OpenESSENCE Quick Start Guide

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Introduction to Dashboards and Workbench

OpenESSENCE is the visualization and analysis tool in the SAGES suite of tools for electronic disease surveillance. This guide describes the Dashboard and Workbench feature in OpenESSENCE. The data shown in these screenshots is simulated and is for demonstration purposes only.

When you first log in to OpenESSENCE, you will see a customized user-configured dashboard. For the purposes of this guide, a dashboard has already been configured, but later in this guide, you will learn how to create a new dashboard. You will also learn about the Workbench feature that can be used to explore and analyze data using visualizations.

Dashboards

A dashboard is a collection of visualizations that enable "at-a-glance" situational analysis for the epidemiologist. A visualization is a set of filtered data presented in a graphical format such as time series, bar or pie chart, a map, or a table. The dashboard in our demonstration contains a time series showing patient counts by symptom for the last 12 months. It also contains a bar chart showing symptoms by age group, and a heat map of patient visits.



Dashboard Click-Through to Workbench

Suppose you want to do additional analysis of the time series in the dashboard. When you click anywhere on the time series, the time series now appears in workbench mode.



Applying Filters in a Workbench

In the workbench, you can apply additional filters, and create new visualizations. Suppose you only want to see the last 6 months of data instead of the last 12 months that is currently displayed. You can change the date filter to show only the last 6 months.

Ope	nESSE	NCE	(2	ul	Þ	ø	Admin -
visi	tDate:	2014-	07-20) TO 20	015-01	1-20]		
Visit	t date	07-21			×		+	+ Add widget Save
	< Sun	Mon	ر Tue	uly 201 Wed	4 Thu	Fri	> Sat	
	29 06	30 07	01 08	02 09	03 10	04 11	05 12	×symptoms 🔅 🖻 🔛 🗙
Q	13 20	14 21	15 22	16 23	17 24	18 25	19 26	Interval day •
	27	28	29	30	31	01	02	<u>Imeseries</u> ration ● Shock ● Abdominal Pain ● Headache ● Rash ● Nosebleed ● Flushing ● Joint Pain
1 7 5 4 3 2 1 0		ay V	Veeks	Clea	2			MMAN

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Now suppose you only want to see visits in which fever was recorded as a symptom. You can apply a filter for fever by adding a Symptom filter and setting the filter to fever.



The new filters are automatically applied to the time series. You can add another symptom to the Symptom filter by clicking in the field and selecting another symptom from the list. Or, you can add another filter (such as age or sex) by clicking the plus sign.

OpenESSENCE 🙆 🖬 🗲	e 🖉		Admin -
visitDate: [2014-07-20 TO 2015-01-20]	AND symptoms.name:"Fever"		
Visit date 🗶	Symptom 💥	•	Add widget 🛛 🖺 Save
2015-01-20 Q Zoom out	Add another symptom to the filter by selecting another symptom from the list (Fever <i>or</i> cough, for example.)		interval day 🔻
• Fever 9 8 7 6 5 5 5 5 5 5 5 5 5 5 5 5 5	Timeseries		
	14-09-06	2014-11-03 201	4-12-31

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Adding a New Visualization to a Workbench (Pivot Table)

Now, suppose you want to see this filtered data as a pivot table grouped by age. Start by adding a new visualization. The default visualization (a table) appears on the workbench. Click the pivot table "cube" icon.

Visit •Facility ‡Sex ‡Age ‡SymptomsDiagnosesJan 16, 2015Wheeler Clinicfemale16Cough, FeverEar InfectionDec 22, 2014Thayer Clinicmale8Fever, RashEar InfectionNov 5, 2014Cass Hospitalmale1FeverNov 4, 2014Cass Hospitalmale17FeverNov 4, 2014Merrick Clinicfemale0Fever, RashMalariaNov 3, 2014Lancasterfemale0FeverNov 3, 2014Cass Hospitalfemale7FeverNov 3, 2014Cass Hospitalfemale7FeverVisit 412319			Pivot co	lumns		
Jan 16, 2015Wheeler Clinicfemale16Cough, FeverEar InfectionDec 22, 2014Thayer Clinicmale8Fever, RashEar InfectionNov 5, 2014Cass Hospitalmale1FeverNov 4, 2014Cass Hospitalmale17FeverNov 4, 2014Merrick Clinicfemale0Fever, RashMalariaNov 3, 2014Lancasterfemale0FeverNov 3, 2014Cass Hospitalfemale7FeverNov 3, 2014Cass Hospitalfemale7FeverVor 3, 2014Cass Hospitalfemale7femaleVor 3, 2014Cass Hospitalfemale7femaleVor 3, 2014Cass Hospital	Visit -	Facility \$	Sex 🗘	Age¢	Symptoms	Diagnoses
Indext Dec 22, 2014 Thayer Clinic male 8 Fever, Rash Ear Infection Nov 5, 2014 Cass Hospital male 1 Fever Image: Clinic Image: Clinic <td< td=""><td>Jan 16, 2015</td><td>Wheeler Clinic</td><td>female</td><td>16</td><td>Cough, Fever</td><td>Ear Infection</td></td<>	Jan 16, 2015	Wheeler Clinic	female	16	Cough, Fever	Ear Infection
Nov 5, 2014 Cass Hospital male 1 Fever Nov 4, 2014 Cass Hospital male 17 Fever Image: Constraint of the state of the	t Dec 22, 2014	Thayer Clinic	male	8	Fever, Rash	Ear Infection
Nov 4, 2014 Cass Hospital male 17 Fever Nov 4, 2014 Merrick Clinic female 0 Fever, Rash Malaria Nov 3, 2014 Lancaster female 0 Fever Nov 3, 2014 Cass Hospital female 7 Fever Vov 3, 2014 Cass Hospital female 7 Fever	Nov 5, 2014	Cass Hospital	male	1	Fever	1
Nov 4, 2014 Merrick Clinic female 0 Fever, Rash Malaria Nov 3, 2014 Lancaster female 0 Fever Nov 3, 2014 Cass Hospital female 7 Fever Click the cube icon to change this visualization into a pivot table.	Nov 4, 2014	Cass Hospital	male	17	Fever	1
Nov 3, 2014 Lancaster female 0 Fever Click the cube icon to change this visualization into a pivot table.	Nov 4, 2014	Merrick Clinic	female	0	Fever, Rash	Malaria 🖉
Nov 3, 2014 Cass Hospital female 7 Fever Click the cube icon to change this visualization into a pivot table.	Nov 3, 2014	Lancaster	female	0	Fever	1
<12319visualization into a pivot table.	Nov 3, 2014	Cass Hospital	female	7	Fever Cl	ck the cube icon to change this
		<	1	2 3	19	isualization into a pivot table.

