

## APPENDIX/ TECHNICAL NOTES: DATA AND METHODS

*Description of data.* The Statewide Planning and Research Cooperative System (SPARCS) database is a comprehensive claim reporting system in New York State established in 1979. SPARCS currently collects claim-level data, specifically patient characteristics, diagnoses and treatments, services, and charges for each hospital inpatient stay and outpatient visit. SPARCS reports data from all facilities licensed under Article 28 of the Public Health Law (e.g. hospitals and nursing homes) and free standing ambulatory surgery centers.

*Payor Typology.* SPARCS data reports detailed information on the payor expected to pay the major portion of a bill. The research team condensed 89 payor types these into the following six categories: Blue Cross/Blue Shield, Medicaid, Medicare, No Payment From Organisation/Agency/Program/Private Payer Listed, Private Health Insurance, and Unknown/Other/Miscellaneous which is comprised of: Department Of Corrections, Miscellaneous/Other, Managed Care, Unspecified, NA/Unknown, and Other Government (Federal/State/Local; Excluding Department Of Corrections). The above categories and subcategories were identified and coded according to SPARCS payor typology appendix ([link](#)). The new categories created are listed below:

Payor Code	Description found in SPARCS Payor Typology Appendix
<i>Blue Cross/Blue Shield</i>	
6	BLUE CROSS/BLUE SHIELD
611	BC Managed Care - HMO
612	BC Managed Care - PPO
613	BC Managed Care - POS
619	BC Managed Care - Other
61	BC Managed Care
62	BC Indemnity
621	No value found in SPARCS appendix
<i>Medicare</i>	
1	Medicare
11	Medicare (Managed Care)
111	Medicare (Managed Care) - Medicare HMO
112	Medicare PPO
12	Medicare (Non-managed Care)
121	Medicare (Non-managed Care) - Medicare FFS
119	Medicare Managed Care Other
14	No value found in SPARCS appendix
19	Medicare Other
<i>Medicaid</i>	
2	Medicaid
21	Medicaid (Managed Care)
211	Medicaid HMO
2111	Medicaid HMO - Family Health Plus (NYS ADDITION)

2112	Healthy New York (NYS ADDITION)
212	Medicaid PPO
213	Medicaid PCCM (Primary Care Case Management)
219	Medicaid Managed Care Other
22	Medicaid (Non-managed Care Plan)
23	Medicaid/SCHIP (Child Health Plus -- NYS ADDITION)
24	Medicaid Applicant
25	Medicaid - Out of State
29	Medicaid Other
<i>No payment source listed</i>	
8	No Payment From An Organization/Agency/Program/Private Payer Listed
81	Self Pay
82	No Charge
821	Charity
822	No Charge - Professional Courtesy
89	No Payment, Other
<i>Private Health Insurance</i>	
5	Private Health Insurance
51	Managed Care (Private)
511	Commercial Managed Care - HMO
512	Commercial Managed Care - PPO
513	Commercial Managed Care - POS
514	Exclusive Provider Organization
519	Managed Care, Other (non HMO)
52	Private Health Insurance - Indemnity
521	Commercial Indemnity
522	Self-insured (ERISA) Administrative Services Only (ASO) plan
523	Medicare supplemental policy (as second payer)
529	Private health insurance -- other commercial Indemnity
53	Managed Care (private) or private health insurance (indemnity), not otherwise specified
55	Small Employer Purchasing Group
59	Other Private Insurance
<i>Unknown/Other</i>	
3	Other Government (Federal/State/Local)
311	Tricare (Champus)
3111	Tricare Prime -- HMO
321	Veteran care--Care provided to Veterans
349	HRSA Program -- Other
36	State Government
362	State Government - Specific state programs

369	State, not otherwise specified (other state)
37	Local Government
371	Local - Managed care
379	Local, not otherwise specified (other local, county)
38	Other Government (Federal, State, Local not specified)
381	Federal, State, Local not specified managed care
382	Federal, State, Local not specified managed - FFS
389	Federal, State, Local not specified managed - Other
39	Other Federal
41	Corrections Federal
42	Corrections State
43	Dept. of Corrections - Corrections Local
7	Managed Care, Unspecified
71	HMO
72	PPO
79	Other Managed Care, Unknown if public or private
9	Miscellaneous/Other
92	Other (Non-government)
95	Worker's Compensation
951	Worker's Comp HMO
953	Worker's Comp Fee-for-Service
954	Worker's Comp Other Managed Care
959	Worker's Comp, Other unspecified
96	Auto Insurance (no fault)
99	No Typology Code available for payment source
9999	No Typology Code available for payment source
ZZZ	Unavailable/Unknown
Missing	Unavailable/Unknown

*Diagnostic Codes.* External cause of injury codes (E-codes) define the manner of the death or injury, the mechanism, and the place of occurrence of the event. The manner determines whether the injury or death was unintentional, self-inflicted, an assault, or undetermined. Prior to 2016, the SPARCS data system used the International Classification of Diseases, Ninth Edition (ICD-9) codes, which provide physicians and other providers with codes for all diagnoses, symptoms, procedures, and external causes of injury. After the transition to ICD-10 clinical classification codes in 2016, the team mapped ICD-9 to ICD-10 injury codes.

ICD 9 Codes		ICD 10 codes	
E965.0	Assault by handgun	X93XXXA	Assault by handgun discharge, initial encounter
		X93XXXD	Assault by handgun discharge, subsequent
		X93XXXS	Assault by handgun discharge, sequela
E965.1	Assault by shotgun	X940XXA	Assault by shotgun, initial encounter
		X940XXD	Assault by shotgun, subsequent
		X940XXS	Assault by shotgun, sequela
E965.2	Assault by hunting rifle	X941XXA	Assault by hunting rifle, initial encounter
		X941XXD	Assault by hunting rifle, subsequent
		X941XXS	Assault by hunting rifle, sequela
E965.3	Assault by military firearms	X942XXA	Assault by machine gun, initial encounter
		X942XXD	Assault by machine gun, subsequent
		X942XXS	Assault by machine gun, sequela
E965.4	Assault by other and unspecified firearm	X948XXA	Assault by other larger firearm discharge, initial encounter
		X948XXD	Assault by other larger firearm discharge, subsequent
		X948XXS	Assault by other larger firearm discharge, sequela
		X949XXA	Assault by unspecified larger firearm discharge, initial encounter
		X949XXD	Assault by unspecified larger firearm discharge, subsequent
		X949XXS	Assault by unspecified larger firearm discharge, sequela
		X958XXA	Assault by other firearm discharge, initial encounter
		X958XXD	Assault by other firearm discharge, subsequent
		X958XXS	Assault by other firearm discharge, sequela
		X959XXA	Assault by unspecified firearm discharge, initial encounter
		X959XXD	Assault by unspecified firearm discharge, subsequent
		X959XXS	Assault by unspecified firearm discharge, sequela
E968.6	Assault by airgun	X9501XA	Assault by airgun discharge, initial encounter
		X9501XD	Assault by airgun discharge, subsequent
		X9501XS	Assault by airgun discharge, sequela

*Inflation adjustment.* Researchers applied a healthcare inflation cost adjustment to hospitalization charges using the December 2020 rate multiplier downloaded from the Bureau of Labor Statistics ([link](#)). Specifically, researchers used Consumer Price Index (CPI) data for medical care for all urban consumers in New York-New Jersey-Pennsylvania. The CPI is a measure of the average change over time in the prices paid by urban consumers for a selected mix of consumer goods and services.