



PHUSE Connect 2021- COVID-19 Hands on Workshop

17 June 2021

COVID Data - Access to Analysis with Power BI Aditya Gadiko, Luke Ely and Christopher Hurley



The difference is in the data.™

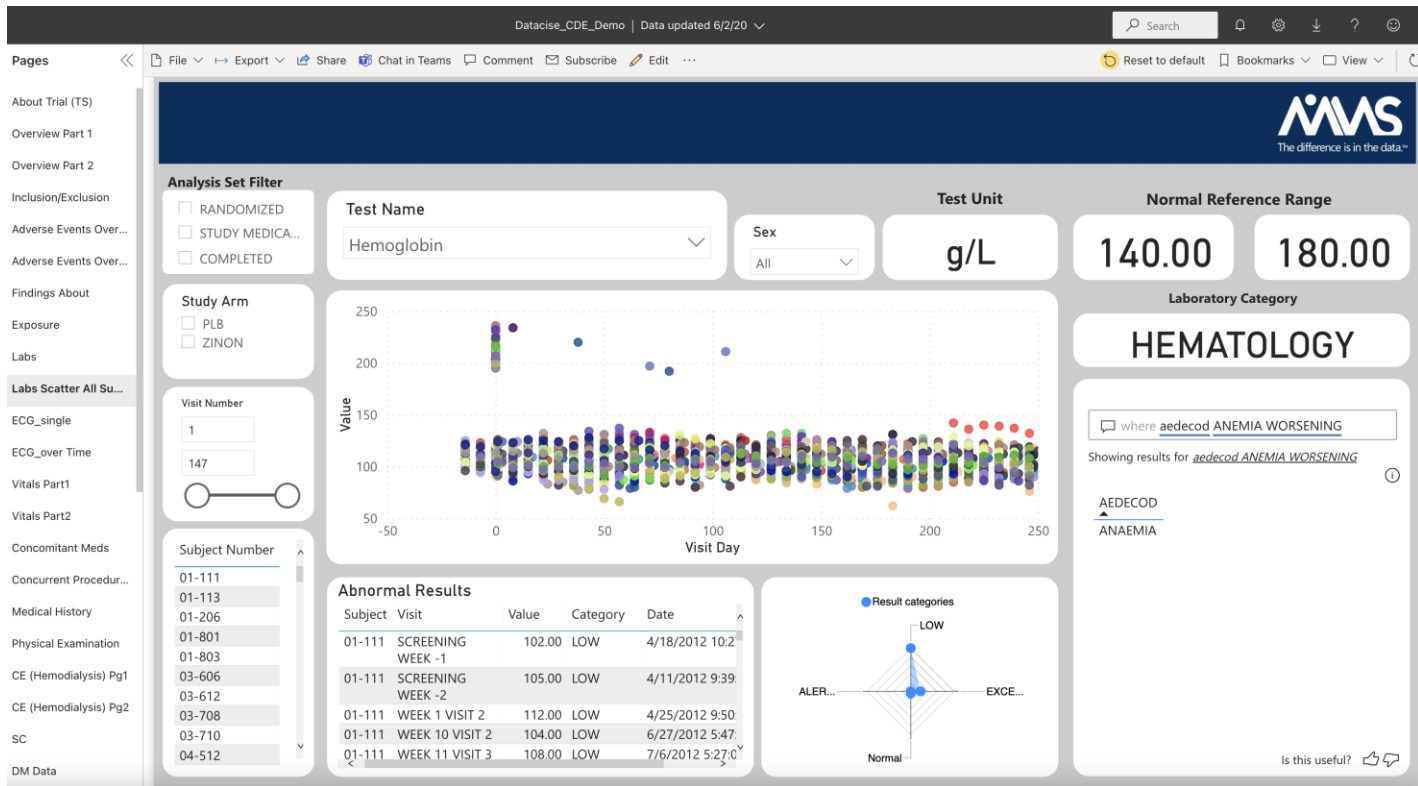
Agenda

- Use cases for data visualization
- The process of data analysis
- Utilize Power BI to analyze COVID-19 vaccination rate between two populations
- Skills analysis

