## Visualization of interactions during the course of an epidemic

When examining the dynamics of an outbreak or event in public health, one should not be limited to constructing an epidemic curve to, since the curve does not fully inform, especially if there is an overlap of situations or an interaction between the people studied.

It is important to be able to display graphically when there is a common source of contagion or a critical period to identify, such as the hours or days elapsed since an exposure and its resulting effect. We are going to use as an example the information on exposure time in a dialysis unit of a hospital in which there was an HIV epidemic in 1992 in Colombia. This work was published in the Lancet simultaneously with an abridged version in the MMWR. Both documents are available on the internet.

We will get a visualization using stacked bars using Excel. First, we need to open a database called HURGV.xls (among the other attachments to the article, the labels are in Spanish- translations below).

1. We visualize the database and identify the following variables: the (ID) variable, which is the number of the patient and the dates of the start of attendance at the dialysis unit (Inicio -START) and end of attendance (FIN: END), the status of infection and the date of first diagnosis of HIV infection.

2. Let's compute a column called [Duracion: DURATION] [to calculate the period of attendance in days at the dialysis unit] using the function (fx) days in parentheses, which returns the number of days between two dates; It will look like this in the first row with data =DAYS(end\_date; start\_date) and then fill using autofill paste.

3. We insert the chart to select in anywhere on the sheet, and in this case we are choosing an stacked bar chart, which looks as follows:



Depending on the version of Excel (2016 or earlier) it will look a little different.

4. Within the graph canvas, press the right mouse button to select the data.



5. Select as the name of the series, the cell that has it, in this case the series is in B1 (inicio: START) of our Excel sheet called HURGV. Values range from B2 to B24.

×														ardenas 🔽	) li		0 X
File	Hom	e Insert D	Draw Page L	ayout Form	ulas Da	ata Review	View	Automate	Help	Acrobat	Power Pivot	Chart Design	Format		Com	ments	🖻 Share 🗸
Ado	Chart Conent ~ Lay	Quick Chang	) ve										Switch Row, Column	Select Data	Change Chart Type	Move Chart	
	Chart Layou	ıts					Chart Styl	les					Data		Туре	Location	~
81		• : × ~	fx														^
									Selec	t Data Sour	ce	neod				? ×	
									Char	t <u>d</u> ata range	= Sneet (13B3 13	D\$24				-	
10	A	B, 1351	C, C, 1552	D	E	F	G	Н			ſ	Switch F	Row/Column				R
11	17	01/01/1991	03/08/1992	Noinfectado	05/00/1	F00				d Entrine (Free	V		united (Color	oné Avic Labo	de		
13	20	27/04/1992	20/11/1992	Nuevo	01/10/1				IINI Legen	Add 1				ory) Axis Labe	.13		
14	22	03/05/1992	01/10/1992	Prevalente	01/10/1	23				1700 F		emove	E cur			_	-
15	24	12/07/1992	12/11/1992	Noinfectado		21				INICIO							
16	25	18/07/1992	09/06/1993	Noinfectado		19							2			-	
17	26	17/07/1992	17/06/1993	Noinfectado		17							3				
18	30	22/01/1993	14/10/1993	Noinfectado		15							4				
19	41	11/03/1993	15/11/1993	Noinfectado		13							5				
20	31	05/04/1993	15/10/1993	Noinfectado		9			-					_			
21	34	10/08/1993	30/06/1994	Noinfectado		7		-	Hidd	len and Empt	y Cells				ОК	Cancel	
22	36	13/09/1993	30/06/1994	Noinfectado		5		-									
23	39	29/11/1993	30/06/1994	Noinfectado		3											
24	40	20/12/1993	30/06/1994	Noinfectado		1			-		Plot Area						
25						02/04/198/910/1	08,005/199	011/199006/13	8/112/199/10	7/199201/19	9 <b>/</b> 08/1 <b>99/</b> 03/1 <b>9</b> 9	/09/1994					
26	~	Sheet1											1			_	
		Silecti	T								: •			n. m=n	1111		
Point	EO 78	X Accessibility: Invi	estigate							_			E		王	-	+ 100%
-	66°F Nublado					, Р Busca	r 🧯	) 💼	<b>i</b>	2 🖊	o 🕺	° 💶 🖷	^	🐔 EN	।c	) 🗁 01 03,	:26 p. m. (04/2023 )

6. We see that we have filled in the start date at the end of the bars, but still, it is not what we want to do, since it is intended to display is the duration -that is the time at risk- on the time scale.



