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PhilHealth Circular
No. 2016 - 003

TO : **ALL ACCREDITED HEALTH CARE PROVIDERS, PHILHEALTH MEMBERS, PHILHEALTH REGIONAL OFFICES AND ALL OTHER CONCERNED**

SUBJECT : **Policy statements on the Diagnosis, Empiric Management, and Prevention of Community-acquired Pneumonia (CAP) in Immunocompetent Adults as reference by the Corporation in ensuring quality of care *(Revision 1)***

I. RATIONALE

The revised Implementing Rules and Regulations of the National Health Insurance Act of 2013 (RA 7875 as amended by RA 9241 and RA 10606) under Title V (Quality Assurance and Accreditation) Rule 1 (Quality Assurance) Section 51 provides the implementation of quality assurance standards as reference for ensuring quality of care services.

Compliance to clinical practice guidelines (CPGs) shall be one of the strategies in the implementation of quality assurance standards. The CPG recommendations based on best available evidence shall be translated into policy statements and shall be used primarily to provide guidance to doctors, hospitals and patients as to what tests, medicines, and procedures are strongly recommended if benefits clearly outweigh the harms. It shall be used by the Corporation as one of its references in assessing the quality of care rendered by PhilHealth-accredited health care providers to members through performance monitoring and other activities when necessary.

Community acquired pneumonia (CAP) is considered as one of the top illnesses in claims reimbursement. Moderate- and high-risk CAP require inpatient care because of the need for intravenous treatment and close observation due to risk of developing complications. *This document incorporates in particular the updated 2016 treatment recommendations in the clinical practice guideline entitled "Diagnosis, Empiric Management and Prevention of Community-Acquired Pneumonia in Immunocompetent Adults 2016 Update" jointly developed by the Philippine Society of Microbiology and Infectious Diseases (PSMID), Philippine College of Physicians (PCP), Philippine Academy of Family Physicians (PAFP), and the Philippine College of Radiology (PCR) and expert opinion from the PSMID.*

II. SPECIFIC POLICY RECOMMENDATIONS

The Corporation shall adopt as standards the following revised statements in managing CAP in immunocompetent adults which shall serve as guide to health care practitioners. However, specific provisions may be explicitly stated to affect reimbursement i.e., denial of claims for less than 4 days confinement.

A. DEFINITION

CAP is commonly defined as an acute infection of the pulmonary parenchyma with symptoms of acute illness accompanied by abnormal chest findings. Patients who acquire the infection in hospitals or long-term facilities are typically not part of the definition.

B. DIAGNOSIS

Clinical judgment is needed to make a diagnosis of CAP. Patients usually presents with:

1. A history of cough within the past 24 hours or less than 2 weeks;
2. Abnormal vital signs of tachypnea (respiratory rate >20 breaths per minute), tachycardia (cardiac rate >100 per minute) and fever (temperature >37.8 C); and
3. With at least 1 abnormal chest finding of diminished breath sounds, rhonchi, crackles, or wheeze.

C. INITIAL CHEST RADIOGRAPHY

1. *Chest x-ray* should be done for all patients suspected of pneumonia.
2. Chest CT scan should NOT be done routinely in the evaluation of pneumonia.

D. HOSPITAL ADMISSION

1. All patients with CAP should be classified into 3 risk categories (refer to Annex A) to determine the need for hospitalization. Only moderate and high-risk CAP should be admitted.
2. Chest x-ray may be repeated for hospitalized patients suspected of pneumonia but have initial "normal" chest radiographic findings.

E. MICROBIOLOGIC STUDIES

1. For low-risk CAP, sputum gram stain and culture is NOT recommended except when there is a failure of clinical response to previous antibiotics and the patient has clinical conditions in which drug resistance may be an issue.
2. For moderate- and high-risk CAP, blood cultures AND gram stain and culture with antibiotic sensitivity tests of respiratory specimens should be done prior to starting any antibiotic treatment. *The tests shall be expected to be performed in health care facilities with service capability as reflected in their license from the Department of Health (DOH). While in HCIs without such service capability, the tests shall not be required. However, health outcomes of patients shall be monitored by the Corporation using the following monitoring tools but not limited to: facility visits, domiciliary investigations, chart review, and others as appropriate.*

F. TREATMENT

1. Among patients with CAP, empiric antimicrobial therapy based on initial risk stratification is recommended *based on PSMID CAP Guideline on Treatment 2016 update.*

Table1. Empiric antimicrobial therapy for CAP with usual recommended dosages in 50-60 kg adults with normal liver and renal functions