Housekeeping

- You should have a working copy of Power BI to use
- The following files have been provided as resources
 - Workshop Dashboard.pbix
 - Cities.xlsx
 - Counties.xlsx
 - Facilities.xlsx
 - Programming code.txt
 - Web Scraping.html
 - PHUSE Workshop Guided Steps

Use Cases for Data Visualizations



The Process of Data Analysis

- Planning the analysis
- Understand the questions
- Apply analytical skills (no programmer needed)
- Utilize Power BI
 - Get Data
 - Transform/clean data
 - Develop data for analysis
 - Produce analytics and visuals
- Answers/actionable insights

Utilize Power BI

- Analyze COVID vaccination rates between two populations in 12 easy steps
 - Work through the mechanics of ETLA
 - Scrape/download data from the web
 - Develop data visualizations
 - Group visualizations into a dashboard
 - Determine the insights

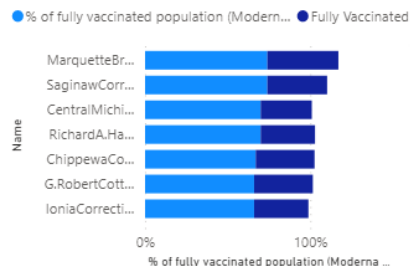
Creating a Dashboard of COVID-19 Vaccination Analytics



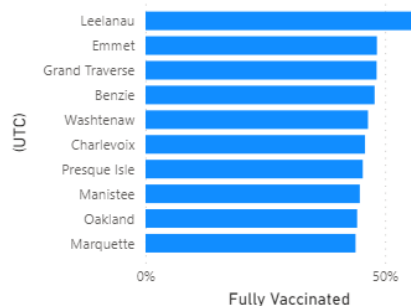
Name: County:

COVID Hands-on Workshop

% of fully vaccinated population (Moderna or Janssen), Fully Vaccinated and First County by Name

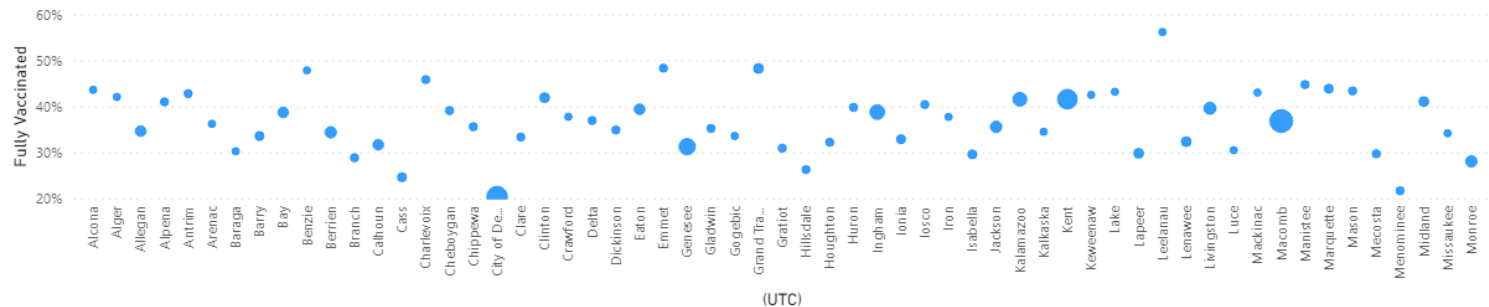


Fully Vaccinated by (UTC)