7. Therefore, we are going to add the data of the DURATION variable, for which, within the graph canvas, press the right mouse button to select the data and add the variable



×	AutoSave	e 💽 off) 🗄	Book1 - Exce												Vict	or Cardenas	vc a		o ×
File	e Hom	ie Insert D	)raw Page I	Layout Form	ulas D	ata F	Review	View	Automat	e Help	Acrobat	Power	Pivot	Chart Design	Format		Com	ments	🖻 Share 👻
Adr Eler	d Chart C ment ~ Lay	Quick Chang				i		ali		11					Switch	Row/ Select Data	Change Chart Type	Move Chart	
	Chart Layou	uts						Chart Sty	/les							Data	Туре	Location	~
F2		•] I <u>X V</u>	fx																~
	A	В	С	D	E		F	G	н	1	J	-	dit Seri	95		7 X	P	Q	R 🔺
20	31	05/04/1993	15/10/1993	Noinfectado		9	-					C	uit sen	es		. ^			
21	34	10/08/1993	30/06/1994	Noinfectado		7	-					S	eries <u>n</u> ar	me:					
22	36	13/09/1993	30/06/1994	Noinfectado		5						=	Sheet1!	\$F\$1	1	= Duration			
23	39	29/11/1993	30/06/1994	Noinfectado		3						S	eries <u>v</u> alı	ues:					
24	40	20/12/1993	30/06/1994	Noinfectado		1						-	Sheet1!	\$F\$2:\$F\$24	1	= 108, 767, 886	i,		
25						00/01	/19008/0	9/19188/05,	/19224/01/1	94038/10/1953	41/06/19688/0	2/1982					_		
26															ок	Cancel	_		
27																			
28																			
29																			
30																			
31																			
32																			
34																			
35																			
55	~	Sheet1	1															J	-
<	/	Sheeti	÷									:	-						
Point	10 °	Accessibility: Invi	estigate													# E	끤		+ 100%
-	66°F Nublado	3				Q	Busca	ar 🧯	)		🔊 😕	0	1	° 🧧 🖷		^ 🔹	ENG 🛜 🕸	) 🎦 03	1:36 p. m. /04/2023 🌀

We have added as title the first cell of the F column, and the array of cells F2:F24 as data values.

×		Off 🗄												ardenas			o ×
Fi	le Hom	e Insert D	)raw Page I	ayout Form	ulas Dat	a Review	View	Automate	Help /	Acrobat	Power Pivo	t Chart Design	Format		Com	ments	ය Share 🗸
Ad	d Chart C ement ~ Lay	uick Chang		Ì			all						Switch Row Column	/ Select Data	Change Chart Type	Move	
	Chart Layou	ts					Chart S	tyles					Dati	9	Туре	Location	~
F2		1 : X 🗸	fx														^
									Select I	Data Soun data range:	ce Sheet1!\$B\$1:	\$8\$24,Sheet1!\$F\$1:\$F\$;	24			? ×	]
	A	В	С	D	E	F	G	Н			6	da a a c					R 🔺
2	4	04/11/1991	20/02/1992	Noinfectado		10	8				16	Switch F	(ow/Column	31			
3	6	10/07/1991	15/08/1993	Noinfectado		76	7		Legend	Entries (Ser	ies)		Horizontal (Cated	ory) Axis Lab	pels		
4	8	13/03/1991	15/08/1993	Nuevo	05/07/199	88	6		THE A	dd E	Edit X	Remove	Edit				
5	9	01/01/1991	10/11/1992	Nuevo	15/06/199	92 67	9										-
6	10	01/01/1991	15/02/1993	Nuevo	01/08/199	92 77	6			NICIO							
7	12	01/01/1991	26/04/1993	Nuevo	01/10/199	92 84	6		I	Duration			2				·
8	14	12/11/1991	13/05/1994	Nuevo	01/07/199	92 91	.3						3				
9	15	01/01/1991	04/06/1993	Noinfectado		88	5						4				
10	16	01/01/1991	04/03/1992	Noinfectado		42	8						5				
11	17	01/01/1991	03/08/1992	Noinfectado		F (	0								5.3		
12	20	27/04/1992	07/09/1992	Nuevo	05/09/1	23			Hidder	and Empt	y Cells				OK	Cancel	
13	21	27/04/1992	20/11/1992	Nuevo	01/10/1	21					-			-			
14	22	03/05/1992	01/10/1992	Prevalente		19											
15	24	12/07/1992	12/11/1992	Noinfectado		17											
16	25	18/07/1992	09/06/1993	Noinfectado		15											
17	26	17/07/1992	17/06/1993	Noinfectado		13	_			-							
<	>	Sheet1	+										_		_		- +
Read	v 💿 🕏	Accessibility: Inve	estigate										E		巴		
4	66°F Nublado					,	ar 🚺	) 💼	<b>i</b> 6		<b>O</b>	ê 🤨 🐖	^	<b>r</b> 6	NG 🛜 🕬	) 🗁 03	1:38 p. m. /04/2023 <sup>(3)</sup>

8. If the stacked bar chart is selected, the graph will look like this:



We have 23 plotted subjects, one for each stacked bar. We see that bar 1 corresponds to the subject with ID 4 who started on November 4 and ended on February 20, 1992, with a duration of 108 days, which is the true focus of our observation when putting together this graph, so that the orange bars are the ones we are interested in.

