

Use of Antibiotics

OntarioMD i4C Dashboard Indicator

For more information regarding OntarioMD Indicators or the EMR i4C Dashboard Specification, please refer to:

<https://www.ontariomd.ca/emr-certification/emr-specification/ontariomd-indicator-library>

1. VERSION HISTORY

INDICATOR VERSION	PUBLICATION DATE	REMARKS
1.0	2020-01-31	<ul style="list-style-type: none"> Initial Release
2.0	2020-05-31	<ul style="list-style-type: none"> Changed to a stacked bar indicator where each bar represents one of four age groupings: 0-20 yrs, 20-40, 40-60, 60+ Each grouping contains four segments: 0, 1, 2, and 3+ antibiotic prescriptions that were active at any time over the past 12 months Removal of Description and Indicator User Help content. Content will be maintained within a separate document in the i4C Dashboard Indicator Library.

2. INDICATOR DEFINITION

2.1 Indicator Properties

PROPERTY	VALUE
Indicator ID	MED-ABX-001
Indicator Name	Use of Antibiotics
Indicator Version	2.0
Date Published	2020-05-31
Description	Indicator description is part of the User Help content, now maintained in a separate document within the i4C Dashboard Indicator Library.
Source	HDC
Source Description	Based on BC's Health Data Coalition Current Clinical Measures, June 2018.
Status	Active
Category	Medication Management
Subcategory	Antibiotics

Indicator Order	0
Indicator Graphic Type	Stacked Bar Chart
Indicator Graphic Notes	<p>Bar 1: (Label as "Age 0 -20 yrs")</p> <ul style="list-style-type: none"> • Indicator Segment ID 1 • Indicator Segment ID 2 • Indicator Segment ID 3 • Indictoar Segment ID 4 <p>Bar 2: (Label as "Age 20-40 yrs")</p> <ul style="list-style-type: none"> • Indicator Segment ID 5 • Indicator Segment ID 6 • Indicator Segment ID 7 • Indicator Segment ID 8 <p>Bar 3: (Label as "Age 40-60 yrs")</p> <ul style="list-style-type: none"> • Indicator Segment ID 9 • Indicator Segment ID 10 • Indicator Segment ID 11 • Indicator Segment ID 12 <p>Bar 3: (Label as "Age 60+ yrs")</p> <ul style="list-style-type: none"> • Indicator Segment ID 13 • Indicator Segment ID 14 • Indicator Segment ID 15 • Indicator Segment ID 16
Indicator User Help	User Help content is now maintained in a separate document within the i4C Dashboard Indicator Library.

