

model d2p v13.stmx

Total	Count	Including Array Elements
Variables	173	326
Stocks	36	81
Flows	33	96
Converters	104	149
Constants	64	130
Equations	73	115
Graphicals	0	0

	Equation	Properties	Units	Documentation	Annotation
Top-Level Model:					
cum_vac_3_doses_additional_base(t)	cum_vac_3_doses_additional_base(t - dt) + (Flow_10) * dt	INIT cum_vac_3_doses_additional_base = 0			NON-NEGATIVE
cum_vac_3_doses_additional_mRNA_scenario(t)	cum_vac_3_doses_additional_mRNA_scenario(t - dt) + (Flow_29) * dt	INIT cum_vac_3_doses_additional_mRNA_scenario = 0			NON-NEGATIVE
cum_vac_3_doses_additional_vv_scenario(t)	cum_vac_3_doses_additional_vv_scenario(t - dt) + (Flow_12) * dt	INIT cum_vac_3_doses_additional_vv_scenario = 0			NON-NEGATIVE
cumulative_reported_cases_cases(severity)(t)	cumulative_reported_cases_cases(severity)(t - dt) + (daily_reported_cases_by_severity(severity)) * dt	INIT cumulative_reported_cases_cases(severity) = 0			NON-NEGATIVE
cumulative_reported_cases_cases_1(severity)(t)	cumulative_reported_cases_cases_1(severity)(t - dt) + (daily_reported_cases_by_severity_1(severity)) * dt	INIT cumulative_reported_cases_cases_1(severity) = 0			NON-NEGATIVE
cumulative_reported_cases_cases_2(severity)(t)	cumulative_reported_cases_cases_2(severity)(t - dt) + (daily_reported_cases_by_severity_2(severity)) * dt	INIT cumulative_reported_cases_cases_2(severity) = 0			NON-NEGATIVE
E(t)	E(t - dt) + (flow_1 - Flow_2[mild_asym] - Flow_2[pneumo_no_ETT] - Flow_2[pneumo_ETT_no_dead] - Flow_2[pneumo_ETT_dead]) * dt	INIT E = 0			NON-NEGATIVE
E_1(t)	E_1(t - dt) + (Flow_5 - Flow_6[mild_asym] - Flow_6[pneumo_no_ETT] - Flow_6[pneumo_ETT_no_dead] - Flow_6[pneumo_ETT_dead]) * dt	INIT E_1 = 0			NON-NEGATIVE
E_2(t)	E_2(t - dt) + (flow_11 - Flow_13[mild_asym] - Flow_13[pneumo_no_ETT] - Flow_13[pneumo_ETT_no_dead] - Flow_13[pneumo_ETT_dead]) * dt	INIT E_2 = 0			NON-NEGATIVE
E_3(t)	E_3(t - dt) + (Flow_16 - Flow_17[mild_asym] - Flow_17[pneumo_no_ETT] - Flow_17[pneumo_ETT_no_dead] - Flow_17[pneumo_ETT_dead]) * dt	INIT E_3 = 0			NON-NEGATIVE
E_4(t)	E_4(t - dt) + (flow_20 - Flow_22[mild_asym] - Flow_22[pneumo_no_ETT] - Flow_22[pneumo_ETT_no_dead] - Flow_22[pneumo_ETT_dead]) * dt	INIT E_4 = 0			NON-NEGATIVE
E_5(t)	E_5(t - dt) + (Flow_25 - Flow_26[mild_asym] - Flow_26[pneumo_no_ETT] - Flow_26[pneumo_ETT_no_dead] - Flow_26[pneumo_ETT_dead]) * dt	INIT E_5 = 0			NON-NEGATIVE
I_after(severity)(t)	I_after(severity)(t - dt) + (Flow_3[severity] - Flow_4[severity]) * dt	INIT I_after(severity) = 0 TRANSIT TIME = admission_time CONTINUOUS ACCEPT MULTIPLE BATCHES			CONVEYOR
I_after_1(severity)(t)	I_after_1(severity)(t - dt) + (Flow_7[severity] - Flow_8[severity]) * dt	INIT I_after_1(severity) = 0 TRANSIT TIME = 1 CONTINUOUS ACCEPT MULTIPLE BATCHES			CONVEYOR