Name	County	Total Population
AlgerCorrectionalFacility	Alger	754
BaragaCorrectionalFacility	Baraga	735
BellamyCreekCorrectionalFacility	Ionia	1608
CarsonCityCorrectionalFacility	Montcalm	2211
CentralMichiganCorrectionalFacility	Gratiot	2090
CharlesEgelerReceptionandGuidanceCenter	Jackson	1273
ChippewaCorrectionalFacility	Chippewa	1718
CooperStreetCorrectionalFacility	Jackson	1454
EarnestC.BrooksCorrectionalFacility	Muskegon	1159
G.RobertCottonCorrectionalFacility	Jackson	1568
GusHarrisonCorrectionalFacility	Lenawee	1856
IoniaCorrectionalFacility	Ionia	600
Total		32697

Fully Vaccinated and Average of Population by (UTC)



Step 1: Get Data (From Excel)

Import the Excel file called “Facilities”

Coronavirus

BE SAFE START | CONTAIN COVID | RESOURCES | PRESS RELEASES | DONATE | VIDEO UPDATES

Name	Total Population	# Refusals	# Cumulative 1st doses	# Cumulative 2nd Doses	Single Dose Series administered	Age group 65+	Age group 50-64	Age group 16-49	# of doses given to medically vulnerable	% of fully vaccinated population (Moderna or Janssen)
Baraga Max. Corr. Facility	735	433	208	204	146	20	120	418	186	48%
Gas Holloway Corr. Facility	1856	637	1045	1041	117	672	1266	1415	1415	54%
Carson City Corr. Facility East	2211	1096	838	822	563	262	956	1006	1407	63%
Dakota Correctional Facility	990	338	301	287	195	55	289	445	476	49%
Bellevue Creek Corr. Facility	1608	632	229	227	820	89	320	720	830	65%
Irona Maximum Corr. Facility	638	238	237	235	189	132	217	309	365	66%
G. Robert Cotton Corr. Facility	1568	585	1051	1033	206	570	1298	2084	2084	66%
Copper Street Corr. Facility	1454	530	814	806	76	431	1113	765	765	55%
Kinross Correctional Facility	998	445	300	300	332	72	501	359	510	63%
Lakeland Correctional Facility	1449	549	925	894	428	687	754	1404	1404	62%
Alger Max. Corr. Facility	754	413	203	202	200	14	139	450	368	53%
Earlmet C. Brooks Corr. Fac.	1159	560	298	293	439	113	403	721	935	63%
Marquette Branch Prison	587	385	200	200	233	37	207	589	517	74%
Muskegon Correctional Facility	1263	465	334	334	459	131	288	244	303	63%
Macomb Correctional Facility	1190	428	279	222	367	78	338	452	574	49%
Richard A. Warden Corr. Fac.	1152	297	222	220	567	126	261	520	515	70%
Novaberry Correctional Facility	560	294	200	190	145	46	201	289	256	60%
Charles E. Egler Reception and Guidance Center	1273	674	410	396	292	160	266	672	849	54%
Michigan Reformatory	653	384	205	204	172	15	184	286	137	58%
St. Louis Correctional Facility	1072	460	303	292	200	41	214	450	368	38%
Paristol Correctional Facility	1360	268	808	787	76	474	1050	1082	1082	58%
Saginaw Correctional Facility	1447	899	385	321	743	169	502	574	721	74%
Central Michigan Corr. Facility	2090	724	587	581	873	127	517	1079	1729	70%
Thumb Correctional Facility	981	228	351	234	235	176	358	284	494	48%
Chippewa Correctional Facility	1718	623	325	323	827	209	321	795	546	67%
Woodland Corr. Facility	334	101	222	187	71	115	223	367	367	56%
Women's Huron Valley	1617	697	1051	980	90	438	2031	821	821	61%
Totals for all MDOC facilities	32697	13373	12331	11725	7997	3137	9989	18349	20425	60%

* retroactive data will be available next week

Data are provided each Friday to the Michigan Department of Health and Human Services by the Michigan Department of Corrections.

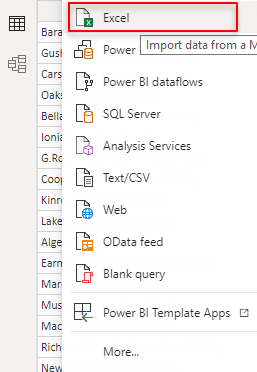
Age Group provides the number of individuals vaccinated that week within each age group.

