```
                          START
                            │
                            ▼
                        REVSTAT ─────── NOT = 2 ──────────┐
                            │                             │
                            2                             │
                            ▼                             │
Missing                                                   │
or Invalid ◄─────────── LEFTDATE ──── < 04/01/11 ─────────►│
                            │                             │
                       >= 04/01/11                        │
                            ▼                             │
Missing                                                   │
or Invalid ◄─────────────  ADMDT                          │
                            │                             │
                        Valid Date                        │
                            ▼                             │
                        calculate                         │
                     LEFDATE - ADMDT ──── > 120 ─────────►│
                            │                             │
                         <= 120                           │
                            ▼                             │
Missing                                                   │
or Invalid ◄──────────── BIRTHDT                          │
                            │                             │
                       Valid Date                         │
                            ▼                             │
JC Reject ◄── Missing ───   AGE ──────── < 18 ───────────►│
           or Invalid       │                             │
                         >= 18                             │
                            ▼                             │
  Pg 2 ◄──── 1 ───────  CXRCTABN ──── 2, 99 ─────────────┐│
                            │                            ││
                         Missing                         ▼▼
                            ▼                        EXCLUDED
Type X ◄── 1 or ────── CXRDONE ───── 2 ─────────────────►
           Missing
```

REVSTAT
REVIEW STATUS (not abstracted)
0. Abstraction has not begun
1. Abstraction in progress
2. Abstraction completed w/o errors
3. TVG failure (exclusion)
4. Record contains missing required answers (error record)
5. Administrative exclusion from all measures

LEFTDATE (Validation)
Discharge date (received on pull list and may not be modified)

ADMDT (Validation)
Date of admission to acute inpatient care

BIRTHDT
Patient date of birth (received on pull list)

AGE
Calculated field: ADMDT - BIRTHDT

CXRCTABN (Validation)
Using the inclusion list, was any chest x-ray or CT scan obtained the day of or day prior to hospital arrival OR anytime during this hospital stay **abnormal**?
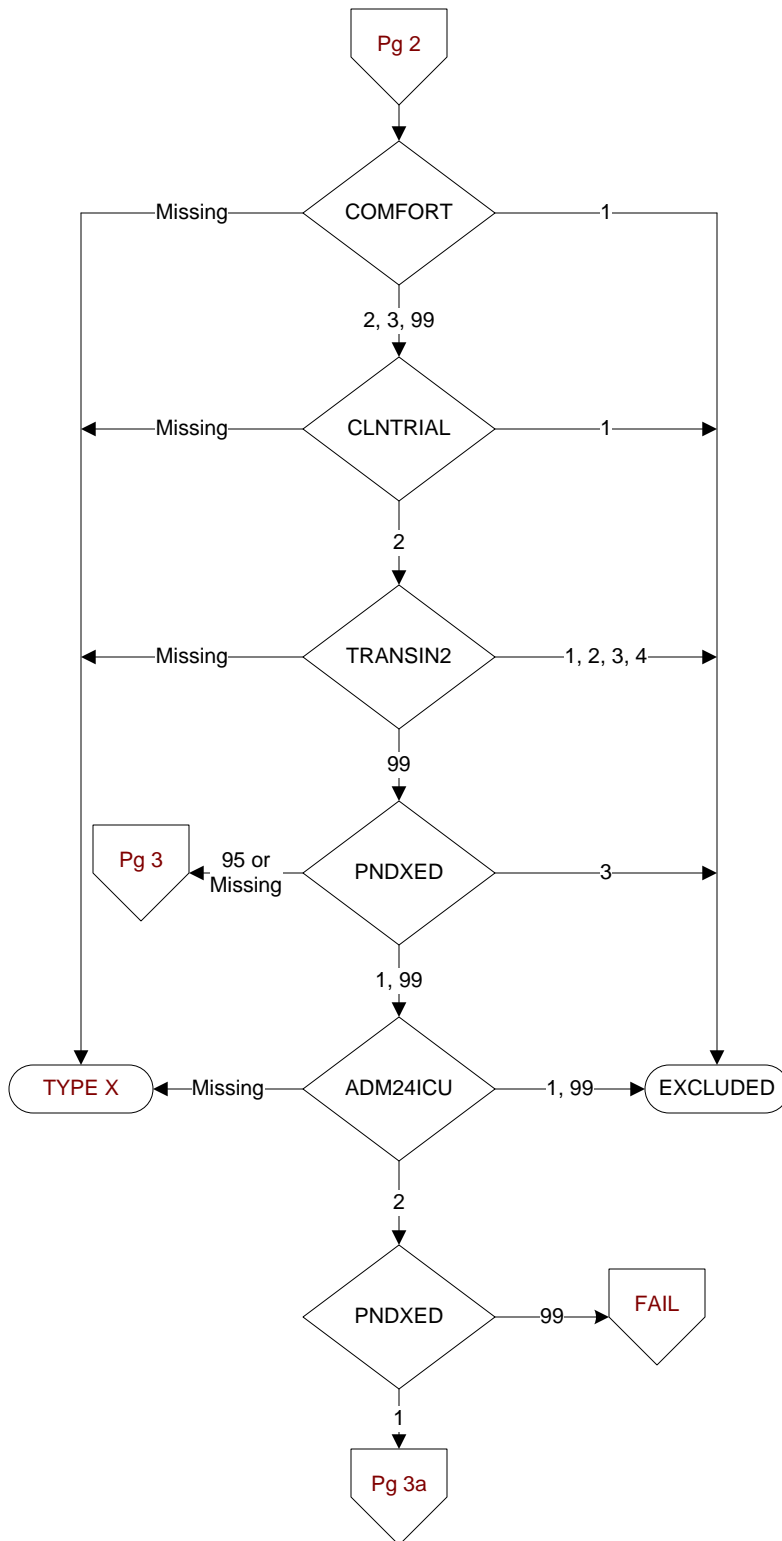**(SEE INCLUSION LIST)**
1. Yes, a chest x-ray or CT scan done within the designated timeframe was abnormal (included ANY inclusion terms).
2. No, a chest x-ray/CT scan done within the designated timeframe was not abnormal (did not include ANY inclusion terms).
99. Unable to determine from medical record documentation if the chest x-ray or CT scan done during the designated timeframe was abnormal