I_after_2(severity)(t)	I_after_2(severity)(t - dt) + (Flow_14[severity] - Flow_15[severity]) * dt	INIT I_after_2(severity) = 0 TRANSIT TIME = admission_time_1 CONTINUOUS ACCEPT MULTIPLE BATCHES			CONVEYOR
I_after_3(severity)(t)	I_after_3(severity)(t - dt) + (Flow_18[severity] - Flow_19[severity]) * dt	INIT I_after_3(severity) = 0 TRANSIT TIME = 1 CONTINUOUS ACCEPT MULTIPLE BATCHES			CONVEYOR
I_after_4(severity)(t)	I_after_4(severity)(t - dt) + (Flow_23[severity] - Flow_24[severity]) * dt	INIT I_after_4(severity) = 0 TRANSIT TIME = admission_time_2 CONTINUOUS ACCEPT MULTIPLE BATCHES			CONVEYOR
I_after_5(severity)(t)	I_after_5(severity)(t - dt) + (Flow_27[severity] - Flow_28[severity]) * dt	INIT I_after_5(severity) = 0 TRANSIT TIME = 1 CONTINUOUS ACCEPT MULTIPLE BATCHES			CONVEYOR
I_before(severity)(t)	I_before(severity)(t - dt) + (Flow_2[severity] - Flow_3[severity]) * dt	INIT I_before(severity) = total_pop*pet_infectious_all_starting*(1-pct_vac_3_doses_starting)*pct_severity_vac_less_than_3_doses TRANSIT TIME = time_lag CONTINUOUS ACCEPT MULTIPLE BATCHES			CONVEYOR
I_before_1(severity)(t)	I_before_1(severity)(t - dt) + (Flow_6[severity] - Flow_7[severity]) * dt	INIT I_before_1(severity) = total_pop*pet_severity_vac_3_more_doses*pet_infectious_all_starting*pet_vac_3_doses_starting TRANSIT TIME = time_lag CONTINUOUS ACCEPT MULTIPLE BATCHES			CONVEYOR
I_before_2(severity)(t)	I_before_2(severity)(t - dt) + (Flow_13[severity] - Flow_14[severity]) * dt	INIT I_before_2(severity) = total_pop_1*pet_infectious_all_starting_1*(1-pct_vac_3_doses_starting_1)*pet_severity_vac_less_than_3_doses_1 TRANSIT TIME = time_lag_1 CONTINUOUS ACCEPT MULTIPLE BATCHES			CONVEYOR
I_before_3(severity)(t)	I_before_3(severity)(t - dt) + (Flow_17[severity] - Flow_18[severity]) * dt	INIT I_before_3(severity) = total_pop_1*pet_severity_vac_3_more_doses_1*pet_infectious_all_starting_1*pet_vac_3_doses_starting_1 TRANSIT TIME = time_lag_1 CONTINUOUS ACCEPT MULTIPLE BATCHES			CONVEYOR
I_before_4(severity)(t)	I_before_4(severity)(t - dt) + (Flow_22[severity] - Flow_23[severity]) * dt	INIT I_before_4(severity) = total_pop_2*pet_infectious_all_starting_2*(1-pct_vac_3_doses_starting_2)*pet_severity_vac_less_than_3_doses_2 TRANSIT TIME = time_lag_2 CONTINUOUS ACCEPT MULTIPLE BATCHES			CONVEYOR
I_before_5(severity)(t)	I_before_5(severity)(t - dt) + (Flow_26[severity] - Flow_27[severity]) * dt	INIT I_before_5(severity) = total_pop_2*pet_severity_vac_3_more_doses_2*pet_infectious_all_starting_2*pet_vac_3_doses_starting_2 TRANSIT TIME = time_lag_2 CONTINUOUS ACCEPT MULTIPLE BATCHES			CONVEYOR
Removed(t)	Removed(t - dt) + (Flow_4[mild_asym] + Flow_4[pneumo_no_ETT] + Flow_4[pneumo_ETT_no_dead] + Flow_4[pneumo_ETT_dead]) * dt	INIT Removed = 0			NON-NEGATIVE
Removed_1(t)	Removed_1(t - dt) + (Flow_8[mild_asym] + Flow_8[pneumo_no_ETT] + Flow_8[pneumo_ETT_no_dead] + Flow_8[pneumo_ETT_dead]) * dt	INIT Removed_1 = 0			NON-NEGATIVE