Number in the medically vulnerable vaccinated group will overlap with age group information.

Step 1 continued...

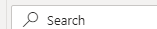
- Open Microsoft Power BI and select the get data option. Search for Excel or simply select the Excel option from the drop-down menu.
- Select the Sheet1 table option dealing with the Michigan correctional facility COVID-19 data. Then click on load and wait for Power BI to load the data into the program.

Common data sources



=RANALLEFTOUTTERJOIN('First Merge', 'Table 4')											
Total Population	% of fully vaccinated population (Moderna or Janssen)	Column1	Column3	City Name	County[1]	(UTC)	Population	People Fully Vaccinated	Fully Vaccinated		
735	48.00%	BaragaCorrectionalFacility	Baraga	Baraga	Baraga	Baraga	8507	2573.3025	30.25%		
Microsoft Excel workbook.	56.00%	GusHarrisonCorrectionalFacility	Adrian	Adrian	Lenawee	Lenawee	98474	31846.3234	32.34%		
2211	63.00%	CarsonCityCorrectionalFacility	Carson City	Carson City	Montcalm	Montcalm	63209	18345.2902	29.02%		
990	49.00%	OaksCorrectionalFacility	Eastlake	Eastlake	Manistee	Manistee	24444	10939.4475	44.75%		
1608	65.00%	BellamyCreekCorrectionalFacility	Ionla	Ionla	Ionla	Ionla	64176	21099.3288	32.88%		
638	66.00%	IonlaCorrectionalFacility	Ionla	Ionla	Ionla	Ionla	64176	21099.3288	32.88%		
1568	66.00%	G.RobertCottonCorrectionalFacility	Jackson	Jackson	Jackson	Jackson	158913	56507.3556	35.56%		
1454	55.00%	CooperStreetCorrectionalFacility	Jackson	Jackson	Jackson	Jackson	158913	56507.3556	35.56%		
998	63.00%	KinrossCorrectionalFacility	Kinross	Kinross	Chippewa	Chippewa	37834	13464.3559	35.59%		
1449	62.00%	LakelandCorrectionalFacility	Coldwater	Coldwater	Branch	Branch	43584	12571.2884	28.84%		
754	53.00%	AlgerCorrectionalFacility	Munising	Munising	Alger	Alger	9194	3867.4206	42.06%		
1159	73.00%	EarnestC.BrooksCorrectionalFacility	Muskegon Heights	Muskegon Heights	Muskegon	Muskegon	173043	62866.3633	36.33%		
587	64.00%	MarquetteBranchPrison	Marquette	Marquette	Mackinac	Mackinac	10817	4653.4302	43.02%		
1263	63.00%	MuskegonCorrectionalFacility	Muskegon	Muskegon	Muskegon	Muskegon	173043	62866.3633	36.33%		
1190	49.00%	MacombCorrectionalFacility	New Haven	New Haven	Gratiot	Gratiot	41067	12703.3093	30.93%		
1132	70.00%	RichardA.HandlonCorrectionalFacility	Ionla	Ionla	Ionla	Ionla	64176	21099.3288	32.88%		
560	60.00%	NewberryCorrectionalFacility	Newberry	Newberry	Luce	Luce	6364	1940.3048	30.49%		
1273	54.00%	CharlesEgelerReceptionandGuidanceCenter	Jackson	Jackson	Jackson	Jackson	158913	56507.3556	35.56%		
653	58.00%	MichiganReformatory	Ionla	Ionla	Ionla	Ionla	64176	21099.3288	32.88%		
1072	38.00%	St.LouisCorrectionalFacility	St. Louis	St. Louis	Gratiot	Gratiot	41067	12703.3093	30.93%		
1360	58.00%	ParnallCorrectionalFacility	Jackson	Jackson	Jackson	Jackson	158913	56507.3556	35.56%		
1447	74.00%	SaginawCorrectionalFacility	Tittabawassee	Tittabawassee	Saginaw	Saginaw	192778	69781.362	36.20%		
2090	70.00%	CentralMichiganCorrectionalFacility	St. Louis	St. Louis	Gratiot	Gratiot	41067	12703.3093	30.93%		
981	48.00%	ThumbCorrectionalFacility	Lapeer	Lapeer	Lapeer	Lapeer	88202	26293.2981	29.81%		
1718	67.00%	ChippewaCorrectionalFacility	Kinross	Kinross	Chippewa	Chippewa	37834	13464.3559	35.59%		
334	66.00%	WoodlandCenterCorrectionalFacility	Hamburg	Hamburg	Livingston	Livingston	188482	74641.396	39.60%		
1617	51.00%	Women'sHuronValleyCorrectionalFacility	Ypsilanti	Ypsilanti	Washtenaw	Washtenaw	365961	170093.4646	46.46%		