<p>Indicator Query Segment Notes</p>	<p>ACTIVE PATIENTS are patients identified as 'Active' in the Patient Status data element (DE01.016) within Patient Demographics</p> <p>ANTIBIOTIC MEDICATION is any of the following: First Generation Cephalosporin, Second Generation Cephalosporin, Third Generation Cephalosporin, Lincosamide, Macrolide, Penicillin, Quinolone, Sulfonamide, Tetracycline, Glycopeptide, Aminoglycoside, or Carbapenem.</p> <p>FIRST GENERATION CEPHALOSPORIN is a patient medication recorded in Medications (DE09) AND is identified by any of the following text within the brand or generic medication name (DE09.003): "Cefalexin", "Cephalexin", "Cefaprin", "Cefacetrile", "Cefazolin", "Cefadroxil", or "Cefalotin" OR is identified by Anatomical Therapeutic Chemical (ATC) classification code starting with "J01DB".</p> <p>SECOND GENERATION CEPHALOSPORIN is a patient medication recorded in Medications (DE09) AND is identified by any of the following text within the brand or generic medication name (DE09.003): "Cefotiam", "Cefmetazole", "Loracarbef", "Cefaclor", "Ceforanide", "Cefprozil", "Cefamandole", "Cefonicid", "Cefotetan", "Cefoxitin", or "Cefuroxime" OR is identified by ATC code starting with "J01DC".</p> <p>THIRD GENERATION CEPHALOSPORIN is a patient medication recorded in Medications (DE09) AND is identified by any of the following text within the brand or generic medication name (DE09.003): "Cefmenoxime", "Cefpiramide", "Ceftazidime", "Cefotaxime", "Cefdinir", "Cefixime", "Cefditoren", "Ceftriaxone", "Cefoperazone", "Ceftizoxime", "Ceftibuten", "Cefpodoxime", or "Latamoxef" OR is identified by ATC code starting with "J01DD".</p> <p>LINCOSAMIDE is a patient medication recorded in Medications (DE09) AND is identified by any of the following text within the brand or generic medication name (DE09.003): "Lincomycin", "Lincocin", "Lincorex", "Dalacin", "Cleocin", or "Clindamycin" OR is identified by ATC code starting with "J01FF".</p> <p>MACROLIDE is a patient medication recorded in Medications (DE09) AND is identified by any of the following text within the brand or generic medication name (DE09.003): "Azithromycin", "Clarithromycin", "Erythromycin", "Roxithromycin", "Josamycin", "Dirithromycin", "Telithromycin", "Fidaxomicin", "Solithromycin", "Spiramycin", "Azithromycin", "Rovamycine", or "Troleandomycin" OR by ATC code starting with "J01FA".</p> <p>PENICILLIN is a patient medication recorded in Medications (DE09) AND is identified by any of the following text within the brand or generic medication name (DE09.003): "Penicillin", "Cloxacillin", "Pivmecillinam", "Flucloxacillin", "Ampicillin", "Phenoxymethylpenicillin", "Dicloxacillin", "Carbenicillin", "Nafcillin", "Oxacillin", "Cyclacillin", "Benzylpenicillin", "Amoxicillin", "Amdinocillin", "Bacampicillin", "Meticillin", "Ticarcillin", "Azidocillin", "Carindacillin", "Piperacillin", "Mezlocillin", "Procaine benzylpenicillin", "Azlocillin", "Pivampicillin", or "Hetacillin" OR by ATC code starting with "J01CA", "J01CE", "J01CF", or "J01CR".</p> <p>QUINOLONE is a patient medication recorded in Medications (DE09) AND is identified by any of the following text within the brand or generic medication name (DE09.003): "Ciprofloxacin",</p>
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	<p>"Gatifloxacin", "Gemifloxacin", "Grepafloxacin", "Levofloxacin", "Moxifloxacin", "Norfloxacin", or "Ofloxacin" OR by ATC code starting with "J01MA".</p> <p>SULFONAMIDE is a patient medication recorded in Medications (DE09) AND is identified by any of the following text within the brand or generic medication name (DE09.003): "Sulfamethoxazole", "Trimethoprim", "Sulfisoxazole", "Sulfadiazine", or "Sulfonamide" OR by ATC code starting with "J01EC", "J01EE", or "J01RA".</p> <p>TETRACYCLINE is a patient medication recorded in Medications (DE09) AND is identified by any of the following text within the brand or generic medication name (DE09.003): "Demeclocycline", "Doxycycline", "Minocycline", or "Tetracycline" OR by ATC code starting with "D06AA" or "J01AA0".</p> <p>GLYCOPEPTIDE is a patient medication recorded in Medications (DE09) AND is identified by any of the following text within the brand or generic medication name (DE09.003): "Delbavancin", "Telavancin", or "Vancomycin" OR by ATC code starting with "A07AA09" or "J01XA01".</p> <p>AMINOGLYCOSIDE is a patient medication recorded in Medications (DE09) AND is identified by any of the following text within the brand or generic medication name (DE09.003): "Amikacin", "Gentamicin" "Neomycin", "Netilmicin", "Streptomycin", or "Tobramycin" OR by ATC code starting with "J01GA" or "J01GB".</p> <p>CARBAPENEM is a patient medication recorded in Medications (DE09) AND is identified by any of the following text within the brand or generic medication name (DE09.003): "Doripenem", "Ertapenem", "Imipenem", "Cilastatin", or "Meropenem" OR by ATC code starting with "J01DH".</p> <p>ACTIVE PRESCRIPTION OVER THE PAST 12 MONTHS is a patient medication recorded in Medications (DE09) that is either not a Past Medication (DE09.017) OR has a Prescription End Date within 12 months before the current date.</p> <p>PRESCRIPTION END DATE can be calculated based on Start Date (DE09.002), Duration (DE09.011), Refill Duration (DE09.012), and Number of Refills/Repeats (DE09.015). For example, a prescription with start date of January 1, 2020 with Duration and Refill Durations both 30 days, with 3 Refills/Repeats will have an end date = start date + 120 days (30 + 3 x30) = April 30, 2020.</p>
Patient List Notes	<p>PATIENT NAME is a combination of First Name (DE01.003) and Last Name (DE01.002) data items from Patient Demographics. Names may be displayed either as separate columns or concatenated into one column.</p> <p>UNIQUE PATIENT IDENTIFIER is any data item from Patient Demographics that can be used by a physician or clinic to uniquely identify a patient when displayed. Examples include Health Card Number (DE01.008) or Chart Number (DE01.012)</p> <p>PATIENT DATE OF BIRTH is captured into Patient Demographics as Date of Birth (DE01.007)</p> <p>PATIENT AGE is a calculated data item representing the difference between the current date and Date of Birth (DE01.007) from Patient Demographics. Age should be displayed in years.</p>