Risk Stratification	*Potential Pathogen*	Antibiotic/Dosage
Low-risk CAP Stable vital signs RR <30 minute PR <125/min SBP >90 mmHg DBP >60 mmHg Temp >36˚C or <40˚C • No altered mental state of acute onset • No suspected aspiration • No or stable co-morbid conditions • Chest x-ray (localized infiltrates, no evidence of pleural effusion)	*Streptococcus pneumonia* *Haemophilus influenza* *Chlamydophila pneumonia* *Mycoplasma pneumonia* *Moraxella catarrhalis* *Enteric gram-negative bacilli (among those with co-morbid illness)*	**Without co-morbid illness** Amoxicillin *1gm* TID OR Extended macrolides[a] Azithromycin 500 mg OD OR Clarithromycin 500 mg BID **With stable co-morbid illness** *B-lactam/B-lactamase inhibitor combination (BLIC)*[b] *OR* *2nd gen oral cephalosporin*[c] *PLUS/MINUS* *Extended macrolides*[a] Co-amoxiclav 1gm BID OR Sultamicillin 750 mg BID OR Cefuroxime axetil 500 mg BID +/- Azithromycin 500 mg OD OR Clarithromycin 500 mg BID
Moderate-risk CAP Unstable vital signs: RR ≥30/min PR ≥125/min Temp </=36C or ≥40C SBP <90 mmHg DBP </=60 mmHg • Altered mental state of acute onset • Suspected aspiration • Unstable/decompensated co-morbid condition (uncontrolled diabetes mellitus, active malignancies, neurologic disease in evolution, congestive heart	*Streptococcus pneumonia* *Haemophilus influenza* *Chlamydophila pneumonia* *Mycoplasma pneumonia* *Moraxella catarrhalis* *Enteric gram-negative bacilli* *Legionella pneumophila* *Anaerobes (among those with risk of aspiration)*	*IV non-antipseudomonal B-lactam*[d] *(BLIC, cephalosporin)* *PLUS* *Extended macrolides*[a] *OR* *Respiratory fluroquinolones*[e] *(PO)* Ampicillin-Sulbactam 1.5 gms *q6h* IV OR Cefuroxime 1.5 g q8h IV OR Ceftriaxone 2 g OD PLUS Azithromycin 500 mg OD PO OR Clarithromycin 500 mg BID PO OR

failure (CHF) class II-IV, unstable coronary artery disease)		Levofloxacin 500 mg OD PO If aspiration pneumonia is suspected and a regimen containing ampicillin-sulbactam and/or moxifloxacin is used, there is no need to add another antibiotic coverage. If another combination is used may add clindamycin to the regimen to cover microaerophilic streptococci. *Clindamycin 600 mg q8h IV* OR Ampicillin-Sulbactam 3 g q6h IV
High-risk CAP Any of the clinical feature of moderate-risk CAP plus any of the following: Severe sepsis and septic shock OR need for mechanical ventilation	*Streptococcus pneumonia* *Haemophilus influenza* *Chlamydophila pneumonia* *Mycoplasma pneumonia* *Moraxella catarrhalis* *Enteric gram-negative bacilli Legionella pneumophila* *Anaerobes (among those with risk of aspiration)* *Staphylococcus aureus* *Pseudomonas aeruginosa*	**No risk for Pseudomonas aeruginosa:** *IV antipneumococcal antipseudomonal B-lactam (BLIC, cephalosporin or carbapenem)* *PLUS* *IV extended macrolides*[a] *PLUS* *aminoglycoside*[b] Ceftriaxone 2 gm OD OR Ertapenem 1 gm OD PLUS Azithromycin dihydrate 500 mg OD IV OR Ertapenem 1 gm OD PLUS Azithromycin dihydrate 500 mg OD IV Levofloxacin *500 mg* OD IV
		Risk for Pseudomonas aeruginosa: *IV antipneumococcal antipseudomonal B-lactam (BLIC, cephalosporin or carbapenem)* *PLUS* *IV extended macrolides*[a] *PLUS* *aminoglycoside*[b] Piperacillin-tazobactam 4.5 gm q6h OR Cefepime 2 gm q8-12h OR Meropenem 1 gm q8h PLUS Azithromycin dihydrate 500 mg OD IV PLUS Gentamycin 3 mg/kg OD OR Amikacin 15 mg/kg OD
		IV antipneumococcal antipseudomonal B-lactam (BLIC, cephalosporin or carbapenem) *PLUS* *IV ciprofloxacin/ high dose levofloxacin* Piperacillin-tazobactam 4.5 gm q6h OR

		Cefepime 2 gm q8-12h OR Meropenem 1 gm q8h PLUS Levoflocaxin 750 mg OD IV OR Ciprofloxacin 400 mg q8-12h IV
		If MRSA pneumonia is suspected, add Vancomycin *15 mg/kg q8*-12h OR Clindamycin 600 mg q8h IV

a. *Extended macrolides: azithromycin, clarithromycin*
b. *Oral B-lactam/B-lactamase inhibitor combination (BLIC) – amoxicillin-clavulanic acid, sultamicillin*
c. *Oral second-generation cephalosporin: cefuroxime axetil*
d. *IV non-antipseudomonal B-lactam (BLIC, cephalosporin or carbapenem): ampicillin-sulbactam, cefuroxime Na, ceftriaxone, ertapenem*
e. *Respiratory fluoroquinolone: levofloxacin, moxifloxacin*
f. *IV antipneumococcal, antipseudomonal B-lactam (BLIC, cephalosporin or carbapenem): piperacillin-tazobactam, cefepime, imipenem-cilastatin, meropenem*
g. *Aminoglycoside: gentamicin, amikacin*

2. Routine use of mucolytics is NOT recommended in treatment of troublesome cough associated with pneumonia.

G. MONITORING RESPONSE TO INITIAL THERAPY

1. Patients with CAP should be monitored within 72 hours after initial therapy for clinical response based on improvement of temperature, respiratory rate, blood pressure, sensorium, oxygen saturation, and inspired oxygen concentration.