You can shorten the time periods on the X axis, in order to clarify the intent of the graph. To do this, with the right mouse button choose FORMAT OF THE GRAPH AREA, a work area will appear where it can be modified (this is optional).

×	AutoSave	e 💽 off 📙	Book1 - Exce	l.			∕⊃ Sei	arch					Victor Carde	enas 🔽	<i>l</i> ë –	O	×
Fil	e Hom	e Insert D	)raw Page L	ayout Form	ulas Data	Review	View	Automate	Help	Acrobat	Power Pivot	Chart Design	Format		Comments	d Sha	are ~
Ac	Id Chart Comment ~ Lay	Quick Chang	e			11						<ul> <li>✓</li> <li>✓</li> </ul>	Switch Row/ S Column	elect Chan	ge Move		
	Chart Layou	its					Chart S	tyles					Data	Туре	Locatio	n	~
ch			£														_
	A	В	С	D	E	F	G	Н	1	J	K	L M	1.				
10	16	01/01/1991	04/03/1992	Noinfectado		428	+	17					F	ormat Ax	S	~	· ^
11	17	01/01/1991	03/08/1992	Noinfectado		580		15					A	kis Options 🗸	Text Options		
12	20	27/04/1992	07/09/1992	Nuevo	05/09/1992	133	8	13			=						
13	21	27/04/1992	20/11/1992	Nuevo	01/10/1992	207				_			<				
14	22	03/05/1992	01/10/1992	Prevalente		151	YY	7		_		-		9			
15	24	12/07/1992	12/11/1992	Noinfectado		123		5		_				Alignment			
16	25	18/07/1992	09/06/1993	Noinfectado		326		3						Augument			
17	26	17/07/1992	17/06/1993	Noinfectado		335		. 1 =						Vertical alignm	nent Mid	dle Ce	<u> </u>
18	30	22/01/1993	14/10/1993	Noinfectado		265		-98	_0	þ	a 4a	3		Text direction	Hor	izontal	$\overline{}$
19	41	11/03/1993	15/11/1993	Noinfectado		249		21290	5/19	01	3. 2123	6/19	10				5
20	31	05/04/1993	15/10/1993	Noinfectado		193		23/2	0710	29/0	3210	15/0	2812	Custom angl	e (	-45	0
21	34	10/08/1993	30/06/1994	Noinfectado		324	ò	,			0						
22	36	13/09/1993	30/06/1994	Noinfectado		290								Allow taxt			
23	39	29/11/1993	30/06/1994	Noinfectado		213											
24	40	20/12/1993	30/06/1994	Noinfectado		192								<u>L</u> eft margin			
25														Right margin			0
<	>	Sheet1	+					:	4	_	_		E E				
Ready	10 k	CAccessibility: Inve	estigate		_								E				+ 100%
2	+0.51%	N				Ø Busca	r 💧	0	ļ,	🔊 😕	<b>O</b> 🕫	· 🗾 🖷	~	🔞 ENG 🐔	> ⊲») 🐌	01:50 p. r 03/04/202	n. 🕤

9. On the Y axis, we can place the ID of each subject, right clicking on the Y axis, choosing "Select data...", then when the submenu appears, choose Series1 and Edit the axis labels; which will allow in a following submenu to select the labels of the axis placing those of the ID variable.