Removed_2(t)	Removed_2(t - dt) + (Flow_15[mild_asym] + Flow_15[pneumo_no_ETT] + Flow_15[pneumo_ETT_no_dead] + Flow_15[pneumo_ETT_dead]) * dt	INIT Removed_2 = 0			NON-NEGATIVE
Removed_3(t)	Removed_3(t - dt) + (Flow_19[mild_asym] + Flow_19[pneumo_no_ETT] + Flow_19[pneumo_ETT_no_dead] + Flow_19[pneumo_ETT_dead]) * dt	INIT Removed_3 = 0			NON-NEGATIVE
Removed_4(t)	Removed_4(t - dt) + (Flow_24[mild_asym] + Flow_24[pneumo_no_ETT] + Flow_24[pneumo_ETT_no_dead] + Flow_24[pneumo_ETT_dead]) * dt	INIT Removed_4 = 0			NON-NEGATIVE
Removed_5(t)	Removed_5(t - dt) + (Flow_28[mild_asym] + Flow_28[pneumo_no_ETT] + Flow_28[pneumo_ETT_no_dead] + Flow_28[pneumo_ETT_dead]) * dt	INIT Removed_5 = 0			NON-NEGATIVE
S(t)	S(t - dt) + (- flow_1 - vac_rate) * dt	INIT S = Suscep_all_starting*(1-pct_vac_3_doses_starting)			NON-NEGATIVE
S_1(t)	S_1(t - dt) + (vac_rate - Flow_5) * dt	INIT S_1 = Suscep_all_starting*pet_vac_3_doses_starting			NON-NEGATIVE
S_2(t)	S_2(t - dt) + (- flow_11 - vac_rate_vv) * dt	INIT S_2 = Suscep_all_starting_1*(1-pct_vac_3_doses_starting_1)			NON-NEGATIVE
S_3(t)	S_3(t - dt) + (vac_rate_vv - Flow_16) * dt	INIT S_3 = Suscep_all_starting_1*pet_vac_3_doses_starting_1			NON-NEGATIVE
S_4(t)	S_4(t - dt) + (- flow_20 - vac_rate_mRNA) * dt	INIT S_4 = Suscep_all_starting_2*(1-pct_vac_3_doses_starting_2)			NON-NEGATIVE
S_5(t)	S_5(t - dt) + (vac_rate_mRNA - Flow_25) * dt	INIT S_5 = Suscep_all_starting_2*pet_vac_3_doses_starting_2			NON-NEGATIVE
daily_reported_cases_by_severity[mild_asym]	(Flow_3[mild_asym]+Flow_7[mild_asym])*underreporting_factor_mild_asym				UNIFLOW
daily_reported_cases_by_severity[pneumo_no_ETT]	(Flow_3[pneumo_no_ETT]+Flow_7[pneumo_no_ETT])*underreporting_factor_pneumonia_no_ett				
daily_reported_cases_by_severity[pneumo_ETT_no_dead]	(Flow_3[pneumo_ETT_no_dead]+Flow_7[pneumo_ETT_no_dead])*underreporting_factor_pneumonia_ett_NO_death				
daily_reported_cases_by_severity[pneumo_ETT_dead]	(Flow_3[pneumo_ETT_dead]+Flow_7[pneumo_ETT_dead])*underreporting_factor_pneumonia_ett_death				
daily_reported_cases_by_severity_1[mild_asym]	(Flow_14[mild_asym]+Flow_18[mild_asym])*underreporting_factor_mild_asym_1				UNIFLOW
daily_reported_cases_by_severity_1[pneumo_no_ETT]	(Flow_14[pneumo_no_ETT]+Flow_18[pneumo_no_ETT])*underreporting_factor_pneumonia_no_ett_1				
daily_reported_cases_by_severity_1[pneumo_ETT_no_dead]	(Flow_14[pneumo_ETT_no_dead]+Flow_18[pneumo_ETT_no_dead])*underreporting_factor_pneumonia_ett_NO_death_1				
daily_reported_cases_by_severity_1[pneumo_ETT_dead]	(Flow_14[pneumo_ETT_dead]+Flow_18[pneumo_ETT_dead])*underreporting_factor_pneumonia_ett_death_1				
daily_reported_cases_by_severity_2[mild_asym]	(Flow_23[mild_asym]+Flow_27[mild_asym])*underreporting_factor_mild_asym_2				UNIFLOW
daily_reported_cases_by_severity_2[pneumo_no_ETT]	(Flow_23[pneumo_no_ETT]+Flow_27[pneumo_no_ETT])*underreporting_factor_pneumonia_no_ett_2				