	<p>PATIENT PHONE NUMBER is the preferred phone number for contacting a patient, and may include Residence Phone (DE02.007), Cell Phone (DE02.008) or Work Phone (DE02.009) from Patient Address.</p>
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	<p>ANTIBIOTICS PRESCRIBED is a concatenated listing of medication names (DE09.003), along with (if possible) Prescription Written Date (DE09.001) or Start Date (DE09.002) of Active Antibiotic Prescriptions within the past 12 months.</p>
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2.2 Indicator Segment Properties

Indicator Segment ID	Indicator Segment Label	Display Indicator Segment	Indicator Segment Query Criteria	Patient List Criteria
1	Age 0-20: No Antibiotics Prescribed in past year	Yes	COUNT OF: Active patients < 20 years of age WITH no Active Antibiotic Prescriptions over the past 12 months.	Mandatory Patient Name Unique Patient Identifier Patient Date of Birth Optional Patient Age Patient Phone Number
2	Age 0-20: 1 Antibiotic Prescribed in past year	Yes	COUNT OF: Active patients < 20 years of age WITH exactly one Active Antibiotic Prescription over the past 12 months.	Mandatory Patient Name Unique Patient Identifier Patient Date of Birth Optional Patient Age Patient Phone Number Antibiotics Prescribed
3	Age 0-20: 2 Antibiotics Prescribed in past year	Yes	COUNT OF: Active patients < 20 years of age WITH exactly two Active Antibiotic Prescriptions over the past 12 months.	Mandatory Patient Name Unique Patient Identifier Patient Date of Birth Optional Patient Age Patient Phone Number Antibiotics Prescribed

Indicator Segment ID	Indicator Segment Label	Display Indicator Segment	Indicator Segment Query Criteria	Patient List Criteria
4	Age 0-20: 3+ Antibiotics Prescribed in past year	Yes	COUNT OF: Active patients < 20 years of age WITH three or more Active Antibiotic Prescriptions over the past 12 months.	Mandatory Patient Name Unique Patient Identifier Patient Date of Birth Optional Patient Age Patient Phone Number Antibiotics Prescribed
5	Age 20-40: No Antibiotics Prescribed in past year	Yes	COUNT OF: Active patients >= 20 years of age and <40 years of age WITH no Active Antibiotic Prescriptions over the past 12 months.	Mandatory Patient Name Unique Patient Identifier Patient Date of Birth Optional Patient Age Patient Phone Number
6	Age 20-40: 1 Antibiotic Prescribed in past year	Yes	COUNT OF: Active patients >= 20 years of age and <40 years of age WITH exactly one Active Antibiotic Prescription over the past 12 months.	Mandatory Patient Name Unique Patient Identifier Patient Date of Birth Optional Patient Age Patient Phone Number Antibiotics Prescribed

