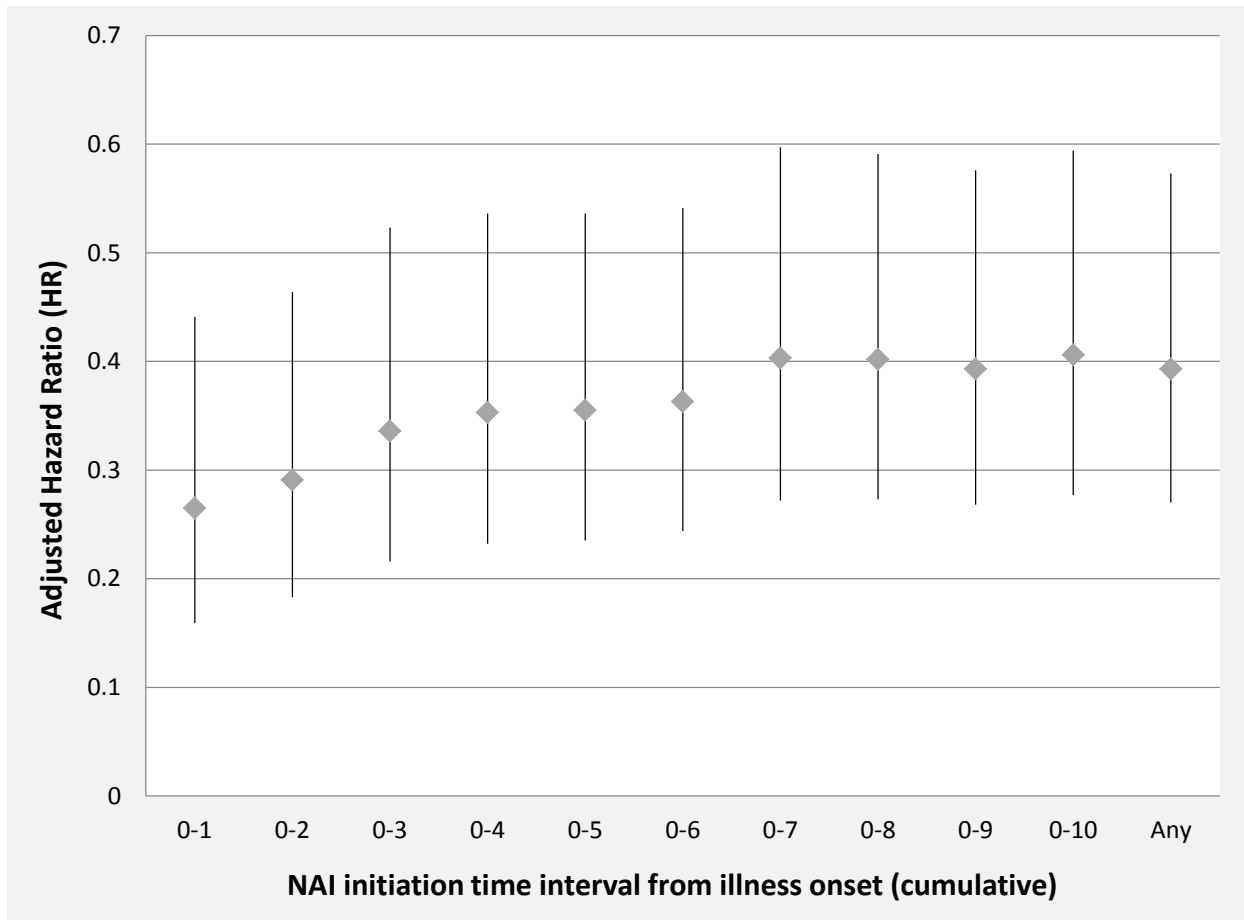


### Supplementary figure S1

Adjusted hazard ratios (HR) of initiation of NAI treatment in time-dependent Cox regression models, each calculated at increasing time intervals from illness onset. Lowest death risk was observed with treatment initiated within 2 days of illness, which progressively increased as time elapsed.



**Footnotes:** The adjusted hazard ratios and their 95% CIs were calculated based on time-dependent Cox regression models (see Methods, Model 3; censored at 30 days). NAI treatment initiated on 0-1 day, 0-2 day, 0-3 day, etc., was compared with no treatment within the same time intervals. Treatment propensity score, age, sex, virus subtype, bacterial superinfection, and statin and corticosteroid use were adjusted in the models. An adjusted HR <1 indicated a lower probability of death.

