ChICAGO — A simple severity-as-
sement tool for community-ac-
quired pneumonia (CAP) and
acute respiratory illnesses (ARIs) is
now available.

The researchers calculated the area
under the receiver operating charac-
teristic (ROC) curve and the Hose-
mer-Lemeshow goodness-of-fit sta-
tistic to determine the ability of
SMART-COP to predict the need for
IRIS in 7,464 patients from five CAP
databases, including 474 patients who
needed IRIS. The patients’ mean age
was 65 years (range 18-100 years).

Sensitivity and specificity for
SMART-COP in each of the five
databases were 80% and 61%, 58% and
46%, 86% and 79%, 7% and 73%, and 73%,
89% and 46%, respectively.

For SMART-CO, the results were
86% and 51%, 71% and 59%, 81% and
58%, 85% and 55%, and 95% and 36%, respectively.

High accuracy was found
even though it wasn’t possible in most
cases to assess the lower cutoff
values for respiratory rate and oxy-
genation in patients aged 50 years or
younger, as proposed in the SMART-
COP model, the cutoff is at least 25 breaths per
minute, according to Dr. E. Kathryn Miller and
her associates.

A modified version for primary
physicians, called SMART-CO, does not require
the results of investigations
such as serum albumin, ar-
terial pH, and arterial oxygen tension.

For SMART-COP and SMART-CO,
the cutoff scores for increased risk
of needing intensive respiratory or
intravenous support (IRISs) are at
least three points and at least two
points, respectively.

Dr. Patrick G.P. Charles of the depart-
ment of infectious diseases,
Asthmatic Children Bear the Brunt of the Influenza Burden

BY PATRICIA WENDING
Chicago Bureau

T he influenza-related hospitalization
rates of young children with asthma
were four times greater than those of
children without asthma, and outpatient
visits attributable to influenza were about
twice as likely among those with asthma,
according to Dr. E. Kathryn Miller and
her associates.

The results are similar to those of ret-
rospective studies that found that the rate
of influenza-related outpatient visits
for children with asthma and other med-
cal conditions was higher than among
healthy children, the investigators noted.

But they added that their study may be
the first to use prospective, laboratory-con-
fi rmed surveillance over several years to
estimate rates of influenza-attributable visits
for these two groups of children in outpa-
tient settings (Pediatries 2008;121:1-8).

The investigators conducted a prospec-
tive study that included children aged 6-59
months. Patients were either hospitalized
between 2000 and 2004 or presented to
clinics or emergency departments with
acute respiratory illnesses (ARIs) or fever
during two flu seasons between 2002 and
2004. In both the hospital and outpatient
settings, throat and nasal swabs were ob-
tained and tested for influenza, said Dr.
Miller of the department of pediatrics at
Vanderbilt University in Nashville, Tenn.:

Of the 1,468 children hospitalized, 81
(6%) had lab-confirmed influenza; about
one-quarter of these 81 children had asth-
amia. Among children aged 6-23 months,
the average annual rate of hospitalizations at-
tributable to influenza was 2.8 cases/1,000
children with asthma, compared with 0.6
cases/1,000 children among healthy chil-
dren, a significant difference. But the dif-
ference was not significant among those
children aged 24-59 months: 0.6 cases/1,000
children with asthma, compared with 0.2 cases/1,000
children among the healthy children.

Among the 1,432 children enrolled in the
outpatient settings, influenza was con-
fi rmed in 249 patients (17%); 15% had asth-
ma. Among the children aged 6-23 months
with asthma, the average annual rate of out-
patient visits attributable to influenza was
1.1/1,000 children, compared with 1/1,000
children among healthy children.

Among those children aged 24-59 months,
the rates were 188 cases/1,000 children
with asthma, compared with 182 cases/1,000
healthy children in 2003-2004. Both differ-
ences were statistically significant.

The authors speculated that possible
explanations for the higher rates of inpa-
tient and outpatient visits among children
with asthma included their greater sus-
cceptibility to influenza and the greater
likelihood they will have a more severe in-
fluenza-related illness. They also may be
more likely to seek medical help for a fever
or ARI and may be more likely to hos-

tipitalized because of concerns about their
risk of asthma exacerbations, the investi-
gators noted.

Vaccination rates were low in both
groups: About 27% of those children with
asthma had been vaccinated, and 12%
15% of the children without asthma had
been vaccinated, according to parent rep-
torts. "Targeted strategies to increase the
influenza vaccination rates for both chil-
dren with asthma and healthy children
[aged 6-59 months are needed," the
researchers said.