



DHIS2 Data Quality Validation Rules and Notifications

DQ Academy, Day 4 – Oct 22

Part 1 – Building validation rules

Objectives – Bring DQ to the user

1. Understand the **logic** behind validation rules
2. Know how to **build** validation rules

Our email is everything.



Main Principal

- Send data quality issues to the user.
 - Data use is low because data trust is low.
 - Data trust is low because people can not see the DQ issues.
 - Data quality issues are a feature of the system not a failure.
 - The failure is not being able to do something about it.
 - Make it so everyone can see the DQ issues.
 - Send DQ alerts to where people spent their time:
 - Email
 - SMS
 - Whatsapp
 - In the alerts tell them what they need to do based upon defined SoPs
 - Don't make people guess or figure it out on their own.

Understanding the Logic of Validation Rules

- A way to assess the quality of Data that have been entered in DHIS2
- Based on a set of **predefined rules** set for the data
- This does **NOT** allow you to **FULLY assess** whether or not reported numbers are completely accurate

Validation Rules

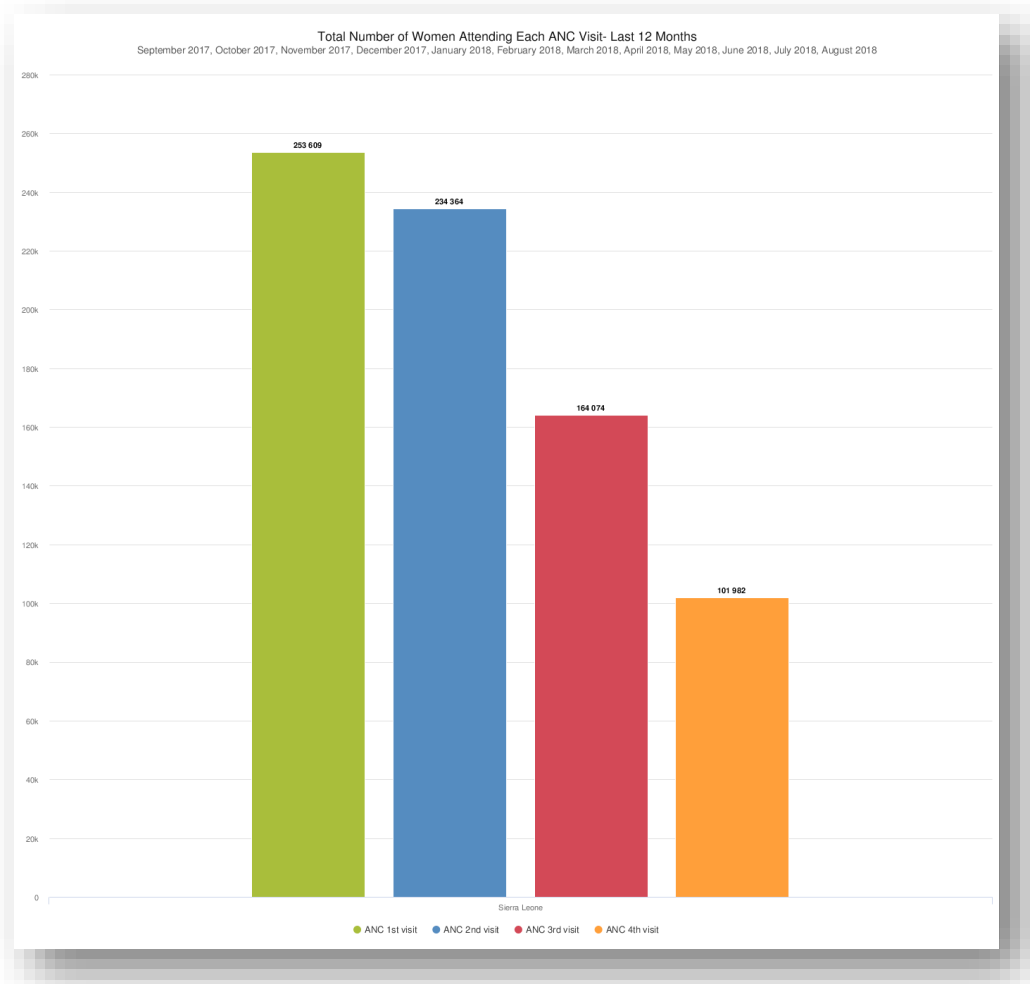
- An expression that defines a relationship between a number of data elements
- Expression has Left side, right side and an operator
- Common operators are: less than, equal to or greater than
- You create **Validation Rules** based on what you know to be true
e.g.

‘Malaria RDT positive’ should always be LESS THAN **‘Malaria RDT tested’**

When to use validation rules:

- During aggregate data entry
 - Will be triggered during data entry
 - Can be used to block data entry if not passed
 - Only use for well trained users
- Can be run manually at any time in the data quality application
 - Can be done before supervision visits or planning meetings
 - Can trigger email or SMS alerts if validation rule notifications have been configured.
- Scheduled to run automatically
 - Any validation rule can be scheduled to run at any point.
 - Can trigger email or SMS alerts if validation rule notifications have been configured.

Let's make an example of a validation rule



- What are some possible validation rules?

Let's make ANC4
 \leq ANC1

Building Validation Rule: Steps

1. Make the validation rule
2. Assign it to a validation rule group
3. Test the validation rule
4. Make a validation notification
5. (Optional) schedule the validation rule group to run automatically
6. Write protocol and guidelines on how to use validation rule group

Make a validation rule

- <https://academy.demos.dhis2.org/dqapp-config/>

Building Validation Rule

ALL

CATEGORY

DATA ELEMENT

DATA SET

INDICATOR

ORGANISATION UNIT

PROGRAM

VALIDATION

OTHER

Validation rule

Validation rule group

Validation notification

Validation rule management

Search by name

1 - 50 of 65

Name	Importance	Period type	Public access	Last updated
ADS 0.05 ml waste should be less than or equal to consump...	Medium	Monthly		June 1, 2017
ADS 0.5 ml waste should be less than or equal to consumpti...	Medium	Monthly		June 1, 2017
BCG doses given should be less than total used and wasted	Medium	Monthly	Public view/edit	January 16, 2018
Bacteriological examinations (TB)	Medium	Quarterly	Public view/edit	February 7, 2018
Cases positive at community level <= Cases tested at comm...	Medium	Monthly		June 23, 2017
Cases tested at community level <= Cases treated at comm...	Medium	Monthly		June 23, 2017
Cases treated <= Suspected malaria cases	Medium	Monthly		June 23, 2017
DPT-HepB-Hib doses given should be less than total used an...	Medium	Monthly		June 1, 2017
Foci with response = Sum of Foci responses (MDA, IRS, LLI...	Medium	Monthly		June 23, 2017

Add New



Name (*)

ANC 1 great than ANC 4 - Scott

Short name

Code

Description

ANC 4 should not be greater than ANC 1

Instruction

ANC4 should not be greater than ANC1. Please check these two values and correct.

Importance (*)

Medium

Period type (*)

Monthly

1. Add a name:

ANC 4 <= ANC 1 – YOUR NAME

2. Add description:

ANC4 should not be greater than ANC3.