daily_reported_cases_by_severity_2[pneumo_ETT_no_dead]	(Flow_23[pneumo_ETT_no_dead]+Flow_27[pneumo_ETT_no_dead])*underreporting_factor_pneumonia_ett_NO_death_2				
daily_reported_cases_by_severity_2[pneumo_ETT_dead]	(Flow_23[pneumo_ETT_dead]+Flow_27[pneumo_ETT_dead])*underreporting_factor_pneumonia_ett_death_2				
flow_1	S*1_before_all*(reproduction_number/infectious_duration)*(1~ve<_3_doses)*total_pop	OUTFLOW PRIORITY: 1			UNIFLOW
Flow_10	vac_rate				UNIFLOW
flow_11	S_2*1_before_all_1*(reproduction_number_1/infectious_duration_1)*(1~ve<_3_doses_1)*total_pop_1	OUTFLOW PRIORITY: 1			UNIFLOW
Flow_12	vac_rate_vv				UNIFLOW
Flow_13[severity]	E_2*pet_severity_vac_less_than_3_doses_1/inc_period				UNIFLOW
Flow_14[severity]	CONVEYOR OUTFLOW				
Flow_15[severity]	CONVEYOR OUTFLOW				
Flow_16	(1~ve>=_3_doses_1)**(reproduction_number_1/infectious_duration)*S_3*1_before_all_1/total_pop_1				UNIFLOW
Flow_17[severity]	E_3*pet_severity_vac_3_more_doses_1/inc_period				UNIFLOW
Flow_18[severity]	CONVEYOR OUTFLOW				

Flow_19[severity]	CONVEYOR OUTFLOW				
Flow_2[severity]	E*pet_severity_vac_less_than_3_doses/inc_period				UNIFLOW
flow_20	S_4*(1_before_all_2*(reproduction_number_2/infectious_duration)*(1-~ve_<_3_doses_2)*total_pop_2	OUTFLOW PRIORITY: 1			UNIFLOW
Flow_22[severity]	E_4*pet_severity_vac_less_than_3_doses_2/inc_period				UNIFLOW
Flow_23[severity]	CONVEYOR OUTFLOW				
Flow_24[severity]	CONVEYOR OUTFLOW				
Flow_25	(1-~ve_>= _3_doses_2)*(reproduction_number_2/infectious_duration)*S_5*1_before_all_2*total_pop_2				UNIFLOW
Flow_26[severity]	E_5*pet_severity_vac_3_more_doses_2/inc_period				UNIFLOW
Flow_27[severity]	CONVEYOR OUTFLOW				
Flow_28[severity]	CONVEYOR OUTFLOW				
Flow_29	vac_rate_mRNA				UNIFLOW
Flow_3[severity]	CONVEYOR OUTFLOW				
Flow_4[severity]	CONVEYOR OUTFLOW				
Flow_5	(1-~ve_>= _3_doses)*(reproduction_number/infectious_duration)*S_1*1_before_all*total_pop				UNIFLOW
Flow_6[severity]	E_1*pet_severity_vac_3_more_doses/inc_period				UNIFLOW
Flow_7[severity]	CONVEYOR OUTFLOW				
Flow_8[severity]	CONVEYOR OUTFLOW				
vac_rate	0	OUTFLOW PRIORITY: 2			UNIFLOW
vac_rate_mRNA	STEP(171300, 1)	OUTFLOW PRIORITY: 2			UNIFLOW
vac_rate_vv	STEP(171300, 1)	OUTFLOW PRIORITY: 2			UNIFLOW
admin_cost_and_storage	234				
admin_cost_and_storage_1	234				
admin_cost_and_storage_2	234				
admission_time[mild_asym]	10				
admission_time[pneumo_no_ETT]	14				
admission_time[pneumo_ETT_no_dead]	21				
admission_time[pneumo_ETT_dead]	21				
admission_time_1[mild_asym]	10				
admission_time_1[pneumo_no_ETT]	14				
admission_time_1[pneumo_ETT_no_dead]	21				
admission_time_1[pneumo_ETT_dead]	21				
admission_time_2[mild_asym]	10				
admission_time_2[pneumo_no_ETT]	14				
admission_time_2[pneumo_ETT_no_dead]	21				
admission_time_2[pneumo_ETT_dead]	21				
