meningitis (aseptic)
320.0	Hemophilus meningitis
320.1	Pneumococcal meningitis
320.2	Streptococcal meningitis
320.3	Staphylococcal meningitis
320.7	Meningitis in other bacterial diseases classified elsewhere
320.81	Anaerobic meningitis
320.82	Meningitis due to gram-negative bacteria, not elsewhere classified

320.89	Meningitis due to other specified bacteria
320.9	Meningitis due to unspecified bacterium
321.0	Cryptococcal meningitis
321.1	Meningitis in other fungal diseases
321.2	Meningitis due to viruses not elsewhere classified
321.3	Meningitis due to trypanosomiasis
321.8	Meningitis due to other nonbacterial organisms classified elsewhere
324.0	Intracranial abscess
324.9	Intracranial and intraspinal abscess of unspecified site
996.63	Infection and inflammatory reaction due to nervous system device, implant, and graft
<i>Procedure and diagnosis codes used to define VPS revision or malfunction</i>	
02.41	Irrigation and exploration of a ventricular shunt
02.42	Replacement of ventricular shunt
02.43	Removal of ventricular shunt
54.95	Distal shunt revision
996.2	Shunt malfunction
<i>Diagnosis codes used in secondary analysis</i>	
432.1	Non-traumatic subdural hematoma
Abbreviations: CNS, central nervous system; VPS, ventriculoperitoneal shunt.	