3. Add instructions:

**ANC4 should not be greater than ANC1.
Please check these two values and
correct.**

4. Importance:

Medium (High for things you know to be
wrong or disease outbreak)

5. Period type:

Monthly (Should be at least the same as
the frequency of data capture)

Left Side – ANC 1

Left side expr

Missing value strategy

Never skip

☐ Sliding window

Description

ANC 1 visits

`#{RvArfQFKdXe}`

() * / + - Days

ANC 1 visits

Valid

DATA ELEMENTS

PROGRAMS

Search by name

Albendazole 1 dose at ANC
ANC 1 coverage (DHS 2014)
ANC 1 Outlier Threshold
ANC 1 visits
ANC 4 visits
ANC 5 or more visits
ANC HIV test new negative
ANC HIV test new positive
ANC HIV test previous negative
ANC HIV test previous positive
ANC no SP
ANC syphilis test negative

Choose
Missing
value
stratigy

Left Side – ANC 1

Left side expr

Missing value strategy

Never skip

☐ Sliding window

Description

ANC 1 visits

$\#{RvArfQFKdXe}$

() * / + - Days

ANC 1 visits

Valid

DATA ELEMENTS

PROGRAMS

Search by name

Albendazole 1 dose at ANC
ANC 1 coverage (DHS 2014)
ANC 1 Outlier Threshold
ANC 1 visits
ANC 4 visits
ANC 5 or more visits
ANC HIV test new negative
ANC HIV test new positive
ANC HIV test previous negative
ANC HIV test previous positive
ANC no CP
ANC syphilis test negative

1. Write 'ANC 1 visits' for the description
2. Search 'ANC 1'
3. Add ANC 1 visits
4. Check if equation is valid
5. Save

Choose Operator

Instruction

ANC4 should not be greater than ANC1. Please check these two values and correct.

Equal to

Not equal to

Greater than

Greater than or equal to

Less than

Less than or equal to

Compulsory pair

Exclusive pair

Right side expr

ANC 4 visits

1. Select
'Greater
than or
equal to'

Right Side – ANC 4

Right side expr

Missing value strategy
Never skip

☐ Sliding window

Description
ANC 4 visits

`{XeRBhx8avQY}`

() * / + - Days

ANC 4 visits

DATA ELEMENTS PROGRAMS ORG UNIT COUNTS CONSTANTS

Search by name

- Albendazole 1 dose at ANC
- ANC 1 coverage (DHS 2014)
- ANC 1 Outlier Threshold
- ANC 1 visits
- ANC 4 visits
- ANC 5 or more visits
- ANC HIV test new negative
- ANC HIV test new positive
- ANC HIV test previous negative
- ANC HIV test previous positive
- ANC no SP
- ANC syphilis test negative

CANCEL SAVE

1. Write 'ANC 4 visits' for the description
2. Search ANC 4 visits
3. Add ANC 4 visits
4. Equation is valid
5. Save

Save the validation rule

Organisation unit levels



Search available/selected items

Chiefdom
District
Facility
National



ASSIGN ALL 4 →

← REMOVE ALL

☐ Skip this rule during form validation

SAVE

CANCEL

- Org. Unit levels – Sets the level that the validation rule will run for. Nothing selected means that it will run for the org unit level for which the data was captured.
- Skip this rule during form validation will not notify the user during data capture if the rule is triggered
- Save



Creating Validation Rules & Group

- Once you have created a set of validation rules, you need to put them in groups e.g. malaria for ease of analysis
- This group is what you will select in your **Validation Rule Analysis**
- The output will test **every rule in the Group** and show you EVERY TIME a rule was violated within your specified time and place!

Making the validation rule group: ANC – YOUR NAME

Name (*)

ANC - Scott

Code

Description

Validation rules



Search available/selected items

BCG, Early breastfeeding, <1 year Fixed
BCG, Early breastfeeding, <1 year Outreach
Cholera outbreak with 50 % or more increase above average
Commodities Amoxicillin
Commodities Antenatal Corticosteroids
Commodities Chlorhexidine
Commodities Emergency Contraception
Commodities Female condom
Commodities Implants
Commodities Injectable Antibiotics
Commodities Magnesium Sulfate



ANC 2 <= ANC 1
ANC 3 <= ANC 2
ANC 4 <= ANC 3 - Scott

ASSIGN ALL 35 →

← REMOVE ALL 3

SAVE

CANCEL

A decorative vertical bar on the left side of the slide, featuring a teal color with various geometric shapes like overlapping circles and polygons in different shades of blue and green.

Data Quality/Validation and Validation rules Notifications

Part 2 – Running and scheduling validation rules

Learning Objectives

1. Be able to set up **validation rules notifications**
2. Be able to **run validation rule analysis**
3. Be able to **schedule** validation rules to run automatically

Make validation rule notification

Name (*)
ANC Outlier

Code

Validation rules ⊕ ↺

Search available/selected items

ANC 1 great than ANC 4

→

←

ANC 1 Outlier

ASSIGN ALL 1 → ← REMOVE ALL 1

Recipient user groups

Search available/selected items

Admin

Make validation rule notification

Send notification as

Collective summary

☐ Notify users in hierarchy only

Message template

Subject template

V{rule_name} detected at V{org_unit_name} for V{period} on V{current_date}

Message template

An outlier of V{left_side_description} has been detected. Please confirm that the value is correct.