File	Hom	e Insert D	iraw Page L	ayout Form.	ulas Data	Review	View Auto	mate H	elp Acroba	t Power Piv	ot Cha	art Design	Format		⊂ Com	ments	占 Share
Ada	Chart C nent ~ Lay	Quick vout ×	e <b>I</b> E		1 🟹	11						<ul> <li>▲</li> <li>↓</li> <li>↓</li></ul>	Switch Ron Column	V/ Select Data	Change Chart Type	Move	
	Chart Layou	its					Chart Styles						Da	ta	Туре	Location	
har	.4	•] I (X • )	Jx														
	A	В	C	D	E	F	G	<u>/</u> 9 [	19	к	L	М	N	0	Р	Q	R
	16	01/01/1991	04/03/1992	Noinfectado		428	17	<b>*</b>	Vertical (0	Categ 🗸 🚃		_		+			
	17	01/01/1991	03/08/1992	Noinfectado		580	15	Fill O	utline		-						
	20	27/04/1992	07/09/1992	Nuevo	05/09/1992	133	13	-						8			
	21	27/04/1992	20/11/1992	Nuevo	01/10/1992	207	11	Del	ate								
	22	03/05/1992	01/10/1992	Prevalente		151	0	17			-	_		97			
	24	12/07/1992	12/11/1992	Noinfectado		123		Res	et to Match Style	e	_						
	25	18/07/1992	09/06/1993	Noinfectado		326	3	A For			-						
	26	17/07/1992	17/06/1993	Noinfectado		335	1	ATON	Loss .	_							
	30	22/01/1993	14/10/1993	Noinfectado		265	<u>ه</u>	Cha	nge Chart Type.		3	2	5				
	41	11/03/1993	15/11/1993	Noinfectado		249	.212	HE call	at Data		J1295	-6/295	01295				
	31	05/04/1993	15/10/1993	Noinfectado		193	22/21	E Sele	ct Data	3210	o.	25102	28/20	_			
	34	10/08/1993	30/06/1994	Noinfectado		324	0	🗍 3-D	Rotation	-0				0			
	36	13/09/1993	30/06/1994	Noinfectado		290			Min Char								
	39	29/11/1993	30/06/1994	Noinfectado		213		Add	Major Gridline	S							
	40	20/12/1993	30/06/1994	Noinfectado		192		Add	Minor Gridline	s							
								Se Forr	nat Axis								
	>	Sheet1	+							1 4							