CXRDONE (Validation)
Did the patient have a chest x-ray or CT scan on the day of or the day prior to hospital arrival OR anytime during this hospital stay?
1. Yes
2. No

Pg 2

COMFORT

Missing

1

2, 3, 99

CLNTRIAL

Missing

1

2

TRANSIN2

Missing

1, 2, 3, 4

99

PNDXED

Pg 3

95 or Missing

3

1, 99

ADM24ICU

TYPE X

Missing

1, 99

EXCLUDED

2

PNDXED

FAIL

99

1

Pg 3a

COMFORT (Validation)
When is the earliest physician, APN, or PA documentation of comfort measures only?
1. Day of arrival (day 0) or day after arrival (day 1)
2. Two or more days after arrival (day 2 or greater)
3. Comfort measures only documented during hospital stay, but timing unclear
99. Comfort measures only was not documented by the physician/APN/PA or unable to determine

CLNTRIAL (Validation)
During this hospital stay, was the patient enrolled in a clinical trial in which patients with pneumonia were being studied?
1. yes
2. no

TRANSIN2 (Validation)
Was the patient received as a transfer from an inpatient, outpatient, or emergency/observation department of another hospital OR from an ambulatory surgery center?
1. Patient received as a transfer from an inpatient department of another hospital
2. Patient received as a transfer from an outpatient department of another hospital (excludes emergency/observation departments)
3. Patient received as a transfer from the emergency/observation department of another hospital
4. Patient received as a transfer from an ambulatory surgery center
99. None of the above or unable to determine from medical record documentation

PNDXED (Validation)
Was there documentation of the diagnosis of pneumonia as an Emergency Department final diagnosis/impression? Physician, Advanced Practice Nurse, or Physician Assistant documentation only
1. There is documentation that pneumonia was a final diagnosis/impression on the ED form.
3. There is NO documentation of pneumonia as a final diagnosis/impression on the ED form
95. Not applicable
99. Unable to determine from ED medical record documentation (only use if the final ED diagnosis/impression is left blank in ALL Emergency Department sources)

ADM24ICU (Validation)
Was the patient admitted or transferred to the intensive care unit at this VAMC within the first 24 hours following arrival at the hospital?
1. Yes
2. No
99. Unable to determine

ARRVDATE (Validation)
Enter the earliest documented date the patient arrived at acute care at this VAMC.