## **Supplementary table S1**

**Adjusted hazard ratios of explanatory variables associated with death, as shown in multivariate Cox regression models (censored at 60 days)**

	<b>Adjusted Hazards Ratio (aHR)</b>	<b>95% C.I.</b>	<b>P value</b>
<b>Model 1</b>			
age, per 20 yr	1.14	0.97, 1.34	0.123
sex, male	1.33	0.98, 1.81	0.064
H1N1pdm <sub>09</sub>	1.41	0.97, 2.04	0.072
bacterial superinfection	1.64	1.16, 2.31	0.005
NAI treatment	0.30	0.20, 0.44	<0.001
statin use	0.54	0.31, 0.95	0.031
systemic corticosteroids	1.10	0.80, 1.51	0.572
<b>Model 2</b>			
age, per 20 yr	1.20	1.01, 1.42	0.041
sex, male	1.38	1.01, 1.90	0.044
H1N1pdm <sub>09</sub>	1.24	0.83, 1.86	0.298
bacterial superinfection	1.58	1.10, 2.26	0.013
NAI treatment 0-2 d	0.23	0.15, 0.35	<0.001
3-5 d	0.36	0.23, 0.59	<0.001
>5 d	0.46	0.26, 0.81	0.007
none	--	--	--
statin use	0.62	0.35, 1.08	0.089
systemic corticosteroids	1.04	0.75, 1.44	0.827
<b>Model 3</b>			
<i>(time-dependent Cox regression)</i>			
age, per 20 yr	1.15	0.97, 1.36	0.109
sex, male	1.31	0.96, 1.78	0.085
H1N1pdm <sub>09</sub>	1.18	0.82, 1.70	0.376
bacterial superinfection	1.66	1.18, 2.35	0.004
NAI treatment *	0.41	0.29, 0.58	<0.001
statin use	0.52	0.30, 0.89	0.018
systemic corticosteroids	1.08	0.79, 1.48	0.634

**Footnotes:** In all models, NAI treatment propensity score was included as a covariate (see Methods), and had P-values <0.05. An adjusted HR <1 indicated a lower probability of death.

Model 1: NAI treatment, bacterial superinfection, statin and corticosteroid use (yes vs no); H1N1pdm09 (vs seasonal influenza A/B viruses). Model 2: NAI treatment, 'none' is the reference group.

\* Model 3: Time-dependent Cox regression, NAI treatment initiation with respect to day of illness onset was analyzed as a time-dependent covariate (vs none).

## **Supplementary table S2**

**Adjusted hazard ratios of explanatory variables associated with death, as shown in multivariate Cox regression models which excluded patients with known indications for corticosteroid treatment for acute COPD/asthma exacerbations**

	<b>Adjusted Hazards Ratio (aHR)</b>	<b>95% C.I.</b>	<b>P value</b>
<b>Model 1 (censored at 30 days)</b>			
age, per 20 yr	1.27	1.03, 1.57	0.025
sex, male	1.65	1.14, 2.39	0.008
H1N1pdm <sub>09</sub>	2.00	1.24, 3.23	0.005
bacterial superinfection	2.14	1.42, 3.23	<0.001
NAI treatment	0.20	0.13, 0.32	<0.001
statin use	0.53	0.27, 1.06	0.071
systemic corticosteroids	1.73	1.14, 2.62	0.010
<b>Model 1 (censored at 60 days)</b>			
age, per 20 yr	1.25	1.03, 1.51	0.024
sex, male	1.56	1.11, 2.20	0.012
H1N1pdm <sub>09</sub>	1.98	1.27, 3.10	0.003
bacterial superinfection	1.77	1.20, 2.63	0.004
NAI treatment	0.20	0.13, 0.31	<0.001
statin use	0.69	0.39, 1.24	0.213
systemic corticosteroids	1.69	1.15, 2.50	0.008

**Footnotes:** In all models, NAI treatment propensity score was included as a covariate (see Methods), and had P-values <0.05. An adjusted HR <1 indicated a lower probability of death.

Model 1: NAI treatment, bacterial superinfection, statin and corticosteroid use (yes vs no); H1N1pdm09 (vs seasonal influenza A/B viruses). Cases included for analysis, n=2088; received corticosteroids for respiratory failure, pneumonia, or fever control, n=254.