2. If there is no improvement after 72 hours of treatment, patient should be reassessed for possible resistance to the antibiotics or "for presence of other pathogens such as M. tuberculosis, viruses, parasites or fungi."

3. Measurement of arterial oxygenation is important in the initial evaluation of patients with CAP. The use of pulse oximetry may complement rather than replaces clinical severity scoring tools.

4. A follow-up chest x-ray is recommended only for patients who are not clinically improving.

5. Follow-up cultures of blood and sputum are not indicated for patients who are responding to treatment.

H. STREAMLINING EMPIRIC ANTIBIOTIC THERAPY

Patients started on parenteral antibiotics can be switched to oral therapy *(see Table 3)* once the patient is clinically improving, is hemodynamically stable and has a functioning gastrointestinal tract *(see Table 2)*.

Table 2. Indications for streamlining of antibiotic therapy (Adapted from PSMID CAP Guideline on Treatment 2016 Update)

1. Resolution of fever for >24 hours
2. Less cough and resolution of respiratory distress (normalization of respiratory rate)
3. Improving white blood cell count, no bacteremia
4. Etiologic agent is not a high-risk (virulent/resistant) pathogen eg, Legionella, S. aureus or Gram-negative enteric bacilli
5. No unstable comorbid condition or life-threatening complication such as myocardial infarction, congestive heart failure, complete heart block, new atrial fibrillation, supraventricular tachycardia, etc.
6. No sign of organ dysfunction such as hypotension, acute mental changes, BUN to creatinine ratio of >10:1, hypoxemia, and metabolic acidosis
7. Patient is clinically hydrated, taking oral fluids and is able to take oral medications

Table 3. Antibiotic dosage of oral agents for streamlining or switch therapy (Adapted from PSMID CAP Guideline on Treatment *2016 Update*)

Antibiotic	Dosage
Amoxicillin-clavulanic acid	625 mg TID or 1 gm BID
Azithromycin	500 mg OD
Cefixime	*200 mg BID*
Cefuroxime axetil	*500 mg BID*
Cefpodoxime proxetil	*200 mg BID*
Levofloxacin	*500 – 750 mg OD*
Sultamicillin	*750 mg BID*

I. HOSPITAL DISCHARGE

Patients diagnosed of CAP can be discharged based on the following criteria:
1. Absence of unstable co-existing illness or other life-threatening complication;
2. Stable vital signs; and
3. Ability to maintain oral intake

J. LENGTH OF STAY

1. The recommended length of stay (LOS) for patients with moderate risk pneumonia should be minimum of 96 hours (4 days) confinement with at least three (3) days IV antibiotics and to provide sufficient time for proper evaluation of patient's response to therapy. Otherwise, claim shall be denied.

2. Hospital stay can be extended for longer period in high-risk pneumonia patients due to clinical instability of the condition.

K. PREVENTION

The following are recommended for the prevention of CAP:
1. Pneumococcal and influenza vaccinations
2. Smoking cessation

III. MONITORING AND EVALUATION

The health care provider shall be bound by the provisions of the Performance Commitment and subject to the rules on monitoring and evaluation of performance as provided in PhilHealth Circular No. 31 s-2014 (HC P-PAS).

This Circular shall be reviewed periodically and as necessary.

IV. REPEALING CLAUSE

All provisions of previous issuances, circulars, and directives that are inconsistent with any of the provisions of this Circular for this particular circumstance wherein the same is particularly applicable, are hereby amended, modified or repealed accordingly.

V. EFFECTIVITY

This Circular shall take effect *fifteen days after publication* in any newspaper of general circulation and shall be deposited thereafter with the National Administrative Register at the University of the Philippines Law Center.

ALEXANDER A PADILLA
President and CEO
Date signed: 02/02/16

MASTER DOCUMENT
DC: ___ Date: 02/02/16

Annex A. Clinical Features of patients with CAP according to risk categories (adapted from CAP Guidelines 2010)

Low Risk CAP	Moderate Risk CAP	High Risk CAP
Presence of: Stable vital signs • RR <30 breaths/min • PR <125 beats/min • Temp >36 C and <40 C • SBP ≥90 mmHg • DBP >60 mmHg No altered mental state of acute onset No suspected aspiration No or stable co-morbid conditions Chest x-ray • Localized infiltrates • No evidence of pleural effusion or abscess	Any of the following: Unstable vital signs • RR ≥30 breaths/min • PR ≥125 beats/min • Temp ≥40 C or </=36 C	Any of the criteria under moderate risk CAP category **Plus** Severe sepsis and septic shock
These patients are suitable for outpatient care. [Grade A]	These patients need to be hospitalized for closer monitoring and/or parenteral therapy. [Grade A]	These patients warrant admission in the intensive care unit. [Grade A]