PNDXADM (Validation)
Was there documentation of the diagnosis of pneumonia as an admission diagnosis/impression for the direct admit patient? Physician, Advanced Practice Nurse, or Physician Assistant documentation only
2. There is documentation that pneumonia is listed as an initial diagnosis/impression upon direct admit.
3. There is NO documentation of pneumonia as an initial diagnosis/impression upon direct admit.
95. Not applicable

HELTRISK (Acute Care)
Is there documentation the patient had risk for healthcare associated pneumonia?
1. Yes
2. No

COMPCOND (Acute Care)
Is there documentation the patient had a compromising condition? (see definitions/decision rules for additional instruction**)**
No timeframe necessary:
 AIDS, AIDS related complex (ARC)
 HIV, HIV positive
 Any "Immunodeficiency Syndrome"
 Chronic Lymphocytic Leukemia (CLL)
 Congenital or hereditary Immunodeficiency
 Organ transplant
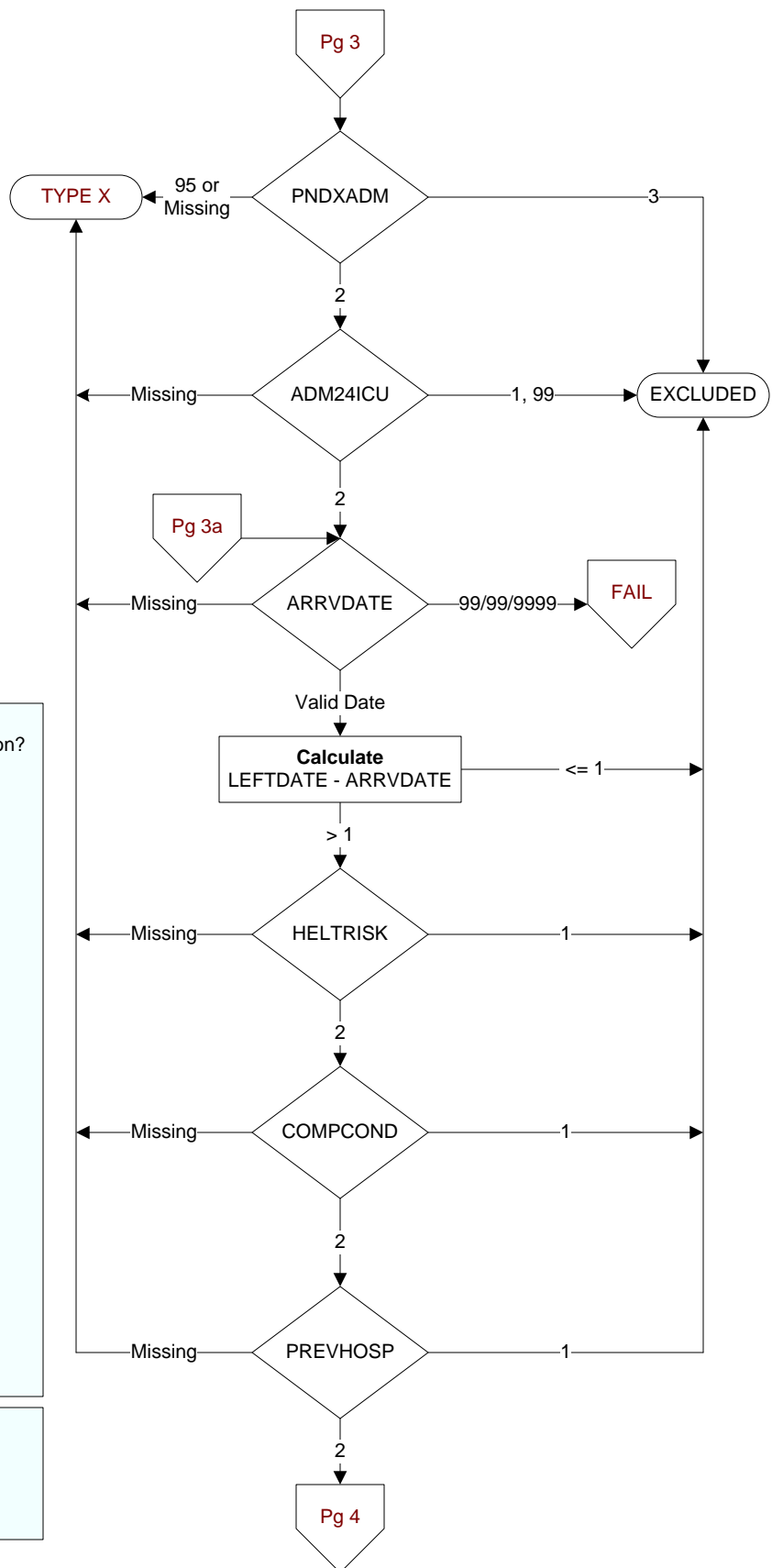**Within the last 3 months OR as diagnosed for the first time during this hospitalization**:
 Leukemia
 Lymphocytic leukemia
 Lymphoma
 Marked or significant neutropenia
 Myelogenic leukemia
 Myeloma
 Myelodysplasia
 PancytopeniaSystemic Chemotherapy
 Systemic Immunosuppressive Therapy
Within the last 3 months underline prior to this hospitalization:
 Systemic Corticosteroid/prednisone therapy
 Systemic Chemotherapy
 Systemic Immunosuppressive therapy
 Systemic Radiation therapy