Template variables

Rule name

Rule description

Operator

Importance

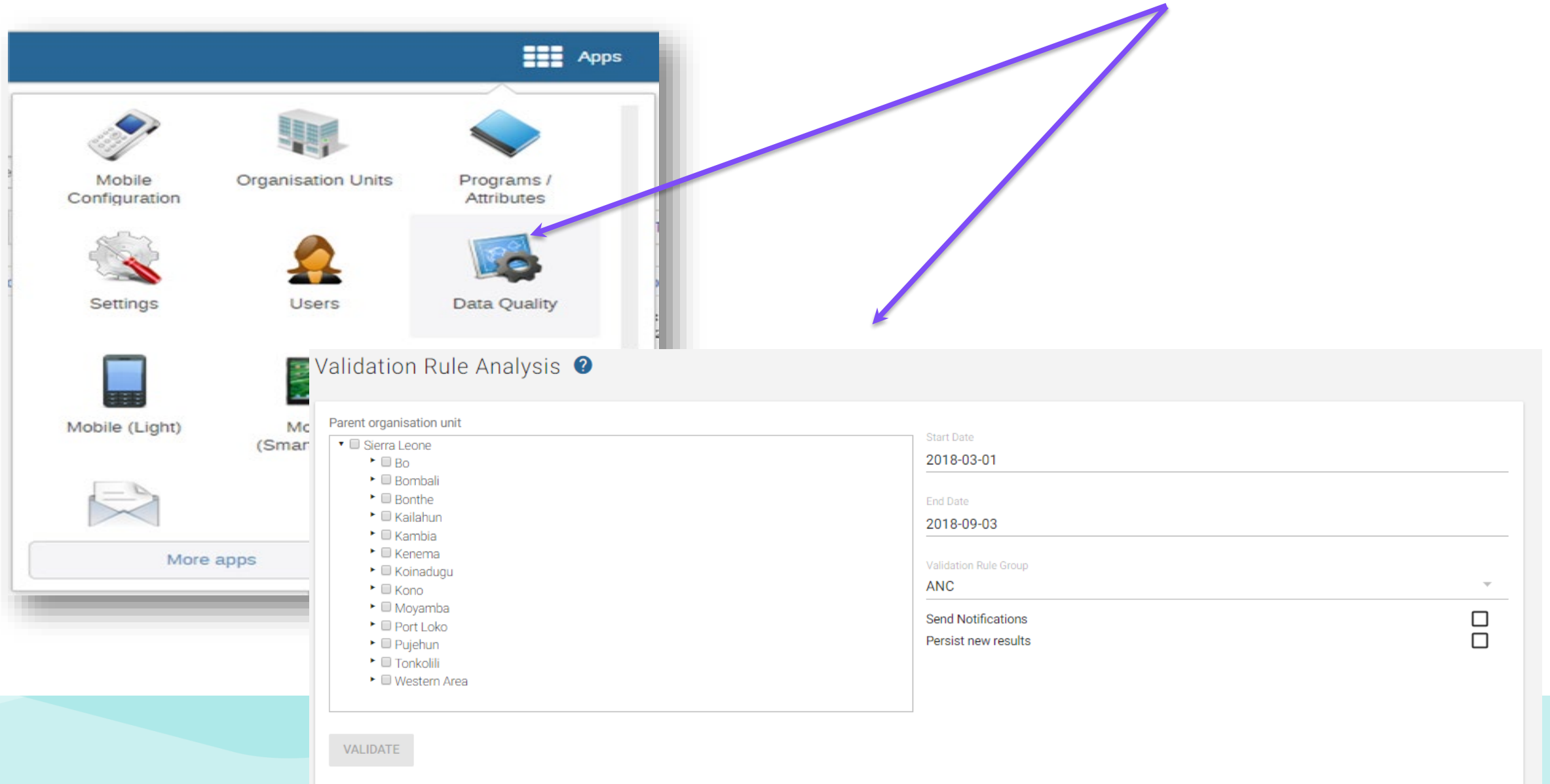
Left side description

Right side description

SAVE

CANCEL

Running Validation Rule Analysis: Finding WHERE to do this



The image shows the DHIS2 Apps menu on the left and the Validation Rule Analysis dialog on the right. Two purple arrows originate from the 'Data Quality' icon in the Apps menu and point to the 'Validation Rule Analysis' dialog, indicating the workflow.

Apps Menu:

- Mobile Configuration
- Organisation Units
- Programs / Attributes
- Settings
- Users
- Data Quality**
- Mobile (Light)
- More apps

Validation Rule Analysis ?

Parent organisation unit

- ☐ Sierra Leone
 - ☐ Bo
 - ☐ Bombali
 - ☐ Bonthe
 - ☐ Kailahun
 - ☐ Kambia
 - ☐ Kenema
 - ☐ Koinadugu
 - ☐ Kono
 - ☐ Moyamba
 - ☐ Port Loko
 - ☐ Pujehun
 - ☐ Tonkolili
 - ☐ Western Area

Start Date
2018-03-01

End Date
2018-09-03

Validation Rule Group
ANC

Send Notifications ☐

Persist new results ☐

VALIDATE

Validation Rule Analysis

Validation Rule Analysis ?

Parent organisation unit

- ☒ Sierra Leone
 - ☐ Bo
 - ☐ Bombali
 - ☐ Bonthe
 - ☐ Kailahun
 - ☐ Kambia
 - ☐ Kenema
 - ☐ Koinadugu
 - ☐ Kono
 - ☐ Moyamba
 - ☐ Port Loko
 - ☐ Pujehun
 - ☐ Tonkolili
 - ☐ Western Area

VALIDATE

Start Date
2018-03-01

End Date
2018-09-03

Validation Rule Group
ANC

Send Notifications ☐

Persist new results ☐

1. Select your organisational units

Selecting the whole country may return hundreds of alerts (and takes a while and may crash the system)

Validation Rule Analysis

Validation Rule Analysis ?

Parent organisation unit

- ☐ Sierra Leone
 - ☐ Bo
 - ☐ Bombali
 - ☐ Bonthe
 - ☐ Kailahun
 - ☐ Kambia
 - ☐ Kenema
 - ☐ Koinadugu
 - ☐ Kono
 - ☐ Moyamba
 - ☐ Port Loko
 - ☐ Pujehun
 - ☐ Tonkolili
 - ☐ Western Area

VALIDATE

Start Date
2018-03-01

End Date
2018-09-03

Validation Rule Group
ANC

Send Notifications ☐

Persist new results ☐

2. Select your date range

Selecting a large date range may return hundreds of alerts.

Validation Rule Analysis

Validation Rule Analysis ?

Parent organisation unit

- ☐ Sierra Leone
 - ☐ Bo
 - ☐ Bombali
 - ☐ Bonthe
 - ☐ Kailahun
 - ☐ Kambia
 - ☐ Kenema
 - ☐ Koinadugu
 - ☐ Kono
 - ☐ Moyamba
 - ☐ Port Loko
 - ☐ Pujehun
 - ☐ Tonkolili
 - ☐ Western Area

Start Date
2018-03-01

End Date
2018-09-03

Validation Rule Group
ANC

Send Notifications ☐

Persist new results ☐

VALIDATE

3. Select your validation rule group

Validation Rule Analysis

Validation Rule Analysis ?

Parent organisation unit

- Sierra Leone
 - Bo
 - Bombali
 - Bonthe
 - Kailahun
 - Kambia
 - Kenema
 - Koinadugu
 - Kono
 - Moyamba
 - Port Loko
 - Pujehun
 - Tonkolili
 - Western Area

Start Date
2018-03-01

End Date
2018-09-03

Validation Rule Group
ANC

Send Notifications ☐

Persist new results ☐

VALIDATE

4. Choose if you want to send notifications

Will send notifications as defined by the validation notification

Nothing will be sent if there are not configured notifications

Validation Rule Analysis

Validation Rule Analysis ?

Parent organisation unit

- ☐ Sierra Leone
 - ☐ Bo
 - ☐ Bombali
 - ☐ Bonthe
 - ☐ Kailahun
 - ☐ Kambia
 - ☐ Kenema
 - ☐ Koinadugu
 - ☐ Kono
 - ☐ Moyamba
 - ☐ Port Loko
 - ☐ Pujehun
 - ☐ Tonkolili
 - ☐ Western Area

Start Date
2018-03-01

End Date
2018-09-03

Validation Rule Group
ANC

Send Notifications ☐

Persist new results ☐

VALIDATE

5. Select if you would like to persist new results

This will save the results of the validation rule analysis. Saved results can then be accessed via the API. Becomes more important when we talk about scheduling validation rules

Running Validation Rule Analysis

Finding out HOW to do this

- Start Date: April 1
- End Date: Today
- Validation Rule Group: ANC
- Organisation unit: Region A
- Click **Validate**

Validation Rule Analysis ?

Parent organisation unit

☐ National

- ☒ Region A
 - ☐ District D
 - ☐ District F
 - ☐ District N
 - ☐ District T
 - ☐ District W
- ☐ Region B
- ☐ Region C
- ☐ Region D

Start Date

2020-04-01

End Date

2020-06-15

Validation Rule Group

ANC

Send Notifications ☐

Persist new results ☐

















VALIDATE

Demo

- <https://academy.demos.dhis2.org/dqapp-config/>

Running Validation Rule Analysis

Seeing the results

								DOWNLOAD AS PDF	DOWNLOAD AS XLS	DOWNLOAD AS CSV
Organisation Unit	Period	Importance	Validation Rule	Value	Operator	Value	Details			
Bangambaya MC...	May 2018	MEDIUM	ANC 2 cannot be ...	34.00	<=	14.00				
Bumpeh (Nimiko...	May 2018	MEDIUM	ANC 2 cannot be ...	34.00	<=	7.00				
Condama MCHP	May 2018	MEDIUM	ANC 3 cannot be ...	16.00	<=	10.00				
Feuror MCHP	May 2018	MEDIUM	ANC 2 cannot be ...	15.00	<=	14.00				
Feuror MCHP	May 2018	MEDIUM	ANC 3 cannot be ...							
Foakor MCHP	May 2018	MEDIUM	ANC 2 cannot be ...							
Gandorhun (Gba...	May 2018	MEDIUM	ANC 2 cannot be ...							
Gbetema MCHP ...	May 2018	MEDIUM	ANC 2 cannot be ...							
Gondama (Nimik...	May 2018	MEDIUM	ANC 2 cannot be ...							
Jaiama Sewafe ...	May 2018	MEDIUM	ANC 2 cannot be ...							
Jaiama Sewafe ...	May 2018	MEDIUM	ANC 3 cannot be ...							
Kangama (Kanga...	May 2018	MEDIUM	ANC 3 cannot be ...							
Kayima CHC	May 2018	MEDIUM	ANC 2 cannot be ...							
Koardu MCHP	May 2018	MEDIUM	ANC 2 cannot be ...							
Kochero MCHP	May 2018	MEDIUM	ANC 2 cannot be ...	15.00	<=	10.00				
Koeyor MCHP	May 2018	MEDIUM	ANC 3 cannot be ...	11.00	<=	4.00				