Now we can pivot the data by age and symptom. We see the counts for symptom (containing fever) by age group.

	patient.age	[0 TO 1}	[1 TO 5}	[5 TO 12}	[12 TO 18}	[18 TO 45}	[45 TO 65}	Totals
symptoms								
Cough,Fever					1			1
Fever		10	47	27	5	8	2	99
Fever,Abdomi	nal Pain		1	3	1			5
Fever,Abdominal Pain,Vomit				1				1
Fever,Cough		1	3					4
Fever,Headacl	ne		1	2	2	2		7
Fever,Headacl	ne,Rash					1		1
Fever, Joint Pain, Flushing				1				1
Fever,Nosebleed			1					1

Exporting a Visualization to a PNG File

Another useful option in the workbench is the ability to save a visualization to a PNG file, which can be used in other documents or reports.

Title	Timeseries
Timeseries	9 ₁
X-Axis Label	8
Date Edit title, axis	5 6 6
Y-Axis Label desired	5 5 F
Count	
X Size	
553	
Y Size	0-2014-09-06 2014-11-03 2014-12-31 Date
308	visitDate: [2014-07-20 TO 2015-01-20] AND symptoms.name:"Fever"
✓Notes	
H4 H5 P B <i>I</i> <u>U</u> ≔	Enter your notes here
visitDate: [2014-07-20 TO 2015-01-20] AND symptoms.name:"Fever"	
that you want	Coroll down and
Enter your notes here	click Export to
Visualization.	PNG

Saving Visualizations from the Workbench and Creating a New Dashboard

Suppose you want to now save these two visualizations as a new dashboard. To do that, you save each of the visualizations from the workbench, and then add them to a new dashboard.

	1	
[18 TO 45}	[45 TO 65}	Totals
Save th	is visualiza	Enter a name for this
Name		visualization
Pivot 1	able - Fever	by Age Group (Last 6 Months)
		× Car 3 × Save

Repeat this process for the time series visualization.

Save this visualization	
Name Time Series - Fever (Last 6 Months)	
	× C 3 ✓ Save

Now select New Dashboard from the Dashboard menu. Click Add Widget and select a visualization to add to the dashboard. Add the other visualization.

æ <mark>_1</mark> ⊨ →					
New dashboard Open dashboard Manage dashboards				Admin -	
Recent dashboards Dashboard: Daily Patient Visits by Sympt	tom (Prior 12 Months)	3 + Add	widget	🖺 Save	
Add widget Visualization Bar Chart - Symptoms by Age Group Map - Patient Visits <u>Pivot Table - Fever by Age Group (Last 6</u> Time Series - Daily Patient Visits by <u>Symp</u>	Months) 4	3 •			
Time Series - Fever (Last 6 months)	Add widget Visualization Pivot Table - Fever by Ag	ge Group (Last 6 Mor	nths)	× c. 5	▼ Add

Click and drag the visualizations to move or resize them to the way you prefer to see them. Then click Save to save the dashboard.

vot Table - I	Fever by Age G	roup (Last	6 Months	You visu around resize	can click and alization to r d on the dash it by draggin or corner	drag a nove it board, or g an edge		0 X	Time Series - Fever (Last 6 months)	Repeat the add widget process to add the time series visualization to the new dashboard.	+ Add w. 6 🗈 S
	patient.age	[0 TO 1]	[1 TO 5]	[5 TO 12]	[12 TO 18]	[18 TO 45]	[45 TO 65]	Totals	Fever	Timeseries	save the dashboard
symptoms									°]	1	
Cough,Fever					1			1	6		
Fever		10	47	27	5	8	2	99	7		
Fever,Abdon	inal Pain		1	3	1			5			
Fever,Abdon	inal Pain,Vomit			1				1	6		
ever.Cough		1	3					4	5		
ever,Heada	:he		1	2	2	2		7	8 4		
ever,Heada	:he,Rash					1		1	э л		
ever, Joint P	ain,Flushing			1				1	2		
ever,Noseb	eed		1					1			
Course Park		2	1	2	1		-	6			

Dashboard	
Name Fever - Last 6 Months 7 Description	Enter a name and description for the new dashboard and click Save.
Time Series and Pivot Table - Fever (Last 6 Months)	8
	× Car 9 v Save

The new dashboard now appears on the Dashboard dropdown menu.

8 20	ul	5	ø			
New	dashbo	ard				
Oper	n dashbo	oard				
Man	age dasl	hboards				
Recei	nt dashbo	ards		Your new dashboard		
Dash	board:	Daily Pat	tien			m (Prior 12 Months)
Feve	er - Last (6 Month	s v)	_	

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