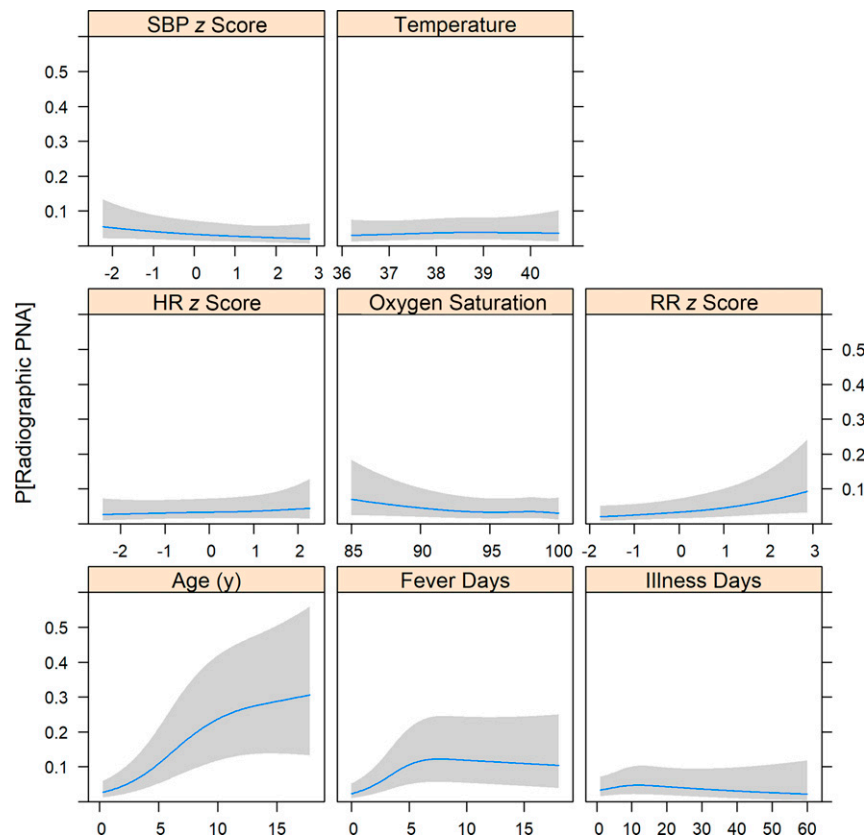
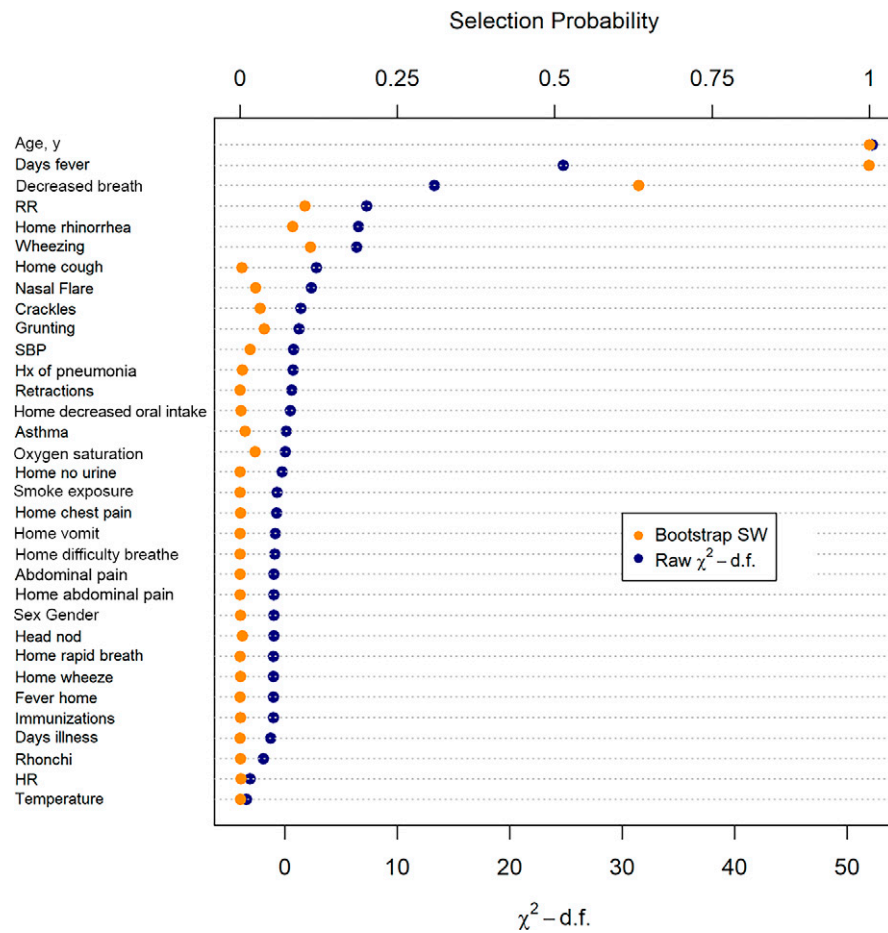