Fields



Complete Merge

- (UTC)
- Σ % of fully vaccina...
- City Name
- Column1
- Column3
- County[1]
- Σ Fully Vaccinated
- Name
- Σ People Fully Vacci...
- Σ Population
- Σ Total Population
- ✓  Correctional Facili...
- ^  First Merge
- Σ % of fully vaccina...
- City Name
- Column1
- Column3
- County[1]
- Name
- Σ Total Population

Navigator

Display Options

Facilities.xlsx [1]

Sheet1

Sheet1

Name	Total Population	% of fully vaccinated popu
BaragaCorrectionalFacility	735	
GusHarrisonCorrectionalFacility	1856	
CarsonCityCorrectionalFacility	2211	
OaksCorrectionalFacility	990	
BellamyCreekCorrectionalFacility	1608	
IoniaCorrectionalFacility	638	
G.RobertCottonCorrectionalFacility	1568	
CooperStreetCorrectionalFacility	1454	
KinrossCorrectionalFacility	998	
LakelandCorrectionalFacility	1449	
AlgerCorrectionalFacility	754	
EarnestC.BrooksCorrectionalFacility	1159	
MarquetteBranchPrison	587	
MuskegonCorrectionalFacility	1263	
MacombCorrectionalFacility	1190	
RichardA.HandonCorrectionalFacility	1132	
NewberryCorrectionalFacility	560	
CharlesEgelerReceptionandGuidanceCenter	1273	
MichiganReformatory	653	
St.LouisCorrectionalFacility	1072	
ParnallCorrectionalFacility	1360	
SaginawCorrectionalFacility	1447	
CentralMichiganCorrectionalFacility	2090	

Load

Transform Data

Cancel

Visualizations

Filters

Values

Add data fields here

Drill through

Cross-report

Off

Keep all filters

On

Add drill-through fields here

Import data from Excel

Step 2

- Select the data table option in the left-hand side of the application to view the recently imported data set.

Step 2 Final Product

Workshop Test Data - Power BI Desktop

File Home Help Table tools

Clipboard: Paste, Cut, Copy

Data: Get data, Excel, Power BI datasets, SQL Server, Recent data, Transform data, Refresh