Indicator Segment ID	Indicator Segment Label	Display Indicator Segment	Indicator Segment Query Criteria	Patient List Criteria
7	Age 20-40: 2 Antibiotics Prescribed in past year	Yes	COUNT OF: Active patients >= 20 years of age and <40 years of age WITH exactly two Active Antibiotic Prescriptions over the past 12 months.	Mandatory Patient Name Unique Patient Identifier Patient Date of Birth Optional Patient Age Patient Phone Number Antibiotics Prescribed
8	Age 20-40: 3+ Antibiotics Prescribed in past year	Yes	COUNT OF: Active patients >= 20 years of age and <40 years of age WITH three or more Active Antibiotic Prescriptions over the past 12 months.	Mandatory Patient Name Unique Patient Identifier Patient Date of Birth Optional Patient Age Patient Phone Number Antibiotics Prescribed
9	Age 40-60: No Antibiotics Prescribed in past year	Yes	COUNT OF: Active patients >= 40 years of age and <60 years of age WITH no Active Antibiotic Prescriptions over the past 12 months.	Mandatory Patient Name Unique Patient Identifier Patient Date of Birth Optional Patient Age Patient Phone Number

Indicator Segment ID	Indicator Segment Label	Display Indicator Segment	Indicator Segment Query Criteria	Patient List Criteria
10	Age 40-60: 1 Antibiotic Prescribed in past year	Yes	COUNT OF: Active patients >= 40 years of age and <60 years of age WITH exactly one Active Antibiotic Prescription over the past 12 months.	Mandatory Patient Name Unique Patient Identifier Patient Date of Birth Optional Patient Age Patient Phone Number Antibiotics Prescribed
11	Age 40-60: 2 Antibiotics Prescribed in past year	Yes	COUNT OF: Active patients >= 40 years of age and <60 years of age WITH exactly two Active Antibiotic Prescriptions over the past 12 months.	Mandatory Patient Name Unique Patient Identifier Patient Date of Birth Optional Patient Age Patient Phone Number Antibiotics Prescribed
12	Age 40-60: 3+ Antibiotics Prescribed in past year	Yes	COUNT OF: Active patients >= 40 years of age and <60 years of age WITH three or more Active Antibiotic Prescriptions over the past 12 months.	Mandatory Patient Name Unique Patient Identifier Patient Date of Birth Optional Patient Age Patient Phone Number Antibiotics Prescribed

Indicator Segment ID	Indicator Segment Label	Display Indicator Segment	Indicator Segment Query Criteria	Patient List Criteria
13	Age 60+: No Antibiotics Prescribed in past year	Yes	COUNT OF: Active patients >= 60 years of age WITH no Active Antibiotic Prescriptions over the past 12 months.	Mandatory Patient Name Unique Patient Identifier Patient Date of Birth Optional Patient Age Patient Phone Number
14	Age 60+: 1 Antibiotic Prescribed in past year	Yes	COUNT OF: Active patients >= 60 years of age WITH exactly one Active Antibiotic Prescription over the past 12 months.	Mandatory Patient Name Unique Patient Identifier Patient Date of Birth Optional Patient Age Patient Phone Number Antibiotics Prescribed
15	Age 60+: 2 Antibiotics Prescribed in past year	Yes	COUNT OF: Active patients >= 60 years of age WITH exactly two Active Antibiotic Prescriptions over the past 12 months.	Mandatory Patient Name Unique Patient Identifier Patient Date of Birth Optional Patient Age Patient Phone Number Antibiotics Prescribed

Indicator Segment ID	Indicator Segment Label	Display Indicator Segment	Indicator Segment Query Criteria	Patient List Criteria
16	Age 60+: 3+ Antibiotics Prescribed in past year	Yes	COUNT OF: Active patients >= 60 years of age WITH three or more Active Antibiotic Prescriptions over the past 12 months.	<p>Mandatory</p> <ul style="list-style-type: none"> Patient Name Unique Patient Identifier Patient Date of Birth <p>Optional</p> <ul style="list-style-type: none"> Patient Age Patient Phone Number Antibiotics Prescribed