SUPPLEMENTAL INFORMATION

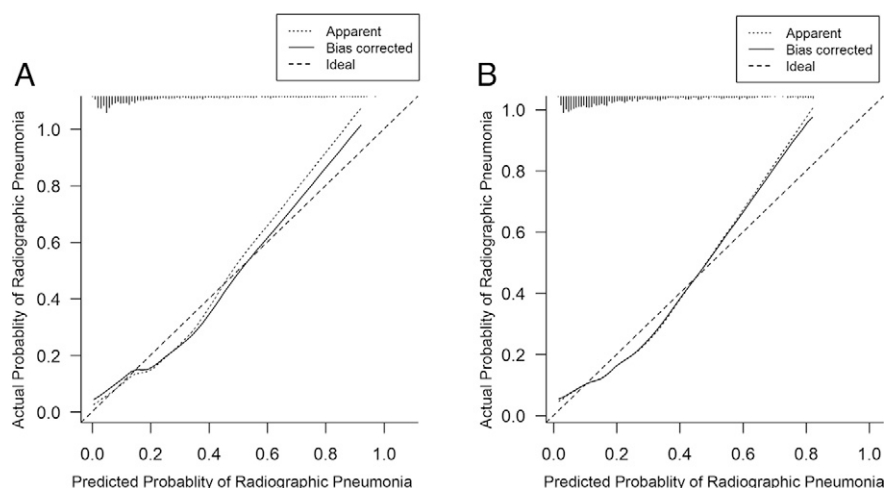


SUPPLEMENTAL FIGURE 3
Partial effects plots of splined predictors for radiographic pneumonia. Plots were constructed on the basis of restricted cubic spline transformations of predictors to identify associations between continuous variables and the presence or absence of radiographic pneumonia, holding other variables constant. Systolic blood pressure, heart rate, and respiratory rate provided as z scores adjusted for age. PNA, pneumonia.