Ar do chart Chart	Kan File	AutoSave Hom	e Insert D	Book1 - Exce Draw Page I	Layout Form	ulas Data	Review	Search View Automate	Help Acrobat Power Pivot	Chart Design	Victor Cardenas	VC D Comme	ents 🖻 Share 🛉
Chart Layods     Data     Type     Location       P20     I     I     I     Type     Location       P20     I	Ado Eler	Chart C nent ~ Lay	Luick Chang			Ē	11			< >	Switch Row/ Select Column Data	Change Chart Type	Move Chart
P20       • I × ✓ fx         A       B       C       D       E       F       G       H       Chart data range:       T         A       B       C       D       E       F       G       H       Chart data range:       T         11       17       01/01/1991       03/08/1992       Noinfectado       580       13       I       I       III       TO 10/01/1991       03/08/1992       Noinfectado       580       13       III       III       TO 10/01/1991       03/08/1992       Noinfectado       580       13       III       IIII       IIII       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		Chart Layou	its					Chart Styles			Data	Type L	ocation
A       B       C       D       E       F       G       H         10       16       01/01/1991       04/03/1992       Noinfectado       428       17         11       17       01/01/1991       03/08/1992       Noinfectado       580       13         12       20       27/04/1992       07/09/1992       Nuevo       01/10/1992       207         14       22       03/05/1992       01/10/1992       Nuevo       01/10/1992       207         15       24       12/07/1992       20/11/1992       Nuevo       01/10/1992       207         16       25       18/07/1992       01/10/1992       Prevalente       151       7         17       26       17/07/1992       12/11/1992       Nuevo       01/10/1992       206         18       30       22/01/1993       Noinfectado       326       3       1         18       30       52/01/1993       Noinfectado       324       24       27/04/1993       30/06/1994       Noinfectado       226         21       34       10/08/1993       30/06/1994       Noinfectado       224       24       24       24       24       24       24       24	P20			fr									
A       B       C       D       E       F       G       H         10       16       01/01/1991       04/03/1992       Noinfectado       428       17         11       17       01/01/1991       03/08/1992       Noinfectado       580       13         12       20       27/04/1992       07/09/1992       Nievo       01/10/1992       207       9         13       21       27/04/1992       01/10/1992       Nuevo       01/10/1992       207       9         14       22       03/05/1992       01/10/1992       Nievo       01/10/1992       207       9         15       24       12/07/1992       12/11/1992       Noinfectado       123       7         15       24       12/07/1992       12/11/1992       Noinfectado       326       3       1         16       25       18/07/1992       07/06/1993       Noinfectado       265       3       1         17       26       17/07/1992       17/06/1993       Noinfectado       236       1       0       4       2         18       30       02/01/1993       30/06/1944       Noinfectado       234       1       0       4       <	120			J×					Select Data Source Chart data range:	lisplayed. If a new ran	ae is selected, it will replace	? all of the series in th	× 1 ne Series
1       16       01/01/1991       04/03/1992       Noinfectado       580       11         11       17       01/01/1991       03/08/1992       Noinfectado       580       13         12       20       27/04/1992       07/09/1992       Nuevo       05/09/1992       133         13       21       27/04/1992       01/10/1992       Nuevo       05/09/1992       133         14       22       03/05/1992       11/1/1992       Noinfectado       123       5         16       25       18/07/1992       12/10/1993       Noinfectado       123       3         17       26       17/07/1992       12/10/1993       Noinfectado       123       3         18       30       22/01/1993       Noinfectado       265       3       8       4         20       31       05/04/1993       Noinfectado       265       3       8       4       2       3       16       16       15/10/1993       Noinfectado       249       11/07/1993       16/01/1993       16/01/1993       Noinfectado       249       1       16/01/1993       16/01/1993       16/01/1993       16/01/1993       16/01/1993       16/01/1993       16/01/1993       16/01/1993		A	В	C	D	F	F	G H	panel.	isplayed. If a new rai	ge is selected, it militeplace	an of the series in a	R
11       17       01/01/1991       03/08/1992       Noinfectado       580       13         12       20       27/04/1992       07/09/1992       Nuevo       05/09/1992       133         13       21       27/04/1992       01/10/1992       Prevalente       151         14       22       03/05/1992       01/10/1992       Prevalente       151         15       24       12/07/1992       12/11/1992       Noinfectado       123         16       25       18/07/1992       17/06/1993       Noinfectado       335         18       30       22/01/1993       15/10/1993       Noinfectado       265         19       41       10/08/1993       Noinfectado       265       3         18       30       22/01/1993       15/10/1993       Noinfectado       246         20       31       05/04/1993       30/06/1994       Noinfectado       240         21       34       10/08/1993       30/06/1994       210       24         22       36       13/09/1993       30/06/1994       210       24         23       39       29/11/1993       30/06/1994       24       24       24 of 24 - Clipbard	10	16	01/01/1991	04/03/1992	Noinfectado	-	428	17		Switch R	ow/Column		
12       20       27/04/1992       07/09/1992       Nuevo       05/09/1992       133         13       21       27/04/1992       20/11/1992       Nuevo       01/10/1992       207       11         14       22       03/05/1992       01/10/1992       Prevalente       151       13       Image: Constraint of the state	11	17	01/01/1991	03/08/1992	Noinfectado		580	15	V		~		
13       21       27/04/1992       20/11/1992       Nuevo       01/10/1992       207       11         14       22       03/05/1992       01/10/1992       Prevalente       151       15         15       24       12/07/1992       12/11/1992       Noinfectado       123       3         16       25       18/07/1992       17/06/1993       Noinfectado       326       3       2       3       3       2       4       2       3       3       2       4       4       2       3       3       2       4       4       2       3       3       3       4       5	12	20	27/04/1992	07/09/1992	Nuevo	05/09/1992	133	13	Legend Entries (Series)		Horizontal (Category) Axis La	ibels	
14       22       03/05/1992       01/10/1992       Prevalente       151       9       0       INCIO       0	13	21	27/04/1992	20/11/1992	Nuevo	01/10/1992	207	11		move 🔨 💙	Edit		
15       24       12/07/1992       12/11/1992       Noinfectado       123       5       1       1       2       2       3       3       2       3       3       1	14	22	03/05/1992	01/10/1992	Prevalente		151	9		4	- 1		
16       25       18/07/1992       09/06/1993       Noinfectado       326       3         17       26       17/07/1992       17/06/1993       Noinfectado       335       1         18       30       22/01/1993       Noinfectado       265       4       2       5         19       41       11/03/1993       15/11/1993       Noinfectado       249       1 </td <td>15</td> <td>24</td> <td>12/07/1992</td> <td>12/11/1992</td> <td>Noinfectado</td> <td></td> <td>123</td> <td>7</td> <td>Duration 108</td> <td></td> <td>2</td> <td></td> <td></td>	15	24	12/07/1992	12/11/1992	Noinfectado		123	7	Duration 108		2		
17       26       17/07/1992       17/06/1993       Noinfectado       335       3         18       30       22/01/1993       14/10/1993       Noinfectado       265         19       41       11/03/1993       15/11/1993       Noinfectado       249         20       31       05/04/1993       15/10/1993       Noinfectado       239         21       34       10/08/1993       30/06/1994       Noinfectado       230         22       36       13/09/1993       30/06/1994       Noinfectado       230         22       36       13/09/1993       30/06/1994       Noinfectado       230         23       39       29/11/1993       30/06/1994       Noinfectado       213         24       40       20/12/1993       30/06/1994       Noinfectado       213         24       40       20/12/1993       30/06/1994       Noinfectado       192         25	16	25	18/07/1992	09/06/1993	Noinfectado		326	5			3		
18       30       22/01/1993       14/10/1993       Noinfectado       265         19       41       11/03/1993       15/11/1993       Noinfectado       244         20       31       15/04/1993       Noinfectado       193         21       34       10/08/1993       30/06/1994       Noinfectado       290         22       36       13/00/1993       30/06/1994       Noinfectado       290         23       39       29/11/1993       30/06/1994       Noinfectado       290         24       40       0/12/1993       30/06/1994       Noinfectado       210         25	17	26	17/07/1992	17/06/1993	Noinfectado		335	1			4		
19       41       11/03/1993       15/11/1993       Noinfectado       249         20       31       05/04/1993       15/10/1993       Noinfectado       193         21       34       10/08/1993       30/06/1994       Noinfectado       324         22       36       13/09/1993       30/06/1994       Noinfectado       290         33       39       29/11/1993       30/06/1994       Noinfectado       213         24       40       20/12/1993       30/06/1994       Noinfectado       213         25	18	30	22/01/1993	14/10/1993	Noinfectado		265				5		
20       31       05/04/1993       15/10/1993       Noinfectado       193       194       193       194       193       194	19	41	11/03/1993	15/11/1993	Noinfectado		249	212980					
21     34     10/08/1993     30/06/1994     Noinfectado     324       22     36     13/09/1993     30/06/1994     Noinfectado     290       23     39     29/11/1993     30/06/1994     Noinfectado     210       24     40     20/12/1993     30/06/1994     Noinfectado     210       25     -     -     -     -     -       26     -     Sheet1     +     -     -       26     -     -     -     -     -       27     Sheet1     +     -     -     -       28     -     Sheet1     +     -     -       29     -     -     -     -     -       20     -     -     -     -     -       24     -     -     -     -     -       20     -     -     -     -     -       24     -     -     -     -     -       25     -     -     -     -     -       24     -     -     -     -     -       26     -     -     -     -     -       26     -     -     -     -     - <td>20</td> <td>31</td> <td>05/04/1993</td> <td>15/10/1993</td> <td>Noinfectado</td> <td></td> <td>193</td> <td>23/14</td> <td>Hidden and Empty Cells</td> <td></td> <td></td> <td>ок</td> <td>Cancel</td>	20	31	05/04/1993	15/10/1993	Noinfectado		193	23/14	Hidden and Empty Cells			ок	Cancel
22       36       13/09/1993       30/06/1994       Noinfectado       290         23       39       29/11/1993       30/06/1994       Noinfectado       213         24       40       20/12/1993       30/06/1994       Noinfectado       213         25	21	34	10/08/1993	30/06/1994	Noinfectado		324						
23       39       29/11/1993       30/06/1994       Noinfectado       213         24       40       20/12/1993       30/06/1994       Noinfectado       192         25	22	36	13/09/1993	30/06/1994	Noinfectado		290						
24       40       20/12/1993       30/06/1994       Noinfectado       192	23	39	29/11/1993	30/06/1994	Noinfectado		213						
25	24	40	20/12/1993	30/06/1994	Noinfectado		192						
K     Sheet1     +     : •     ·     <	25												
Enter 🐻 🔅 Accessibility: Investigate 🌐 🔛 to increase available spa	<	>	Sheet1	+					E 4 🗰			24 of	24 - Clipboard
	Enter	10 %	& Accessibility: Invi	estigate								to increa	se available space
		60°E					8. AND						01:54 0 0