Validation Details

VALIDATIONS RESULT DETAILS

VALIDATION RULE

Name ANC 2 <= ANC 1
Description ANC 2 cannot be higher than ANC 1

LEFT SIDE

DATA ELEMENT

	VALUE
ANC 2nd visit Outreach	6.00
ANC 2nd visit Fixed	28.00

RIGHT SIDE

DATA ELEMENT

	VALUE
ANC 1st visit Fixed	14.00
ANC 1st visit Outreach	-

CLOSE

When to run validation rules:

- Validation rules can run automatically or manually during data entry

Data Entry

Organisation Unit: Ngelehun CHC
 Data Set: Reproductive Health
 Period: August 2018 Prev year Next year
 Filter on section: Antenatal Care

Antenatal Care


Filter in section	Fixed	Outreach
ANC 1st visit	17	
ANC 2nd visit	23	
ANC 3rd visit	44	
ANC 4th or more visits		
Albendazole given at ANC (2nd trimester)	17	
IPT 1st dose given at PHU	17	
IPT 1st dose given by TBA		8
IPT 2nd dose given at PHU	21	
IPT 2nd dose given by TBA		6
Iron Folate given at ANC 3rd	48	
LLITN given at ANC 1st		

ANC visits total: 84
 IPT doses total: 52

Complete Incomplete Run validation

Completed by: imported at: 2010-09-15 [See details](#)

Validation

Validation Result 

The data entry screen has the following validation errors, please correct

Validation rule	Left side	Operator	Right side
ANC 3 cannot be higher than ANC 2	44.0	<=	23.0
ANC 2 cannot be higher than ANC 1	23.0	<=	17.0

When to run validation rules:

- Validation rules to prevent data completion
- This can cause confusion, frustration, and hurt reporting completeness

When to do this:

- Validation rules are well formed, tested, and verified
- For well trained district or higher officers

Not for community health workers or poorly trained staff.

Name (*)

Reproductive Health

Short name

Reproductive Health

Code

DS_359593

Description

Expiry days

0

Open future periods for data entry

0

Days after period to qualify for timely submission

10

Period type (*)

Monthly

DATA INPUT PERIODS

Category combination (*)