1. Yes
2. No or unable to determine

PREVHOSP (Acute Care)
Is there documentation the patient had an acute care hospitalization within 14 days prior to this episode of care?
1. Yes
2. No or unable to determine

Pg 3

TYPE X ← 95 or Missing — PNDXADM — 3 →

2 ↓

ADM24ICU — 1, 99 → EXCLUDED
Missing ←

2 ↓

Pg 3a →

ARRVDATE — 99/99/9999 → FAIL
Missing ←

Valid Date ↓

Calculate LEFTDATE - ARRVDATE — <= 1 →

> 1 ↓

HELTRISK — 1 →
Missing ←

2 ↓

COMPCOND — 1 →
Missing ←

2 ↓

PREVHOSP — 1 →
Missing ←

2 ↓

Pg 4

ABRECVD (Acute Care)
Did the patient receive antibiotics via an appropriate route
(PO, NG, PEG, IM, or IV)?
1. Antibiotic received only within 24 hours prior to arrival
   or the day prior to arrival and not during hospital stay
2. Antibiotic received within 24 hours prior to arrival or
   the day prior to arrival and during hospital stay
3. Antibiotic received only during hospital stay (not prior
   to arrival)
4. Antibiotic not received or unable to determine from
   medical record documentation

ANTINAME (Acute Care)
What was the name of the antibiotic dose (s)
administered from hospital arrival through 24 hours after
hospital arrival?

ROUTEADM   (Acute Care)
Enter the route of administration of the antibiotic.
1. PO, NG, PEG tube (Oral)
2. IV (Intravenous)
3. IM (Intramuscular)
99. UTD (Unable to determine route)

ANTIDATE   (Acute Care)
What WAs the date of administration for the
antibiotic dose?