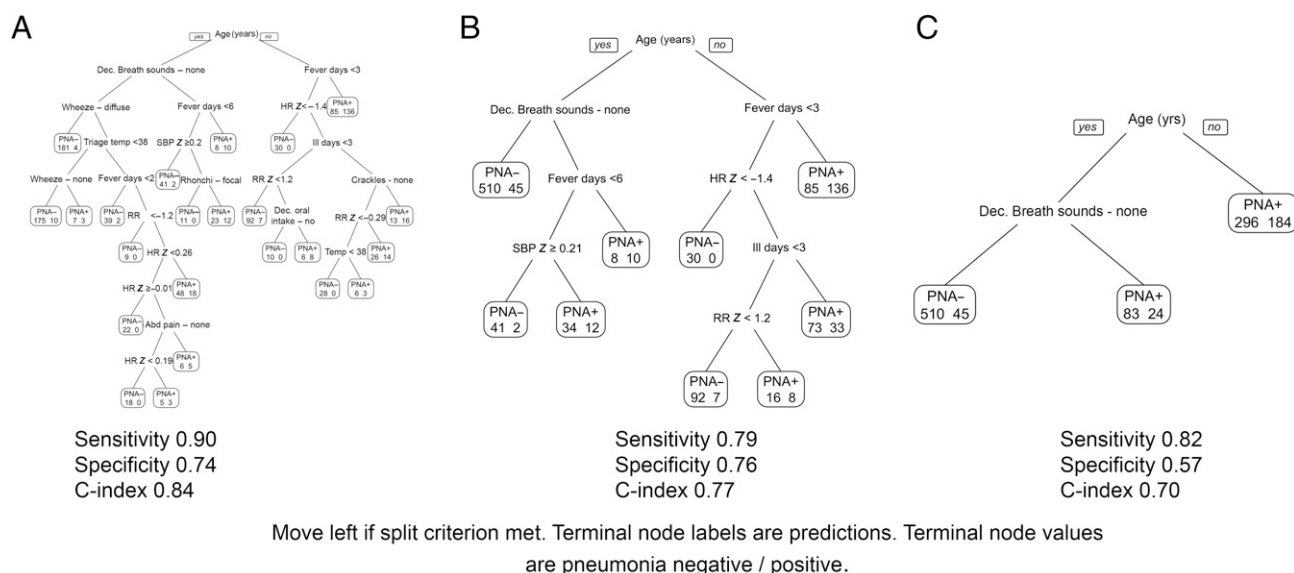
SUPPLEMENTAL FIGURE 4

Relative importance of individual predictors. Plotted points are the proportion of bootstrapped data sets for which a variable was backwards selected for inclusion in a reduced model (orange) and the raw χ^2 statistic less the degrees of freedom in the full model. The reduced model contained age, duration of fever, and decreased breath sounds. HR, heart rate; RR, respiratory rate; SBP, systolic blood pressure.



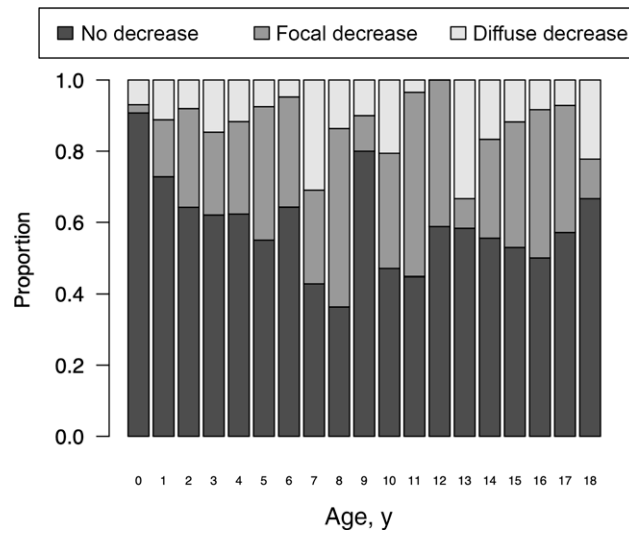
SUPPLEMENTAL FIGURE 5

Calibration plots of the full and reduced models. These plots assess the association between the predicted probability (X axis) to the actual probability (Y axis) of outcome, with ideal calibration representing a line with slope 1 and X intercept at the 0. For example, at a predicted probability of 40% in the reduced model, ~40% had radiographic CAP; whereas at a predicted probability of 60%, ~65–70% had radiographic CAP. An ideal test would reveal perfect calibration between an actual and predicted probability of pneumonia (intercept of 0 and slope of 1). The apparent line represents in-sample calibration, and the bias-corrected line is performed via resampling to assess for out-of-sample performance. A, Full model. B, Reduced model.



SUPPLEMENTAL FIGURE 6

Recursive partitioning trees. An optimal C-index was obtained when using a 5.3 cost between false-positives and false-negatives. A, At a complexity parameter of 0.01, the trees exhibited a sensitivity of 0.9 and C-index of 0.82 but with complex trees and with few cases in terminal nodes. At higher complexity parameters of (B) 0.015 and (C) 0.02, there was a decrease in sensitivity and C-index.



SUPPLEMENTAL FIGURE 7

Association of age with findings of decreased breath sounds. The mean age of patients without decreased breath sounds was 4.2 years, for those with diffuse decreased breath sounds, 5.5 years, and for those with focal decreased breath sounds, 6.3 years. HR, heart rate; RR, respiratory rate; SBP, systolic blood pressure.

SUPPLEMENTAL TABLE 5 Full and Reduced Models When Using an Outcome of Probable or Definite Radiographic Pneumonia Only (*n* = 203)