None

Complete notification recipients

☐ Send notification to completing user

Data approval workflow

☐ Enable for Java mobile client

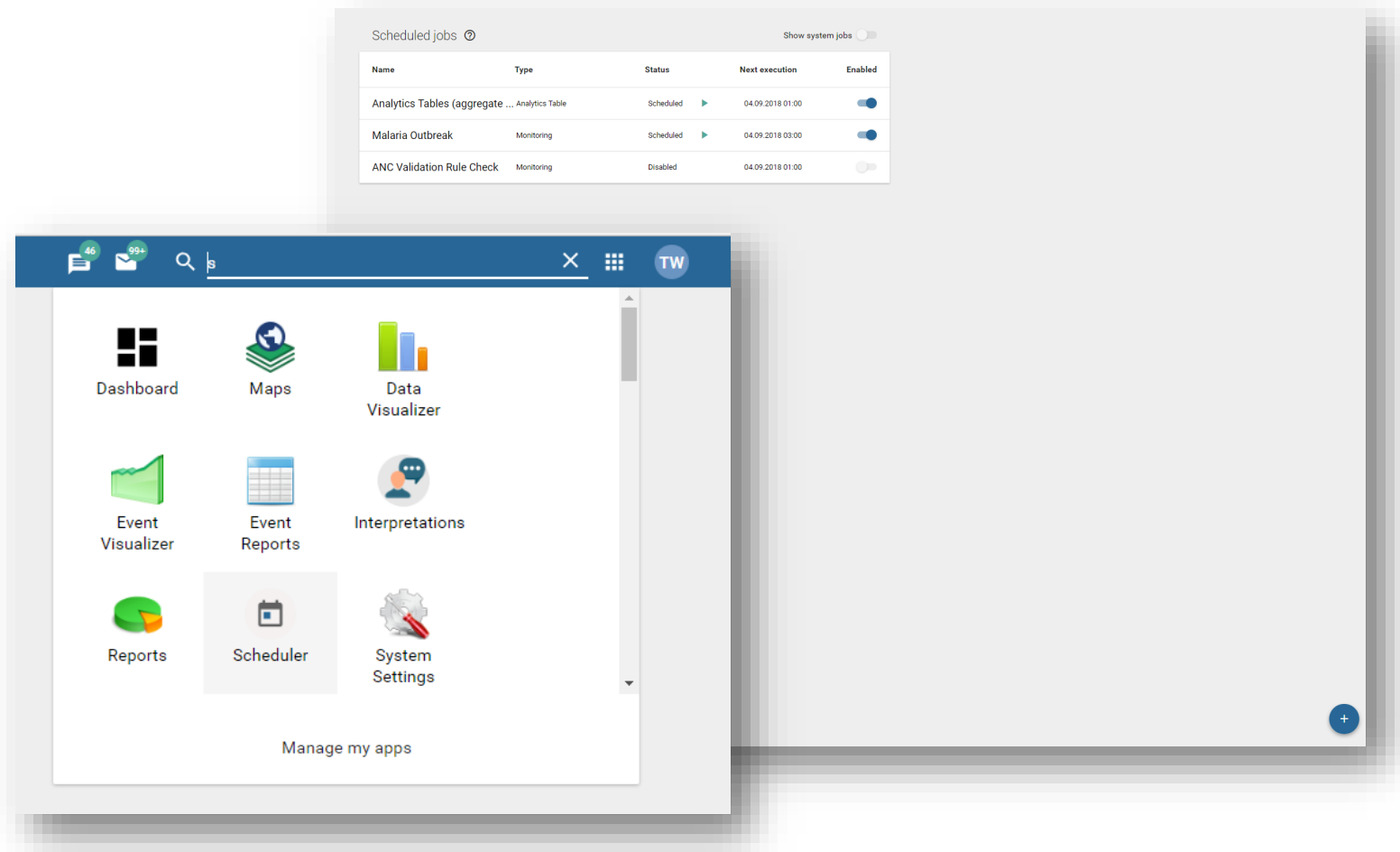
☐ All fields for data elements required

☒ Complete allowed only if validation passes

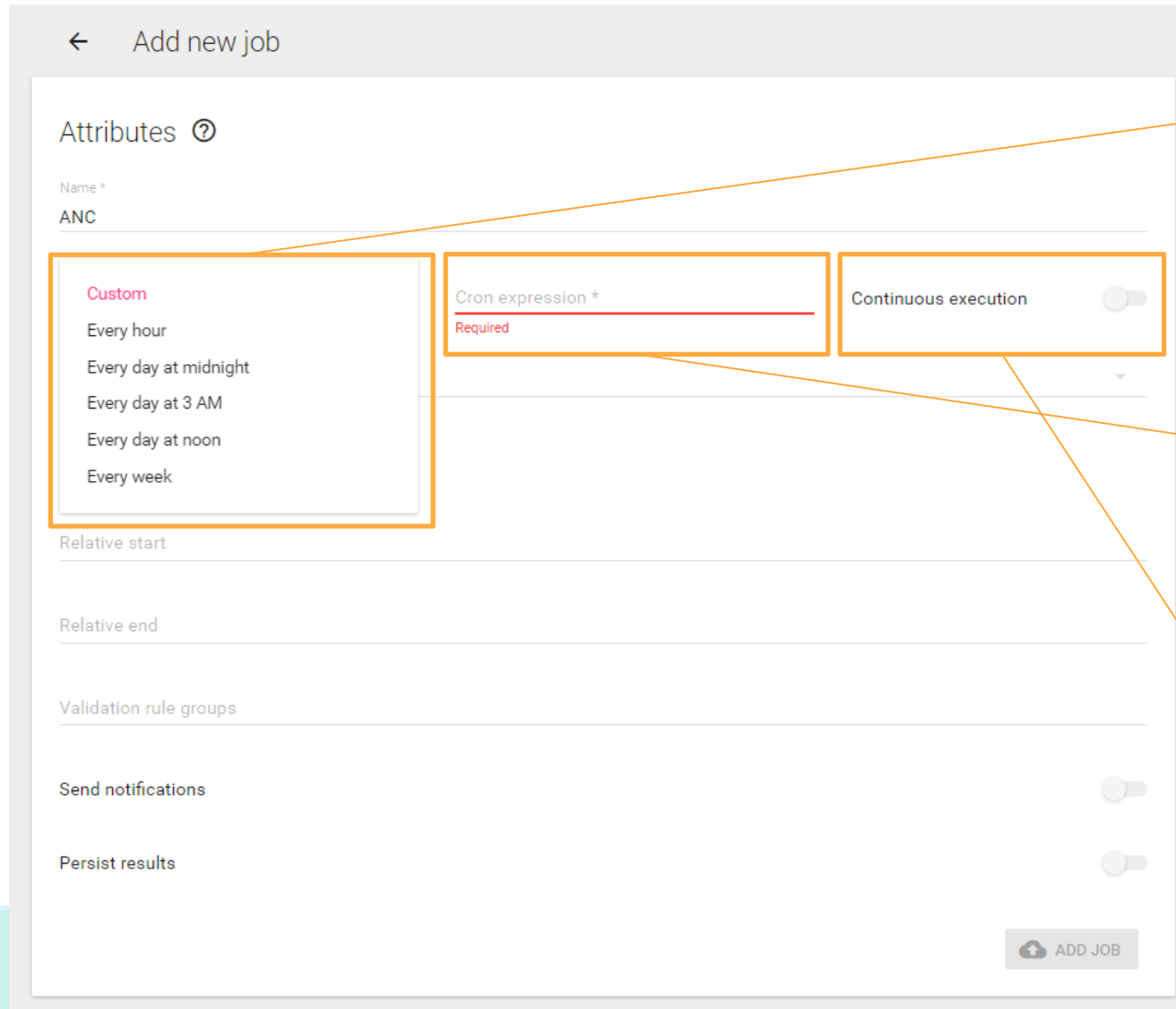
☐ Missing value requires comment on complete

When to run validation rules: Automatically scheduled

- Use scheduling app to make a new 'monitoring job'



When to run validation rules: Automatically scheduled



← Add new job

Attributes ?

Name *

ANC

Custom

- Every hour
- Every day at midnight
- Every day at 3 AM
- Every day at noon
- Every week

Cron expression *

Required

Continuous execution ☐

Relative start

Relative end

Validation rule groups

Send notifications ☐

Persist results ☐

ADD JOB

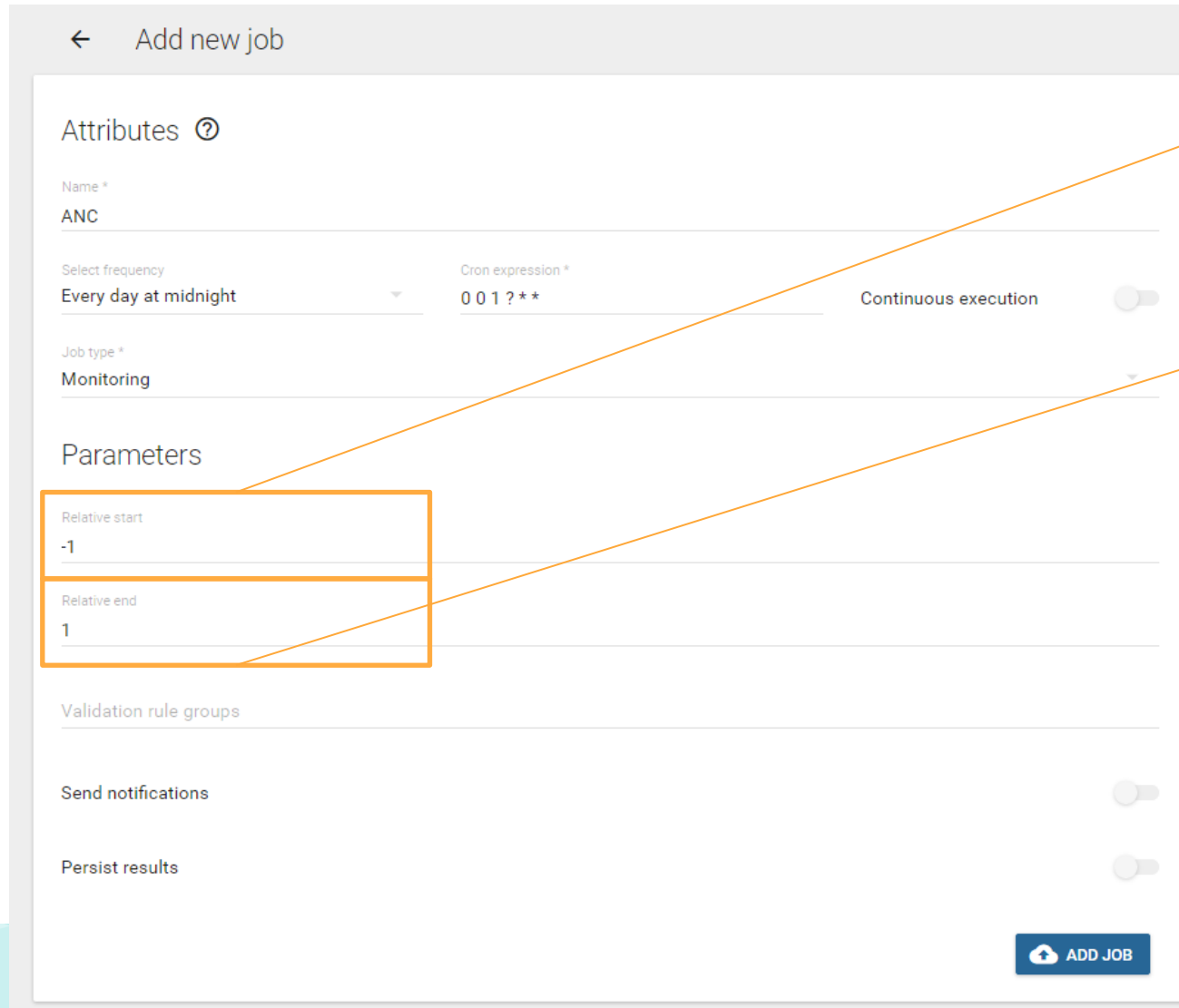
Choose a
premade

frequency
expression

OR

Continuous expression – will constantly be running. Good if using for disease surveillance. Bad for many validation rules over long period

When to run validation rules: Automatically scheduled



← Add new job

Attributes ⓘ

Name *

ANC

Select frequency

Every day at midnight

Cron expression *

0 0 1 ? * *

Continuous execution

Job type *

Monitoring

Parameters

Relative start

-1

Relative end

1

Validation rule groups

Send notifications

Persist results

ADD JOB

The number of
days in the past
The number of days in the
future to run the
validation rules for.

validation rules
-1 was yesterday and +1 is
tomorrow; therefor, any data
entered for any period that covers
yesterday through tomorrow.

- 3 days
- 1 month, quarter, year, etc.

