
Supplementary Online Content

Perrault L, Makhija D, Beer I, et al. Cost-effectiveness of chloride-liberal versus chloriderestrictive intravenous fluids among patients hospitalized in the United States. *JHEOR* 2016;4(1):90-102.

Supplementary Table 1. Model Parameters

Supplementary Table 2. Calculation of Fluid Costs

This supplementary material has been provided by the authors to give readers additional information about their work.

Supplementary Table 1. Model Parameters

Parameter	Reference	Base Case		One-way Sensitivity Analysis		Probabilistic Sensitivity Analysis
		Mean	SD	Lower Value/CI	Upper value/CI	Distribution
Age of the cohort at entry in decision tree	Assumption	60	6	48.18	71.82	Normal
Annual discount rate, costs (%)		3		0	10	NI
Annual discount rate, benefits (%)		3		0	10	NI
Decision tree probabilities						
Treatment effect (RR, chloride-liberal/chloride-restrictive)	⁹	1.64		1.27	2.13	Lognormal
Chloride-liberal fluids						
Alive with AKI	Calculated based on RR	0.3608			NI	NI
Alive without AKI	$(1-P_{\text{Alive with AKI}})$	0.6392			NI	NI
Chloride-restrictive fluids						
Alive with AKI	²³	0.22	0.022	0.17666	0.26334	Gamma
Alive without AKI	$(1-P_{\text{Alive with AKI}})$	0.78			NI	NI
Alive without AKI to death	²⁴	0.176101	0.017422	0.141779	0.210422	Beta
Alive without AKI to alive	$(1-P_{\text{Alive without AKI to death}})$	0.823899			NI	NI
Alive with AKI to recovery	²³	0.565188	0.001854	0.561535	0.56884	Beta
Alive with AKI to acute RRT	²³	0.043925	0.000766	0.042415	0.045435	Beta
Alive with AKI to death	$(1-P_{\text{Alive with AKI to recovery or RRT}})$	0.390888			NI	NI
Acute RRT to CD	²⁵	0.055556	0.008043	0.03971	0.071401	Beta
Acute RRT to death	²⁵	0.433687	0.012758	0.408554	0.45882	Beta
Acute RRT to recovery	$(1-P_{\text{RRT to CD or death}})$	0.510757			NI	NI
Markov Submodel Parameters						
Mortality (OS) in DF-AKI state, parameter for Weibull function						
Shape	²⁸	-3.30426	-0.33043		NI	Gamma (negative)
Scale	²⁸	0.606283	0.060628		NI	Gamma
Mortality in CD and CD-AKI states, parameter in the non-linear polynomial function of age						
Beta 0	²⁷	0.026057	0.002606		NI	Gamma
Beta 1	²⁷	0.003198	0.00032		NI	Gamma
Beta 2	²⁷	-0.02241	-0.00224		NI	Gamma (negative)
Gamma	²⁷	0.070783	0.007078		NI	Gamma

Supplementary Table 1. Model Parameters - cont'd

Parameter	Reference	Base Case		One-way Sensitivity Analysis		Probabilistic Sensitivity Analysis
		Mean	SD	Lower Value/CI	Upper value/CI	Distribution
Dialysis incidence in DF state, parameter in the non-linear polynomial function of age						
Beta 0	²⁷	0.008912	0.000891	NI		Gamma
Beta 1	²⁷	2.79E-05	2.79E-06	NI		Gamma
Beta 2	²⁷	-0.00872	-0.00087	NI		Gamma (negative)
Gamma	²⁷	0.027405	0.002741	NI		Gamma
Dialysis incidence in DF-AKI state, parameter for Weibull function						
Shape	²⁸	-5.12618	-0.51262	NI		Gamma (negative)
Scale	²⁸	0.630169	0.063017	NI		Gamma
Costs, \$						
Chloride-restrictive fluid cost	¹⁸	59.28	5.928	47.60184	70.95816	Gamma
Chloride-liberal fluid cost	¹⁸	38.23	3.823	30.69869	45.76131	Gamma
Decision tree submodel (90-day cost)						
Patients without AKI		0	0	0	0	NI
Patients with AKI		0	0	0	0	Gamma
Patients in acute RRT	³¹	6310.05	631.005	5066.97	7553.13	Gamma
Patients recovering after AKI		0	0	0	0	NI
Patients in CD after AKI	³²	22161.6	2216.16	17795.76	26527.44	Gamma
Markov submodel						
Alive without CD	Assumption	0	0	0	0	NI
Alive recovery from AKI	Assumption	0	0	0	0	NI
CD after AKI	³²	97459.65	9745.965	78260.1	116659.2	Gamma
CD	³²	97459.65	9745.965	78260.1	116659.2	Gamma
Death		0	0	0	0	NI
Health state utilities per Markov cycle						
DF (alive without CD)	²⁹	0.86	0.01	0.8403	0.8797	Beta
DF-AKI	²⁹	0.86	0.01	0.8403	0.8797	Beta
CD	³⁰	0.56	0.032995	0.49	0.62	Beta

Note: costs for years previous to 2015 were inflated to 2015 values based on the Consumer Price Index, Medical Care Services component.

AKI: acute kidney injury; CD: chronic dialysis; CI: confidence interval; DF: dialysis-free; DF-AKI: dialysis-free post-acute kidney injury/renal replacement therapy; NI: not included; RR: relative risk; RRT: renal replacement therapy; SD: standard deviation

Supplementary Table 2. Calculation of Fluid Costs

	Chloride-restrictive Study Period*			Chloride-liberal Study Period*			Fluid Cost per Patient, \$		
	L Solution Administered per Group	% Solution Administered per Group	L Solution Administered per Patient	L Solution Administered per Group	% Solution Administered per Group	L Solution Administered per Patient	Chloride-restrictive	Chloride-liberal	
Saline	52	1.38	0.06	2411	62.80	3.20	2.35	0.14	7.52
Hartman Solution	3205	85.13	4.10	469	12.22	0.60	4.02	16.48	2.41
Plasma-Lyte 148	160	4.25	0.20	65	1.69	0.08	7.76	1.55	0.62
Baxter Flexbumin (5%)	80	2.12	0.10	269	7.01	0.35	49.58	4.96	17.35
Baxter Flexbumin (25%)	268	7.12	0.35	87	2.27	0.10	103.29	36.15	10.33
Total	3765	100.00		3839	100.00		59.28	38.23	

*Based on Yunos et al., 2012.¹⁸ AWP: average wholesale price