×															Cardenas	0 0		o ×
Fil	e Hom	e Insert D	)raw Page l	ayout Form	ulas Data	Review	View	Automate	Help	Acrobat	Power Piv	vot Cl	nart Design	Format		🖓 Com	ments	🖻 Share 👻
Ac	Id Chart Comment ~ Lay	Luick Chang			Ē								< > 12	Switch Rov Column	v/ Select Data	Change Chart Type	Move Chart	
	Chart Layou	its					Chart Styl	les						Dar	ta	Type	Location	~
A2			fx															~
4	A	В	С	D	E	F	G	н	1	J	К	l	. Μ	N	0	Р	Q	R 🔺
10	16	01/01/1991	04/03/1992	Noinfectado		428		30			Axis	Labels			? X			
11	17	01/01/1991	03/08/1992	Noinfectado	05 100 14 000	580		23			7 0110	200010			. ,			
12	20	27/04/1992	0//09/1992	Nuevo	05/09/1992	133		20			Axis la	abel range	:					
13	21	27/04/1992	20/11/1992	Nuevo	01/10/1992	207		16			=She	et1!\$A\$2:\$	A\$24	<b>1</b> = 4	4, 6, 8, 9, 10			
14	22	03/05/1992	01/10/1992	Prevalente		151		14						ок	Cancel			
16	24	12/07/1992	12/11/1992	Noinfectado		123		10		_		-						
17	25	17/07/1992	17/06/1002	Noinfectado		320		8		_			-					
18	20	22/01/1992	14/10/1002	Noinfectado		265		4										- 1
10	41	11/02/1002	15/11/1002	Noinfectado		200		198 <sup>9</sup>		5	3	199 <sup>3</sup>	199 <sup>A</sup>	1.09 <sup>55</sup>				- 1
20	31	05/04/1993	15/10/1993	Noinfectado		193		212212	1105/12	0/09/	2	0212	610612	0/2012			1	
21	34	10/08/1993	30/06/1994	Noinfectado		324	1	V.	0.	5	37		×.	2.			-	
22	36	13/09/1993	30/06/1994	Noinfectado		290								Horizo	ntal (Value)	Axis		
23	39	29/11/1993	30/06/1994	Noinfectado		213												
24	40	20/12/1993	30/06/1994	Noinfectado		192												
25																		
<	>	Sheet1	+								E (4	-	11	10				
Point	10 X	Accessibility: Inve	estigate													四		+ 100%
4	68°F Nublado	)			۶ 📲	D Buscar		)	<b>—</b>	🔊 📕	0			/	\ <b>€</b> €	ing ବ୍ରୀ	) 🖢 🛛 01 03	1:55 p. m. /04/2023 <sup>(5)</sup>