Pg 4

ABRECVD

Missing

TYPE X

1, 4

2, 3

ANTINAME

None
entered

At least one entry

ROUTEADM —— ALL = 99 ——▶ FAIL

From this point, ––––>
include only doses where
ROUTEADM = 1, 2 3

ANY = 1, 2, 3

ANTIDATE

ALL =
99/99/999

From this point, ––––>
include only doses where
ANTIDATE = valid date

ANY = Valid Date

Set variable **ABXDAYS** =
ANTIDATE - ARRVDATE

Pg 5
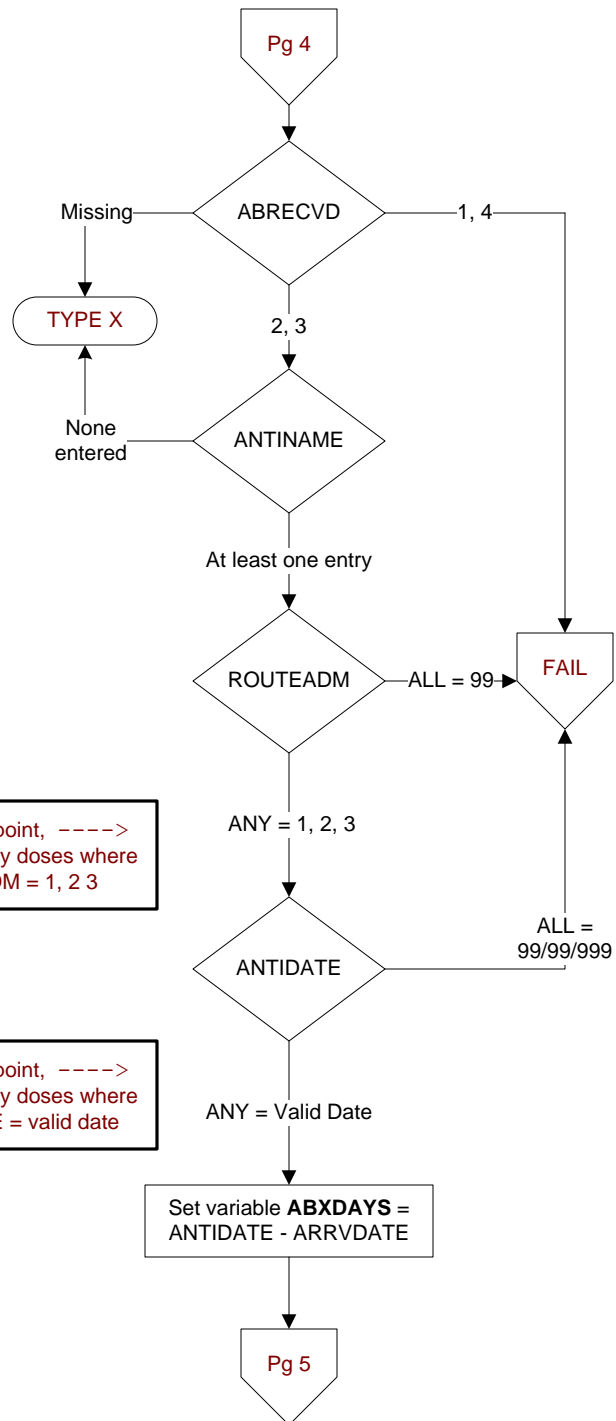
ARRVTIME (Validation)
Enter the earliest documented time the patient arrived at acute care at this VAMC.

ANTITIME (Acute Care)
What was the time of administration for the antibiotic dose?

Pg 5

TYPE X ← < 0 for ANY — ABXDAYS

Missing

>= 0 for ALL

Valid Time — ARRVTIME ← ANY > 0 — ABXDAYS

99:99

ALL = 0

ANTITIME — ALL = 99:99 → ABXDAYS — = 0 for any → Pg 6

For each case, proceed **ONLY** with those antibiotic doses that satisfy one of the following conditions:
ABXDAYS = 0
ABXMIN >= 0 and <=1440

None = 0

ANY >= 0 and <= 1440 m

ANY = ValidTime

FAIL ← ALL > 1440 — ABXMIN

Set Variable **ABXMIN** = ANTIDATE and ANTITIME - ARRVDATE and ARRVTIME → ABXMIN — ALL >= 0

ANY < 0

TYPE X

NOTE: For all regimens, when checking the route of antibiotic, check ONLY for the corresponding dose.