cum_ALL_cases_base	SUM(cumulative_reported_cases_cases)				
cum_ALL_cases_mRNA	SUM(cumulative_reported_cases_cases_2)				
cum_ALL_cases_vv	SUM(cumulative_reported_cases_cases_1)				
cum_Death_base	cumulative_reported_cases_cases[pneumo_ETT_dead]				
cum_Death_mRNA	cumulative_reported_cases_cases_2[pneumo_ETT_dead]				
cum_Death_vv	cumulative_reported_cases_cases_1[pneumo_ETT_dead]				
cum_Rx_cost_cases_base	SUM(total_Rx_cost_by_severity)				
cum_Rx_cost_cases_mRNA	SUM(total_Rx_cost_by_severity_2)				
cum_Rx_cost_cases_vv	SUM(total_Rx_cost_by_severity_1)				
cum_Rx_cost_death_base	total_Rx_cost_by_severity[pneumo_ETT_dead]*cum_Death_base				
cum_Rx_cost_death_mRNA	total_Rx_cost_by_severity_2[pneumo_ETT_dead]*cum_Death_mRNA				
cum_Rx_cost_death_vv	total_Rx_cost_by_severity_1[pneumo_ETT_dead]*cum_Death_vv				
daily_death	daily_reported_cases_by_severity[pneumo_ETT_dead]				
daily_death_1	daily_reported_cases_by_severity_1[pneumo_ETT_dead]				
daily_death_2	daily_reported_cases_by_severity_2[pneumo_ETT_dead]				
daily_reported_cases_ALL_base	SUM(daily_reported_cases_by_severity)				
daily_reported_cases_ALL_mRNA	SUM(daily_reported_cases_by_severity_2)				
daily_reported_cases_ALL_vv	SUM(daily_reported_cases_by_severity_1)				
1_before_all	1_before[mild_asym] + 1_before_1[mild_asym]				SUMMING CONVERTER
1_before_all_1	1_before_2[mild_asym] + 1_before_3[mild_asym]				SUMMING CONVERTER
1_before_all_2	1_before_4[mild_asym] + 1_before_5[mild_asym]				SUMMING CONVERTER
ICER_total_cost_per_cases_saved_BASE_vs_mRNA	IF TIME < 2 THEN 0 ELSE "incremental_total_cost_(mRNA-basE)"/"incremental_total_cases_saved_(base_-_mRNA)"				
ICER_total_cost_per_cases_saved_BASE_vs_VV	IF TIME < 2 THEN 0 ELSE "incremental_total_cost_(vv-basE)"/"incremental_total_cases_saved_(base_-_vv)"				
ICER_total_cost_per_death_saved_BASE_vs_mRNA	IF TIME < 2 THEN 0 ELSE "incremental_total_cost_(mRNA-basE)"/"incremental_total_death_saved_(base_-_mRNA)"				
ICER_total_cost_per_death_saved_BASE_vs_VV	IF TIME < 2 THEN 0 ELSE "incremental_total_cost_(vv-basE)"/"incremental_total_death_saved_(base-vv)"				
ICER_vac_cost_per_cases_save_BASE_vs_mRNA	IF TIME < 2 THEN 0 ELSE margin_vac_3_cost_mRNA*"incremental_total_cases_saved_(base_-_mRNA)"				
ICER_vac_cost_per_cases_save_BASE_vs_VV	IF TIME < 2 THEN 0 ELSE margin_vac_3_cost_vv*"incremental_total_cases_saved_(base_-_vv)"				
ICER_vac_cost_per_death_save_BASE_vs_mRNA	IF TIME < 2 THEN 0 ELSE margin_vac_3_cost_mRNA*"incremental_total_death_saved_(base_-_mRNA)"				
ICER_vac_cost_per_death_save_BASE_vs_VV	IF TIME < 2 THEN 0 ELSE margin_vac_3_cost_vv*"incremental_total_death_saved_(base-vv)"				
inc_period	3.5				
"incremental_total_cases_saved_(base_-_mRNA)"	cum_ALL_cases_base-cum_ALL_cases_mRNA				
"incremental_total_cases_saved_(base_-_vv)"	cum_ALL_cases_base-cum_ALL_cases_vv				