10. Now we are going to make the blue bars invisible, for which we are going to select the series displayed on bars and clicking the left button will choose "Format data series...", the menu will appear displayed, where in the series option, choosing the paint bucket, we will select the "No fill" option.

×	AutoSav	e 💽 off) 📙	Book1 - Exce	L			Q Sea	irch					Victor 0	Cardenas	vc 🏾 🖉	-	O	×
Fil	le Hom	ne Insert D	Draw Page L	ayout Form	ulas Data	Review	View	Automate	Help	Acrobat	Power Pivot	Chart Design	Format		🖓 Com	ments	占 Sha	re ~
Ac	dd Chart Cement ~ La	Quick Chang	) je		1	11						× >	Switch Row Column	Select Data	Change Chart Type	Move Chart		
	Chart Layo	uts					Chart St	yles					Dat	a	Туре	Location		~
Cha	art 4	• : × ✓	fx =SERIES	(Sheet1!\$B\$1,5	Sheet1!\$A\$2:\$	A\$24,Sheet	1 \$B\$2:	\$B\$24,1)										^
	A	В	С	D	E	F	G	Н	1	J	К	L M	N	0	Р	Q	R	
6	10	01/01/1991	15/02/1993	Nuevo	01/08/1992	776	0				0			0-	_			
7	12	01/01/1991	26/04/1993	Nuevo	01/10/1992	846	Ý	40			0			1+	Chart Elem	ents		
8	14	12/11/1991	13/05/1994	Nuevo	01/07/1992	913		36				-0			Aves		,	
9	15	01/01/1991	04/06/1993	Noinfectado		885		31 0	_			-0		8		itles		
10	16	01/01/1991	04/03/1992	Noinfectado		428		30	_			6			Chart	Title		
11	17	01/01/1991	03/08/1992	Noinfectado		580		25			8			T		labolc		
12	20	27/04/1992	07/09/1992	Nuevo	05/09/1992	133		22							Data	Table		
13	21	27/04/1992	20/11/1992	Nuevo	01/10/1992	207		20 5	_							Rare		
14	22	03/05/1992	01/10/1992	Prevalente		151	9	16	_	8				Ŷ	Gridli	nec		
15	24	12/07/1992	12/11/1992	Noinfectado		123		14		0						nes vd		
16	25	18/07/1992	09/06/1993	Noinfectado		326		10 0		0								
17	26	17/07/1992	17/06/1993	Noinfectado		335		8		•								
18	30	22/01/1993	14/10/1993	Noinfectado		265		* 0										
19	41	11/03/1993	15/11/1993	Noinfectado		249		11980	12991		37 10	B <sup>2</sup> 1199 <sup>44</sup>	12995					
20	31	05/04/1993	15/10/1993	Noinfectado		193		23/221	211051	,91091	27/021	151001	28/201					
21	34	10/08/1993	30/06/1994	Noinfectado		374	1	v	0		^	· ·	v	~				W
<	>	Sheet1	+									_	_	_	_	_		Þ
Ready	v 📧 t	Accessibility: Invi	estigate										E	Ħ	─		+	100%
4	68°F Nublado	o				Ø Buscar		) 室	<b>—</b>	<b>2</b> 📕	<b>9</b>	* 🗾 🖷		× 🝖 I	ENG 🛜 📣	) 🐌 02 03,	:05 p. m /04/2023	3