Pg 6

ANTINAME

None on table 2.9

Any on table 2.9

ROUTEADM — ALL = 3

ANY = 1 or 2

None on table 2.12

ANTINAME

Any on table 2.12

ROUTEADM — ALL = 1 or 3

ANY = 2

PASS

ANTINAME

None on table 2.5

Any on table 2.5

ROUTEADM — ALL = 3

ANY = 1 or 2

AGE — >= 65 or Missing

< 65

DRPNURSK — 1 — Pg 7

2

Missing

TYPE X
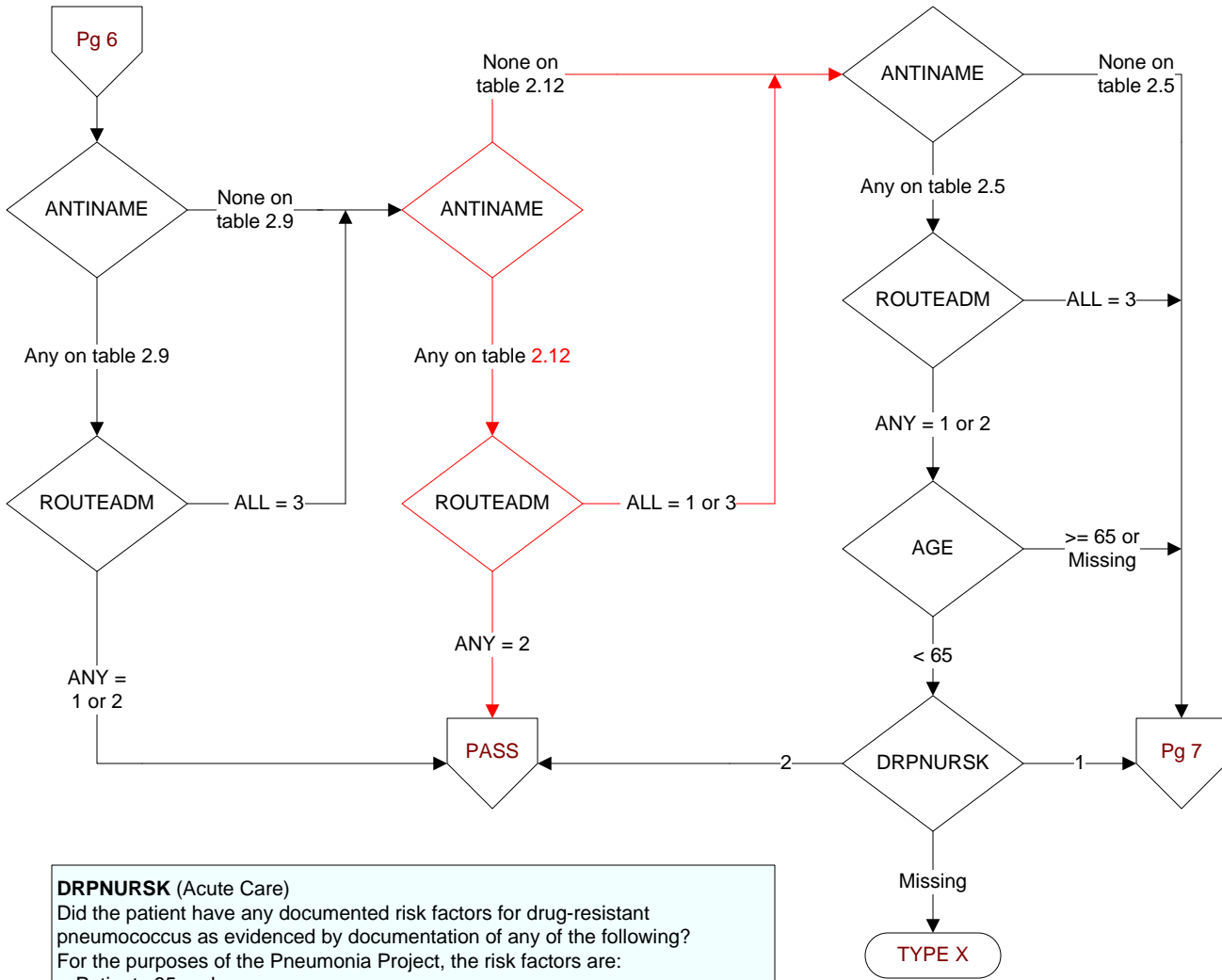
DRPNURSK (Acute Care)
Did the patient have any documented risk factors for drug-resistant pneumococcus as evidenced by documentation of any of the following?
For the purposes of the Pneumonia Project, the risk factors are:
-- Patients 65 and over
-- ICU Patients – within 24 hours of arrival
-- Alcoholism—any mention in chart
-- Systemic antibiotic therapy in the last 3 months (prior to arrival)
-- Medical co-morbidities
-- Exposed to child in daycare
-- Injection drug user—only illicit drugs