"incremental_total_cost_(mRNA-basE)"	cum_Rx_cost_cases_mRNA+total_third_dose_vac_mRNA-(cum_Rx_cost_cases_base+total_third_dose_vac_cost_BASE)				
"incremental_total_cost_(vv-basE)"	total_third_dose_vac_cost_vv+cum_Rx_cost_cases_vv-(cum_Rx_cost_cases_base+total_third_dose_vac_cost_BASE)				
"incremental_total_death_saved_(base_-_mRNA)"	cum_Death_base-cum_Death_mRNA				
"incremental_total_death_saved_(base-vv)"	cum_Death_base-cum_Death_vv				
infectious_duration	4.7				
logOR_base	-0.580732				
logOR_mRNA	-0.798307				
logOR_vv	-0.417149				
margin_cum_vac_3_doses_mRNA_base	cum_vac_3_doses_additional_mRNA_scenario-cum_vac_3_doses_additional_base				
margin_cum_vac_3_doses_vv_base	cum_vac_3_doses_additional_vv_scenario-cum_vac_3_doses_additional_base				
margin_vac_3_cost_mRNA	margin_cum_vac_3_doses_mRNA_base*(vial_cost_mRNA+admin_cost_and_storage_2)				
margin_vac_3_cost_vv	margin_cum_vac_3_doses_vv_base*(admin_cost_and_storage_1+vial_cost_vv)				
pet_infectious_all_starting	0.0025				
pet_infectious_all_starting_1	0.0025				
pet_infectious_all_starting_2	0.0025				
pet_severity_vac_3_more_doses[mild_asym]	0.999487				
pet_severity_vac_3_more_doses[pneumo_no_ETT]	0.000466				
pet_severity_vac_3_more_doses[pneumo_ETT_no_dead]	0.0000155				
pet_severity_vac_3_more_doses[pneumo_ETT_dead]	0.000031				
pet_severity_vac_3_more_doses_1[mild_asym]	0.999487+STEP(0.0001890912, 78)				
pet_severity_vac_3_more_doses_1[pneumo_no_ETT]	0.000466+STEP(-0.0001718427, 78)				
pet_severity_vac_3_more_doses_1[pneumo_ETT_no_dead]	0.0000155+STEP(-0.0000057, 78)				
pet_severity_vac_3_more_doses_1[pneumo_ETT_dead]	0.000031+STEP(0.00001145, 78)				
pet_severity_vac_3_more_doses_2[mild_asym]	0.999487+STEP(0.000081, 78)				
pet_severity_vac_3_more_doses_2[pneumo_no_ETT]	0.000466+STEP(0.00007368, 78)				
pet_severity_vac_3_more_doses_2[pneumo_ETT_no_dead]	0.0000155+STEP(0.0000024547, 78)				
pet_severity_vac_3_more_doses_2[pneumo_ETT_dead]	0.000031+STEP(0.0000049, 78)				
pet_severity_vac_less_than_3_doses[mild_asym]	0.99729				
pet_severity_vac_less_than_3_doses[pneumo_no_ETT]	0.002463				
pet_severity_vac_less_than_3_doses[pneumo_ETT_no_dead]	0.000082				
pet_severity_vac_less_than_3_doses[pneumo_ETT_dead]	0.000164				
pet_severity_vac_less_than_3_doses_1[mild_asym]	0.99729				
pet_severity_vac_less_than_3_doses_1[pneumo_no_ETT]	0.002463				
pet_severity_vac_less_than_3_doses_1[pneumo_ETT_no_dead]	0.000082				
pet_severity_vac_less_than_3_doses_1[pneumo_ETT_dead]	0.000164				
pet_vac_3_doses_starting	0				
pet_vac_3_doses_starting_1	0.2				
pet_vac_3_doses_starting_2	0.2				
reproduction_number	1.5				
reproduction_number_1	1.7				
reproduction_number_2	1.7				
Suscep_all_starting	total_pop*(1-pet_infectious_all_starting)				
Suscep_all_starting_1	total_pop_1*(1-pet_infectious_all_starting_1)				