When to run validation rules: Automatically scheduled

← Add new job

Attributes ⓘ

Name *
ANC

Select frequency
Every day at midnight

Cron expression *
0 0 1 ? **

Continuous execution ☐

Job type *
Monitoring

Parameters

Relative start
-90

Relative end
1

Validation rule groups

Send notifications ☐

Persist results ☐

ADD JOB

-90 days is:

March 24th
+1 day is: tomorrow

Between March 24th and tomorrow there is

- 91 days
- 4 months (including March.)
- 2 quarters
- 1 year

When to run validation rules: Automatically scheduled

← Add new job

Attributes ⓘ

Name *
ANC

Select frequency
Every day at midnight

Cron expression *
0 0 1 ? **

Continuous execution ☐

Job type *
Monitoring

Parameters

Relative start
-90

Relative end
1

Validation rule groups
ANC

Send notifications ☐

Persist results ☐

Parameters

Relative start
-90

Relative end
1

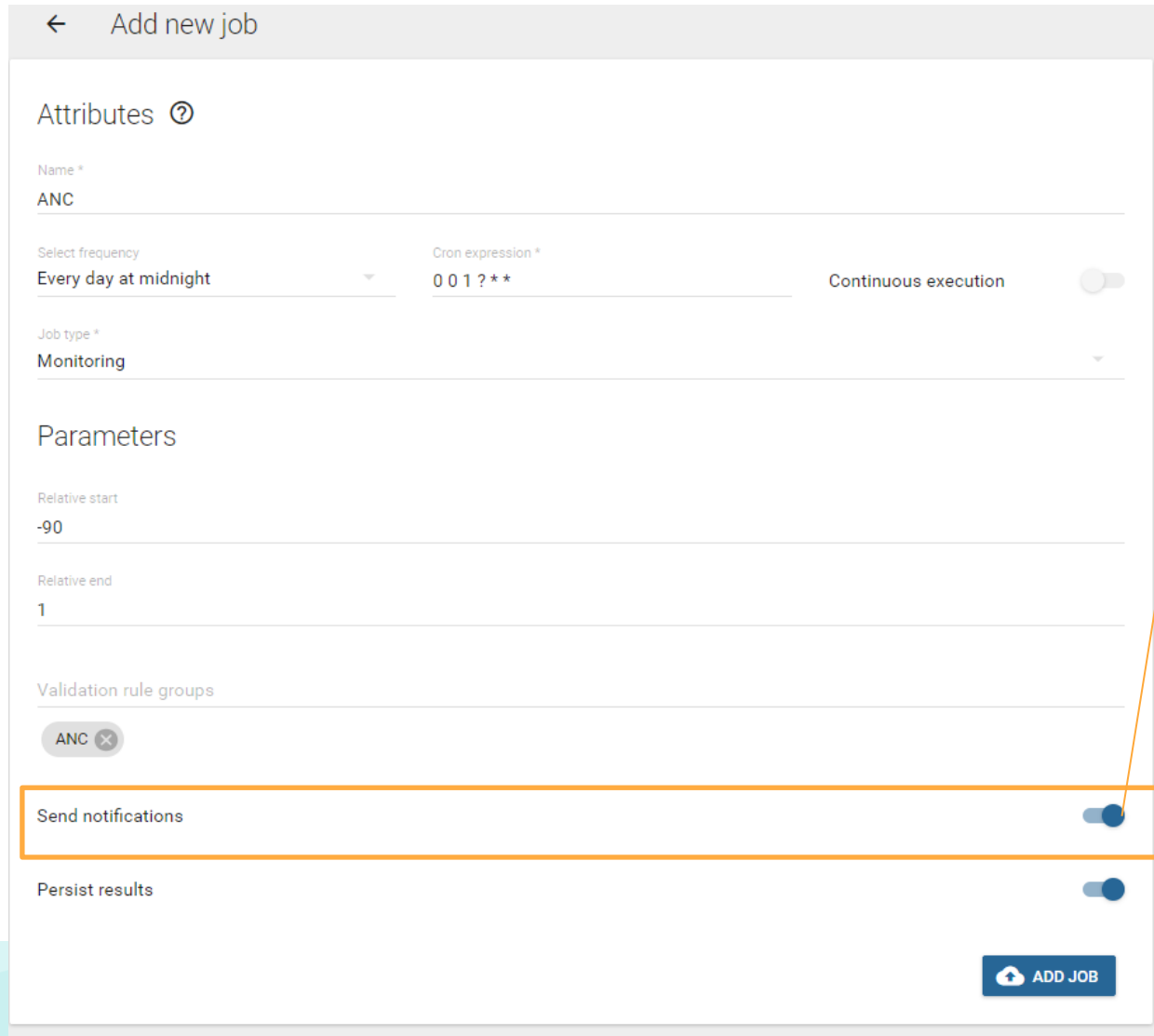
Validation rule groups
ANC Immunisation

Send notifications ☐

Persist results ☐

Choose
validation rule
More than one can be
selected
groups by typing
and selecting

When to run validation rules: Automatically scheduled



← Add new job

Attributes ?

Name *

ANC

Select frequency

Every day at midnight

Cron expression *

0 0 1 ? **

Continuous execution

Job type *

Monitoring

Parameters

Relative start

-90

Relative end

1

Validation rule groups

ANC

Send notifications

Persist results

ADD JOB

Will automatically
send notifications via
email and sms if:

- notifications are configured
- email server is configured
- sms gateway is configured
- user is configured to receive emails and sms

When to run validation rules: Automatically scheduled

← Add new job

Attributes ⓘ

Name *
ANC

Select frequency
Every day at midnight

Cron expression *
0 0 1 ? **

Continuous execution ☐

Job type *
Monitoring

Parameters

Relative start
-90

Relative end
1

Validation rule groups

ANC ✕

Send notifications ☒

Persist results ☒

ADD JOB

Will 'persist' or
save results, so
that only new
validation alerts
are produced if
they are
detected.

Scheduling predictor

1. Name
2. Select frequency: Every week

Attributes

Name *

ANC Outlier Threshold

Select frequency

Every week

Cron expression *

0 0 3 ? * MON

Continuous execution



Job type *

Predictor



Parameters


Relative start

-60


Relative end

1

Predictors

ANC 1 Outlier Threshold 

Predictor groups

 ADD JOB

When to run validation rules: Automatically scheduled

A couple of best practices:

1. Schedule predictors to run before analytics tables
2. Schedule analytics tables before validation rules
3. Schedule just a few critical validations to run nightly or more frequently – disease surveillance and **persist** results
4. Schedule more, routine DQ checks to run weekly, monthly, or less frequently and make the relative

Scheduling Running

1. Predictors – 23:00 SUNDAY
2. Analytics tables – 24:00 SUNDAY
3. Validation Rules Alers – 03:00 Daily

About Email – Get the information from your email host.

41.5 Email settings

Email settings

Setting	Description
Host name	Sets the host name of the SMTP server. When you use Google SMTP services, the host name should be <i>smtp.gmail.com</i> .
Port	Sets the port to connect to the SMTP server.
User name	The user name of the user account with the SMTP server. mail@dhis2.org
Password	The password of the user account with the SMTP server.
TLS	Select this option if the SMTP server requires TLS for connections.
Email sender	The email address to use as sender when sending out emails.
Send me a test email	Sends a test email to the current user logged into DHIS2.