Variable	Full Multivariable Model, aOR (95% CI)	Reduced Model, aOR (95% CI)
Demographic		
Age, y		
1	Reference	Reference
2	1.38 (1.22–1.56)	1.40 (1.27–1.55)
5	3.52 (2.24–5.53)	3.73 (2.59–5.37)
10	10.03 (5.16–19.52)	10.06 (6.08–16.62)
Sex, male	1.09 (0.74–1.61)	—
Historical		
Fever	1.72 (0.66–4.47)	—
Days of Fever		
1	Reference	Reference
2	1.44 (1.23–1.68)	1.65 (1.48–1.85)
5	3.27 (2.02–5.30)	5.04 (3.53–7.19)
10	4.27 (2.37–7.69)	6.35 (4.17–9.67)
Cough	3.06 (0.98–9.57)	—
Difficulty breathing	0.86 (0.50–1.47)	—
Immunization	0.97 (0.43–2.19)	—
Days of illness		
1	Reference	—
2	1.07 (0.99–1.15)	—
5	1.29 (0.97–1.73)	—
10	1.50 (0.86–2.56)	—
Vomiting	0.96 (0.65–1.41)	—
Wheezing	1.05 (0.67–1.62)	—
Rapid breathing	0.98 (0.59–1.63)	—
Rhinorrhea	0.48 (0.30–0.77)	—
Chest pain	0.87 (0.56–1.36)	—
Abdominal pain	0.94 (0.61–1.44)	—
Decreased oral intake	0.99 (0.66–1.48)	—
Decreased urine output	0.81 (0.44–1.50)	—
Smoke exposure	1.22 (0.82–1.79)	—
Pneumonia history	0.91 (0.54–1.53)	—
Past pneumonia hospitalization	0.57 (0.28–1.19)	—
Asthma	0.70 (0.44–1.11)	—
Physical examination		
Temperature (degrees Celsius)		
37	Reference	—
38	1.33 (0.93–1.91)	—
39	1.51 (0.93–2.44)	—
40	1.53 (0.74–3.16)	—
Respiratory rate z (95th percentile versus 50th percentile)	2.08 (1.21–3.57)	—
Heart rate z (95th percentile versus 50th percentile)	1.39 (0.62–3.10)	—
Systolic blood pressure z (5th percentile versus 50th percentile)	1.56 (0.83–2.93)	—
Oxygen saturation		
92%	1.17 (0.83–1.66)	—
94%	1.09 (0.88–1.35)	—
96%	Reference	—
98%	0.88 (0.63–1.24)	—
99%	0.82 (0.54–1.24)	—
Oxygen saturation <92%	1.86 (0.91–3.79)	—
Retractions	0.71 (0.41–1.24)	—
Grunting	1.18 (0.50–2.77)	—
Nasal flaring	1.92 (0.95–3.92)	—
Head nodding	0.69 (0.14–3.48)	—
Abdominal pain	1.47 (0.80–2.69)	—
Crackles or rales		
None	Reference	—
Focal	1.28 (0.82–1.99)	—
Diffuse	0.69 (0.30–1.59)	—

SUPPLEMENTAL TABLE 5 Continued

Variable	Full Multivariable Model, aOR (95% CI)	Reduced Model, aOR (95% CI)
Rhonchi		
None	Reference	—
Focal	0.86 (0.43–1.69)	—
Diffuse	0.81 (0.46–1.42)	—
Wheezing		
None	Reference	—
Focal	1.23 (0.50–3.00)	—
Diffuse	0.48 (0.25–0.94)	—
Decreased breath sounds		
None	Reference	Reference
Focal	2.43 (1.56–3.78)	2.84 (1.92–4.19)
Diffuse	1.06 (0.51–2.20)	1.04 (0.56–1.94)

aOR, adjusted odds ratio; —, not applicable.

SUPPLEMENTAL TABLE 6 Exploratory Reduced Models Among Patients ≥ 4 Years of Age

Variable	New Reduced Model Derived in Children ≥ 4 y old, OR (95% CI)	Application of Original Model ^a to the Subset of Children ≥ 4 y Old, OR (95% CI)
Age, y		
4	Reference	Reference
6	1.47 (1.16–1.87)	1.43 (1.13–1.80)
8	2.14 (1.36–3.35)	2.02 (1.31–3.12)
10	2.94 (1.62–5.33)	2.70 (1.52–4.79)
12	3.51 (1.85–6.67)	3.11 (1.68–5.76)
15	3.44 (1.83–6.47)	2.85 (1.56–5.18)
Fever, d		
1	Reference	Reference
2	1.69 (1.50–1.90)	1.61 (1.44–1.80)
5	6.10 (4.10–9.09)	5.15 (3.54–7.47)
10	8.61 (5.18–14.33)	7.12 (4.42–11.45)
Decreased breath sounds		
None	Reference	Reference
Focal	2.01 (1.25–3.23)	2.68 (1.71–4.21)
Diffuse	1.12 (0.56–2.24)	1.34 (0.70–2.55)
Respiratory rate z score (50th percentile versus 95th percentile)	3.05 (1.71–5.43)	—
Crackles or rales		
None	Reference	—
Focal	2.19 (1.35–3.55)	—
Diffuse	0.63 (0.23–1.72)	—

OR, odds ratio; —, not applicable.