1. Yes
2. No

Pg 7

7A

ANTINAME — None on table 2.3

Any on table 2.3

ROUTEADM — ALL = 1

ANY = 2 or 3

ANTINAME — None on table 2.5 or 2.10

Any on table 2.5 or 2.10

ROUTEADM — ALL = 3 — 7A

ANY = 1 or 2

PASS

7A

ANTINAME — None on table 2.4

Any on table 2.4

ROUTEADM — ALL = 1 or 3

ANY = 2

ANTINAME — None on table 2.8

Any on table 2.8

ROUTEADM — ALL = 3

ANY = 1 or 2

PASS — 1 — RSKPSEUD — 2 — Pg 8

All Missing

TYPE X
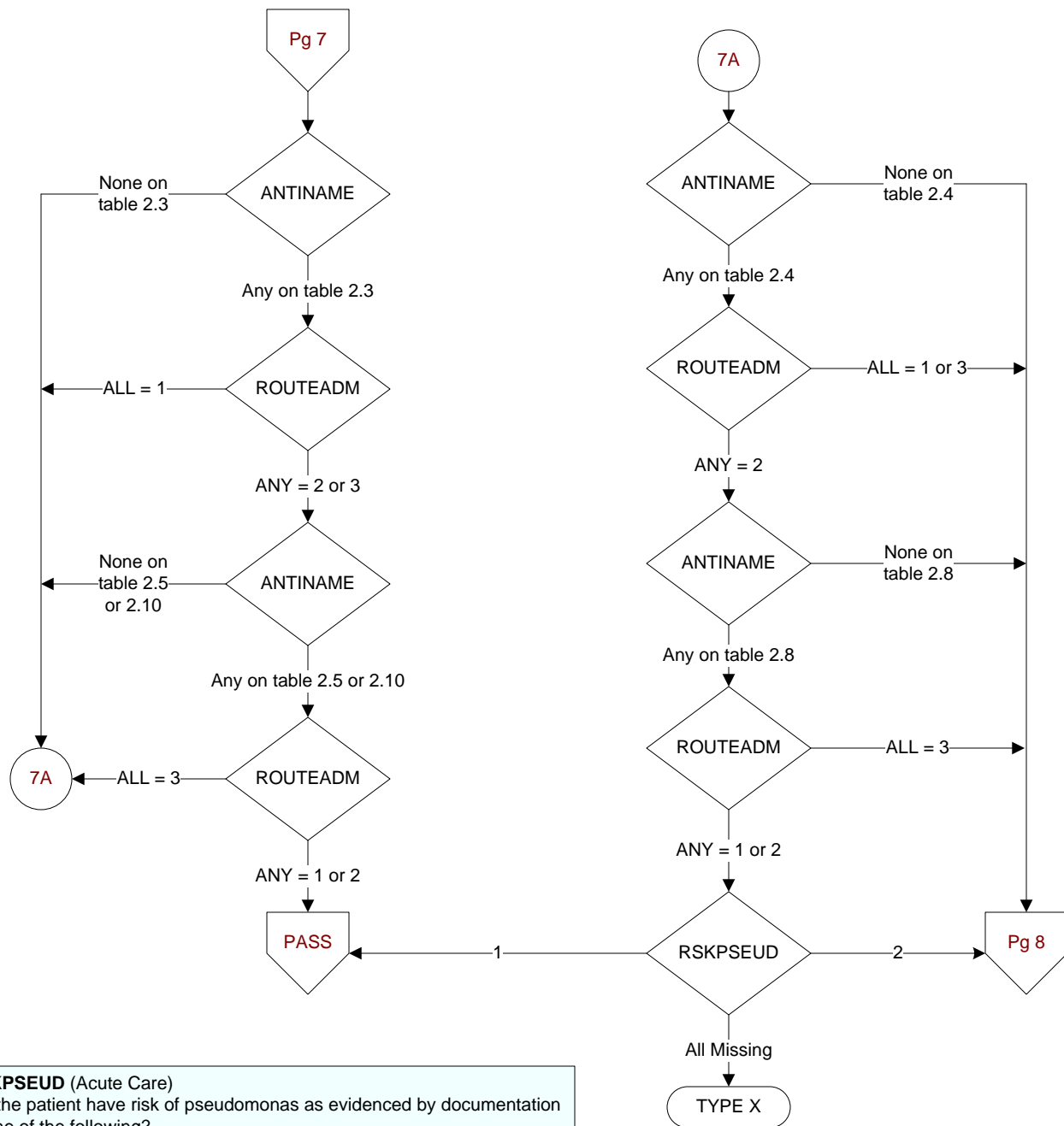
RSKPSEUD (Acute Care)
Did the patient have risk of pseudomonas as evidenced by documentation of one of the following?
-- Structural lung disease **AND** documented history of repeated antibiotics or chronic systemic corticosteroid use. Repeated antibiotics and/or chronic systemic corticosteroid use can be for any reason. It does not have to be linked to the structural lung disease.
-- Bronchiectasis documented as a possible consideration by a physician/ APN/PA or pharmacist at the time of admission
-- Physician/APN/PA or pharmacist documented pseudomonal risk