Host name

email-smtp.eu-west-1.amazonaws.com

Port

587

Username

AKIAIZ5AAPB2CSW7BQ5A

Password























TLS

Email sender

no-reply@dhis2.org

SEND ME A TEST EMAIL

Automatic email alerts

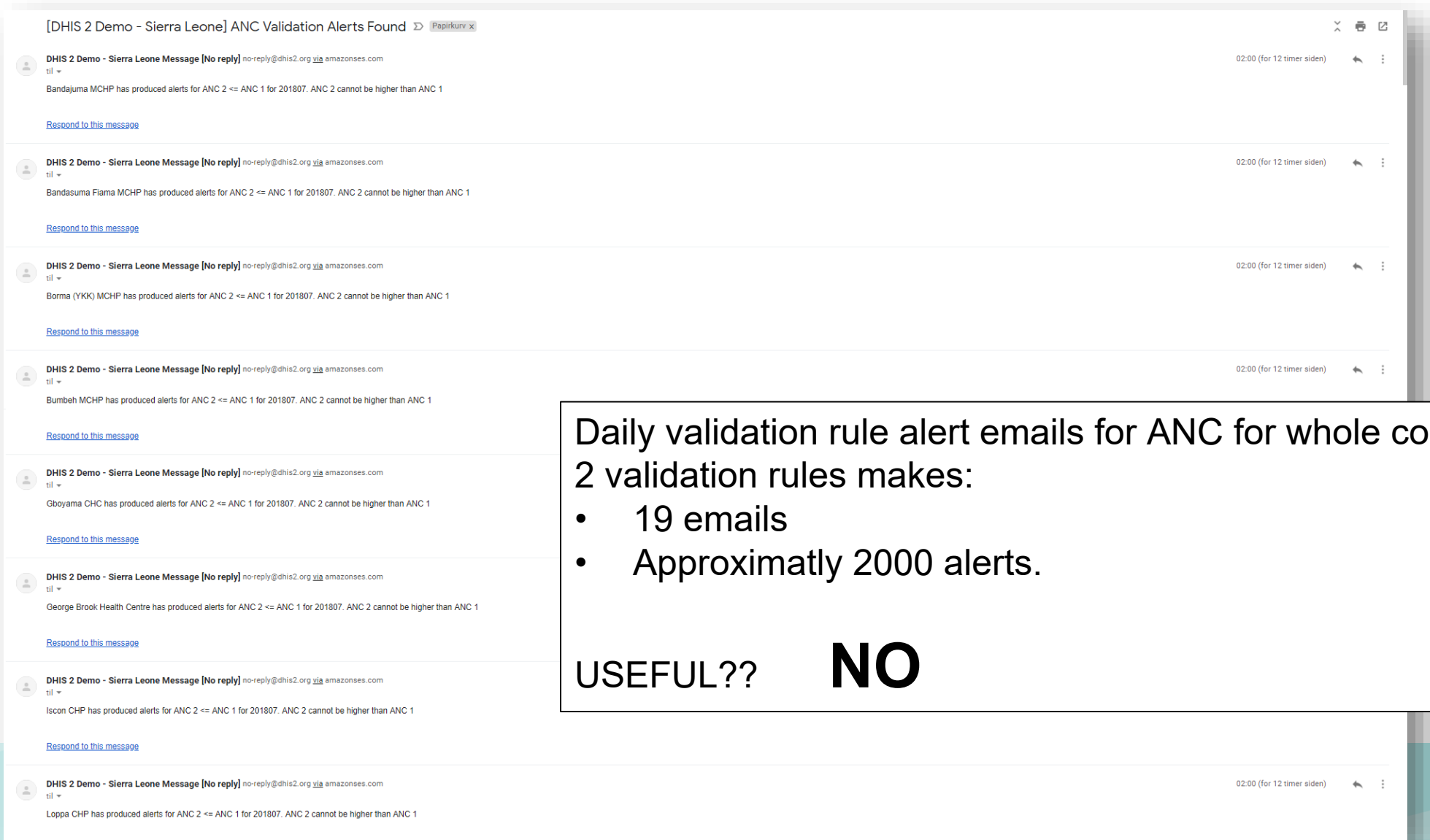
<input type="checkbox"/>		DHIS 2 Demo - Sierr. 89	[DHIS 2 Demo - Sierra Leone] ANC Validation Alerts Found - Bandajuma MCHP has produced alerts for ANC 2 <= ANC 1 for 201807. ANC 2 cannot be higher than ANC 1 Respond to this message	03:26
<input type="checkbox"/>		DHIS 2 Demo - Sierr. 100	[DHIS 2 Demo - Sierra Leone] ANC Validation Alerts Found - Bumpetoke CHP has produced alerts for ANC 2 <= ANC 1 for 201807. ANC 2 cannot be higher than ANC 1 Respond to this message	02:39
<input type="checkbox"/>		DHIS2 Community sum.	[DHIS2 Community] Summary - A brief summary since your last visit on June 21 DHIS2 Community Since your last visit 1 1 1 New Topics Unread Notifications Likes Received Popular Topics Support September 2 Would like to learn DHIS2	02:38
<input type="checkbox"/>		DHIS 2 Demo - Sierr. 100	[DHIS 2 Demo - Sierra Leone] ANC Validation Alerts Found - Banka Makuloh MCHP has produced alerts for ANC 2 <= ANC 1 for 201807. ANC 2 cannot be higher than ANC 1 Respond to this message	02:24
<input type="checkbox"/>		DHIS 2 Demo - Sierr. 100	[DHIS 2 Demo - Sierra Leone] ANC Validation Alerts Found - Gandorhun (Gbane) CHC has produced alerts for ANC 2 <= ANC 1 for 201807. ANC 2 cannot be higher than ANC 1 Respond to this message	02:23
<input type="checkbox"/>		DHIS 2 Demo - Sierr. 100	[DHIS 2 Demo - Sierra Leone] ANC Validation Alerts Found - Massayeima MCHP has produced alerts for ANC 2 <= ANC 1 for 201808. ANC 2 cannot be higher than ANC 1 Respond to this message	02:20
<input type="checkbox"/>		DHIS 2 Demo - Sierr. 100	[DHIS 2 Demo - Sierra Leone] ANC Validation Alerts Found - Fobu MCHP has produced alerts for ANC 2 <= ANC 1 for 201807. ANC 2 cannot be higher than ANC 1 Respond to this message	02:18
<input type="checkbox"/>		DHIS 2 Demo - Sierr. 100	[DHIS 2 Demo - Sierra Leone] ANC Validation Alerts Found - Bomu Saamba CHP has produced alerts for ANC 2 <= ANC 1 for 201807. ANC 2 cannot be higher than ANC 1 Respond to this message	02:17
<input type="checkbox"/>		DHIS 2 Demo - Sierr. 100	[DHIS 2 Demo - Sierra Leone] ANC Validation Alerts Found - Bai Largo MCHP has produced alerts for ANC 2 <= ANC 1 for 201807. ANC 2 cannot be higher than ANC 1 Respond to this message	02:15
<input type="checkbox"/>		DHIS 2 Demo - Sierr. 100	[DHIS 2 Demo - Sierra Leone] ANC Validation Alerts Found - Baiima CHP has produced alerts for ANC 2 <= ANC 1 for 201807. ANC 2 cannot be higher than ANC 1 Respond to this message	02:14
<input type="checkbox"/>		DHIS 2 Demo - Sierr. 100	[DHIS 2 Demo - Sierra Leone] ANC Validation Alerts Found - Falaba MCHP has produced alerts for ANC 2 <= ANC 1 for 201807. ANC 2 cannot be higher than ANC 1 Respond to this message	02:12
<input type="checkbox"/>		DHIS 2 Demo - Sierr. 100	[DHIS 2 Demo - Sierra Leone] ANC Validation Alerts Found - Baiama CHP has produced alerts for ANC 2 <= ANC 1 for 201807. ANC 2 cannot be higher than ANC 1 Respond to this message	02:11
<input type="checkbox"/>		DHIS 2 Demo - Sierr. 100	[DHIS 2 Demo - Sierra Leone] ANC Validation Alerts Found - Lakka/Ogoo Far has produced alerts for ANC 2 <= ANC 1 for 201807. ANC 2 cannot be higher than ANC 1 Respond to this message	02:10
<input type="checkbox"/>		DHIS 2 Demo - Sierr. 100	[DHIS 2 Demo - Sierra Leone] ANC Validation Alerts Found - Panderu MCHP has produced alerts for ANC 2 <= ANC 1 for 201807. ANC 2 cannot be higher than ANC 1 Respond to this message	02:10
<input type="checkbox"/>		DHIS 2 Demo - Sierr. 100	[DHIS 2 Demo - Sierra Leone] ANC Validation Alerts Found - Bangambaya MCHP has produced alerts for ANC 2 <= ANC 1 for 201807. ANC 2 cannot be higher than ANC 1 Respond to this message	02:08
<input type="checkbox"/>		DHIS 2 Demo - Sierr. 100	[DHIS 2 Demo - Sierra Leone] ANC Validation Alerts Found - Bandajuma Sinr has produced alerts for ANC 2 <= ANC 1 for 201807. ANC 2 cannot be higher than ANC 1 Respond to this message	02:06
<input type="checkbox"/>		DHIS 2 Demo - Sierr. 100	[DHIS 2 Demo - Sierra Leone] ANC Validation Alerts Found - Kpayama 2 MCHP has produced alerts for ANC 2 <= ANC 1 for 201807. ANC 2 cannot be higher than ANC 1 Respond to this message	02:04
<input type="checkbox"/>		DHIS 2 Demo - Sierr. 100	[DHIS 2 Demo - Sierra Leone] ANC Validation Alerts Found - Baoma (Koya) C has produced alerts for ANC 2 <= ANC 1 for 201807. ANC 2 cannot be higher than ANC 1 Respond to this message	02:04
<input type="checkbox"/>		DHIS 2 Demo - Sierr. 100	[DHIS 2 Demo - Sierra Leone] ANC Validation Alerts Found - Bongor MCHP has produced alerts for ANC 2 <= ANC 1 for 201807. ANC 2 cannot be higher than ANC 1 Respond to this message	02:02
<input type="checkbox"/>		DHIS 2 Demo - Sierr. 100	[DHIS 2 Demo - Sierra Leone] ANC Validation Alerts Found - Bambara MCHP has produced alerts for ANC 2 <= ANC 1 for 201807. ANC 2 cannot be higher than ANC 1 Respond to this message	02:01