<b>N</b> 4	AutoSave	• off 日	Book1 - Excel	l.		2	) Sea	arch					Victor Ca	ardenas	vo 🖉	-	O	×
File	Home	e Insert D	raw Page L	ayout Form.	ulas Data	Review	View	Automate	Help	Acrobat	Power Pivot	Chart Design	Format		Com	ments	占 Shar	re ~
Add C Eleme	Chart Q ent ~ Lay	tuick Chang rout ~ Colors										< > IV	Switch Row/ Column	Select Data	Change Chart Type	Move Chart		
Cł	hart Layou	ts					Chart St	yles					Data		Туре	Location		~
Chart 4	1 、	• I × ✓ .	fx															^
	A	В	С	D	E	F	G	Н	1	J	К	L M	14					
6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	10 12 14 15 16 17 20 21 22 24 25 26 30 41 31	01/01/1991 01/01/1991 01/01/1991 01/01/1991 01/01/1991 01/01/1991 01/01/1991 27/04/1992 27/04/1992 12/07/1992 12/07/1992 12/07/1992 22/01/1993 11/03/1993	15/02/1993 15/02/1993 26/04/1993 13/05/1994 04/06/1993 03/08/1992 07/09/1992 20/11/1992 12/11/1992 12/11/1993 17/06/1993 15/10/1993	Nuevo Nuevo Noinfectado Noinfectado Noinfectado Nuevo Prevalente Noinfectado Noinfectado Noinfectado Noinfectado	01/08/1992 01/10/1992 01/07/1992 05/09/1992 01/10/1992	776 846 913 885 428 580 133 200 151 151 123 326 335 265 249	+ • /	40 0 36 31 30 25 22 20 16 14 10 8 4 0 01/10 <sup>80</sup>	TIGHISS	oton		2	errot	Plot Area Plot Area No So So Gr Plot No So So Gr Plot Autority Plot Autority Plot Autority Plot Area Plot Area So So So So So So So So So So	at Plot A a Options ~ a fill adient fill cture or texture (ttern fill ttomatic er	rea ⊧ fill	~	×
21	34	10/08/1993	30/06/1994	Noinfectado		374	_	ν.	0	,	^	•	•	• <u>N</u> o	o line			
<	>	Sheet1	+					:	4	-			Þ	()) Sn	olid line			
Ready	5	Accessibility: Inve	stigate										E		巴 - —	-	- +	100%
۵	68°F Nublado	i -				O Buscar		0	Ę (	a 😕	<b>9</b>	· 🗾 🐖	^	<b>r</b> e	ing ବିଦା)	0 🌆 0	2:07 p. m. /04/2023	5

11. The graph should look like this:



12. Let's place some limit the dates, to make sure they fall between January 1, 1991 and June 30, 1994, when the cases occurred. For this, the dates are selected, after the right click, choose "format the axis..." and in the axis options we place the maximum and minimum limits.

Observation: to obtain the numbers that go in the minimum and maximum limits you must convert the dates to the number format (33,239 and 34,515). You can figure out the range of number values by selecting the cells with those values, minimum and maximum in the desired range, and change the format to number.



13. To achieve the proposed graph, we are going to change the color of case 22 to red and the others to blue, we will also place the first case on top, so we must go back to the Y axis, select it and enable the submenu with a right click to give axis format, there in the bar labels option select "Categories in reverse order"

14. So that the dates can also be displayed above, we will go to the submenu with the right click, format the axis, and in axis options, label position choose low. The graph will look like this:



15. Selecting the graph, we can copy it and paste it as a picture in Power Point so we can add symbols, text boxes or others that allow these to be part of the figure, this would be the final result.

Figure 6. Chronic dyalisis patients in a hemodialysis unit between January 1991, and June 1994, in whom serum for HIV antibody was available for testing, and HIV serostatus by date of serum collection



Date of serum collection with new infection –"Cases" Source: Reference 3. Attending the dialysis unit (person-time)