1. Yes
2. No

Pg 8

PTALLERG (Acute Care)
Is there documentation of patient allergies,
sensitivities, or intolerance to beta-lactam/penicillin
antibiotic or cephalosporin medications?
1. Yes
2. No

8A

ANTINAME — None on table 2.4
Any on table 2.4
ROUTEADM — ALL = 1 or 3
ANY = 2
ANTINAME — None on table 2.11
Any on table 2.11
ROUTEADM — ALL = 1 or 3
ANY = 2
ANTINAME — Any on table 2.5
None on table 2.5
ANTINAME — ALL = 3 — ROUTEADM
None on table 2.9
Any on table 2.9
ROUTEADM — ALL = 3 — 8A
ANY = 1 or 2
ANY = 1, 2
RSKPSEUD — 2 ... 1 — PASS
Missing
TYPE X

ANTINAME — None on table 2.7
Any on table 2.7
ROUTEADM — ALL = 1
ANY = 2 or 3
ANTINAME — None on table 2.9
Any on table 2.9
ROUTEADM — ALL = 3
ANY = 1 or 2
ANTINAME — None on table 2.11
Any on table 2.11
ROUTEADM — ALL = 1 or 3
ANY = 2
RSKPSEUD — 2
Missing
TYPE X
1
PTALLERG — 2 — Pg 9
Missing
1 — PASS

Pg 9

ANTINAME

None on table 2.7

Any on table 2.7

ROUTEADM

ALL = 1

ANY = 2 or 3

ANTINAME

None on table 2.17

Any on table 2.17

ROUTEADM

ALL = 3

ANY = 1 or 2

RSKPSEUD

TYPE X ←—Missing

2

1

PTALLERG

In Denominator and Numerator (**Passes** indicator) ←—1

PASS

2

TYPE X ←—Missing— OTHRINF

2

POSPATID

2

In Denominator Only (**Fails** indicator)

TYPE X

Missing

FAIL

1

EXCLUDED ←—1

OTHRINF (Acute Care)
Was there physician/APN/PA documentation of <u>another</u> <u>**suspected**</u> source of infection in addition to pneumonia within 24 hours of arrival?
(Refer to Inclusion and Exclusion List)
1 = Yes
2 = No

POSPATID (Acute Care)
Is there documentation that results of a positive culture or diagnostic test for a pathogen were available upon arrival or within 24 hours after arrival to the hospital?
For the purposes of this measure, a positive diagnostic test for a pathogen includes any of the following:
-- Positive culture (blood, urine, sputum, wound, etc.) for bacteria
-- Positive urinary antigen test for Streptococcus pneumoniae or Legionella pneumophilia
Positive Polymerase Chain Reaction (PCR) test for Legionella pneumophilia
1 = Yes
2 = No