Daily validation rule alert emails for ANC for whole country
2 validation rules makes:

- 19 emails
- Approximatly 2000 alerts.

USEFUL??

Automatic email alerts



Daily validation rule alert emails for ANC for whole country
2 validation rules makes:

- 19 emails
- Approximatly 2000 alerts.

USEFUL?? **NO**

From: "Rwanda HMIS Message [No reply]" <trainmutali@gmail.com>
Date: June 6, 2019 at 10:00:00 PM PDT
To: Undisclosed recipients ;
Subject: [Rwanda HMIS] Validation violations as of 2019-06-07T07:00:00

Violations: High 23, medium 0, low 0

A violation of the Penta 3 outlier data validation rule was detected at Batsinda HP for 201905 on 20
Please confirm that the value is correct of Penta 3

A violation of the Penta 3 outlier data validation rule was detected at Bumbogo (ex-Gikomero I) CS f
Please confirm that the value is correct of Penta 3

A violation of the Penta 3 outlier data validation rule was detected at Cyuga HP for 201905 on 2019-
Please confirm that the value is correct of Penta 3

A violation of the Penta 3 outlier data validation rule was detected at Cyumba CS for 201905 on 2019
Please confirm that the value is correct of Penta 3

A violation of the Penta 3 outlier data validation rule was detected at Gatsata CS for 201905 on 201
Please confirm that the value is correct of Penta 3

A violation of the Penta 3 outlier data validation rule was detected at Gikore CS for 201905 on 2019
Please confirm that the value is correct of Penta 3

A violation of the Penta 3 outlier data validation rule was detected at Gitarama CS for 201905 on 20
Please confirm that the value is correct of Penta 3

A violation of the Penta 3 outlier data validation rule was detected at Gitwe CS for 201905 on 2019-
Please confirm that the value is correct of Penta 3

A violation of the Penta 3 outlier data validation rule was detected at Harmony Clin for 201905 on 2
Please confirm that the value is correct of Penta 3

A violation of the Penta 3 outlier data validation rule was detected at Jenda (nyabihu) HP for 20190
Please confirm that the value is correct of Penta 3

A violation of the Penta 3 outlier data validation rule was detected at Kirambi CS for 201905 on 201
Please confirm that the value is correct of Penta 3

A violation of the Penta 3 outlier data validation rule was detected at Kirarambogo CS for 201905 on
Please confirm that the value is correct of Penta 3

A violation of the Penta 3 outlier data validation rule was detected at Ntoma CS for 201905 on 2019-
Please confirm that the value is correct of Penta 3

A violation of the Penta 3 outlier data validation rule was detected at Nyarugunga CS for 201905 on
Please confirm that the value is correct of Penta 3

A violation of the Penta 3 outlier data validation rule was detected at Rubengera CS for 201905 on 2
Please confirm that the value is correct of Penta 3

A violation of the Penta 3 outlier data validation rule was detected at Ruheru CS for 201905 on 2019
Please confirm that the value is correct of Penta 3

How and for whom can automatic validation email alerts be useful?

Example from Rwanda outlier detection to district officers on monthly basis →

How and for whom
can automatic
validation email
alerts be useful?

Example from Cameroon
on disease surveillance on
a daily basis to national
IDSR team →

[Ministère de la Santé Publique / Ministry of Public Health - Cameroon] Validation violations as of 2020-06-16T07:00:00

Inbox x

Ministère de la Santé Publique / Ministry of Public Health - Cameroon message [No reply] <dhisminsantecmr@gmail.com> Tue, Jun 16, 9:00

to ▾

🗖️ French ▾ > English ▾ [Translate message](#)

Violations: High 0, medium 1, low 4

Attention ! seuil d'alerte dépassé, Epidémie suspecte de Paralyse Plasque Aigue (PFA).
La FOSA HD Gazawa a enregistré 2.0 cas de Paralyse Plasque Aigue (PFA) pour la période 2020W13.
Bien vouloir vérifier.

Source : DHIS2, Cameroun (www.dhis-minsante-cm.org)

Attention ! seuil d'alerte dépassé, Epidémie suspecte de Paralyse Plasque Aigue (PFA).
La FOSA HD Gazawa a enregistré 1.0 cas de Paralyse Plasque Aigue (PFA) pour la période 2020W15.
Bien vouloir vérifier.

Source : DHIS2, Cameroun (www.dhis-minsante-cm.org)

Attention ! seuil d'alerte dépassé, Epidémie suspecte de Paralyse Plasque Aigue (PFA).
La FOSA CSI Gazawa a enregistré 1.0 cas de Paralyse Plasque Aigue (PFA) pour la période 2020W7.
Bien vouloir vérifier.

Source : DHIS2, Cameroun (www.dhis-minsante-cm.org)

Attention ! seuil d'alerte dépassé, Epidémie suspecte de Paralyse Plasque Aigue (PFA).
La FOSA HD Gazawa a enregistré 2.0 cas de Paralyse Plasque Aigue (PFA) pour la période 2020W7.
Bien vouloir vérifier.

Source : DHIS2, Cameroun (www.dhis-minsante-cm.org)

Attention ! seuil d'alerte dépassé, Epidémie suspecte de Rougeole.
La FOSA CSI Gazawa a enregistré 5.0 cas de Rougeole pour la période 2020W12.
Bien vouloir vérifier.

Source : DHIS2, Cameroun (www.dhis-minsante-cm.org)

Data Quality SoPs

- Defines what actions to take by everyone.
 - What is the process for each person
 - What automated messages does each person receive
 - User groups for messages
 - Org unit contact details are updated