Suscep_all_starting_2	total_pop_2*(1-pet_infectious_all_starting_2)				

time_lag	4				
time_lag_1	4				
time_lag_2	4				
total_pop	50*10^6				
total_pop_1	50*10^6				
total_pop_2	50*10^6				
total_Rx_cost_by_severity[severity]	unit_cost_for_each_level_of_care*cumulative_reported_cases_cases				
total_Rx_cost_by_severity_1[severity]	unit_cost_for_each_level_of_care_1*cumulative_reported_cases_cases_1				
total_Rx_cost_by_severity_2[severity]	unit_cost_for_each_level_of_care_2*cumulative_reported_cases_cases_2				
total_third_dose_vac_cost_BASE	(admin_cost_and_storage+vial_cost_base)*cum_vac_3_doses_additional_base				
total_third_dose_vac_cost_vv	total_third_dose_vac_cost_BASE+margin_vac_3_cost_vv				
total_third_dose_vac_mRNA	total_third_dose_vac_cost_BASE+margin_vac_3_cost_mRNA				
underreporting_factor_mild_asym	0.16667				
underreporting_factor_mild_asym_1	0.16667				
underreporting_factor_mild_asym_2	0.16667				
underreporting_factor_pneumonia_ett_death	1				
underreporting_factor_pneumonia_ett_death_1	1				
underreporting_factor_pneumonia_ett_death_2	1				
underreporting_factor_pneumonia_ett_NO_death	1				
underreporting_factor_pneumonia_ett_NO_death_1	1				
underreporting_factor_pneumonia_ett_NO_death_2	1				
underreporting_factor_pneumonia_no_ett	0.33333				
underreporting_factor_pneumonia_no_ett_1	0.33333				
underreporting_factor_pneumonia_no_ett_2	0.33333				
unit_cost_for_each_level_of_care[mild_asym]	23000				
unit_cost_for_each_level_of_care[pneumo_no_ETT]	81000				
unit_cost_for_each_level_of_care[pneumo_ETT_no_dead]	252000				
unit_cost_for_each_level_of_care[pneumo_ETT_dead]	252000				
unit_cost_for_each_level_of_care_1[mild_asym]	23000				
unit_cost_for_each_level_of_care_1[pneumo_no_ETT]	81000				
unit_cost_for_each_level_of_care_1[pneumo_ETT_no_dead]	252000				
unit_cost_for_each_level_of_care_1[pneumo_ETT_dead]	252000				
unit_cost_for_each_level_of_care_2[mild_asym]	23000				
unit_cost_for_each_level_of_care_2[pneumo_no_ETT]	81000				
unit_cost_for_each_level_of_care_2[pneumo_ETT_no_dead]	252000				
unit_cost_for_each_level_of_care_2[pneumo_ETT_dead]	252000				
"ve_<_3_doses"	0				
"ve_<_3_doses_1"	0				
"ve_<_3_doses_2"	0				
"ve_>= _3_doses"	1-EXP(logOR_base)				
"ve_>= _3_doses_1"	IF TIME < 78 THEN 1-EXP(logOR_base) ELSE 1-EXP(logOR_vv)				
"ve_>= _3_doses_2"	IF TIME < 78 THEN 1-EXP(logOR_base) ELSE 1-EXP(logOR_mRNA)				
vial_cost_base	457				
vial_cost_mRNA	488				
vial_cost_vv	308				

Run Specs	
Start Time	1
Stop Time	170
DT	1/4
Fractional DT	True
Save Interval	1
Sim Duration	1.5
Time Units	Day
Pause Interval	0
Integration Method	Euler
Keep all variable results	True
Run By	Run
Calculate loop dominance information	True
Exhaustive Search Threshold	1000

Array Dimension	Indexed by	Elements
severity	Label (4)	mild_asym pneumo_no_ETT pneumo_ETT_no_dead pneumo_ETT_dead