Queries: Manage relationships, Relationships

Measure: New measure, Quick measure, New measure column

Calculations: New table, Manage roles, View as, Publish

Security: Manage roles, View as

Fields: Search

Vaccination of de...
 Σ: % of fully vaccina...
 Name
 Σ: Total Population

Name	Total Population	% of fully vaccinated population (Moderna or Janssen)
AlconaCorrectionalFacility	757	0.46
AlpenaCorrectionalFacility	1820	0.56
CarsonCityCorrectionalFacilityEast	2195	0.62
DakotaCorrectionalFacility	995	0.48
BellevueCorrectionalFacility	1588	0.66
IoniaCorrectionalFacility	642	0.66
G.RobertCottonCorrectionalFacility	1571	0.64
CooperStreetCorrectionalFacility	1455	0.55
KinrossCorrectionalFacility	1003	0.62
LakelandCorrectionalFacility	1438	0.62
AlgerCorrectionalFacility	754	0.51
EarleStC.BrooksCorrectionalFacility	1167	0.63
MarquetteBranchPrison	589	0.74
MuskegonCorrectionalFacility	1269	0.62
MacombCorrectionalFacility	1191	0.49
RichardA.HandonCorrectionalFacility	1112	0.71
NewberryCorrectionalFacility	564	0.59
CharlesEglerReceptionandGuidanceCenter	1377	0.44
MichiganIncarceration	659	0.57
St.LouisCorrectionalFacility	1071	0.58
PennellCorrectionalFacility	1335	0.59
SaginawCorrectionalFacility	1430	0.74
CentralMichiganCorrectionalFacility	2069	0.7
ThumbCorrectionalFacility	978	0.48
ChippewaCorrectionalFacility	1736	0.66
WoodlandCenterCorrectionalFacility	339	0.53
Women'sHuronValleyCorrectionalFacility	1624	0.6

Table: Vaccination of detained individuals in Michigan Department of Corrections facility (27 rows)

Update available (click to download)

Type here to search

12:28 PM 5/14/2021

Web-Scraping Location Data

Step 3

- Using the web scraping function copy and paste the following link:
 https://en.wikipedia.org/wiki/List_of_Michigan_state_prisons
- Remove all columns except Column 1 and Column 3
- Using the Replace Function in Query Editor:
 1. Type in a space then leave the replace field blank (this deletes spaces)
 2. Replace Ionia County with Ionia
 3. Freeland with Tittabawassee
 4. Whitmore Lake with Hamburg
 5. Kincheloe with Kinross

*** Note *** Please use the static copy of this html file provided to you in the resources.
 Part 14 Vaccine Distribution in Michigan Counties.html

Untitled - Power BI Desktop

File Home Insert Modeling View Help

Get data Excel Power BI datasets SQL Server Enter data Recent sources Transform data Refresh New visual Text box More visuals New measure Quick measure Publish

Common data sources

- Excel
- Power BI datasets
- Power BI dataflows
- SQL Server
- Analysis Services
- Text/CSV
- Web Import data from a web page.
- OData feed
- Blank query
- Power BI Template Apps
- More...

Add data to your report

Once loaded, your data will appear in the **Fields** pane.

Import data from Excel

Import data from SQL Server

Paste data into a blank table

Try a sample dataset

[Get data from another source →](#)

Visualizations

Fields

Page 1 of 1

Type here to search

Update available (click to download)

1:47 PM 5/21/2021

Workshop Test Data - Power BI Desktop

File Home Help Table tools

Clipboard Paste Copy Get data Excel Power BI datasets SQL Server Enter data Recent sources Transform Refresh data Queries Manage relationships Relationships New measure measure column Calculations New table View as Security Publish

Navigator

Display Options

- HTML Tables [3]
 - Table 1
 - Table 2
 - Table 3
- Suggested Tables [6]
 - Table 4
 - Table 5
 - Table 6
 - Table 7
 - Table 8
 - Table 9

Add Table Using Examples

Table View Web View

Table 1

Column1	Column2	Column3	Column4
Facility	Code	Location	
Alger Correctional Facility	LMF	Munising	
Baraga Correctional Facility	AMF	Baraga	
Bellamy Creek Correctional Facility	IBC	Ionia	
Carson City Correctional Facility	DRF	Carson City	
Central Michigan Correctional Facility	STF	St. Louis	
Charles Egeler Reception and Guidance Center	RGC	Jackson	
Chippewa Correctional Facility	URF	Kinloch	
Cooper Street Correctional Facility	JCS	Jackson	
Detroit Detention Center	DDC	Detroit	
Detroit Reentry Center	DRC	Detroit	
Earnest C. Brooks Correctional Facility	LRF	Muskegon Heights	
G. Robert Cotton Correctional Facility	JCF	Jackson	
Gus Harrison Correctional Facility	ARF	Adrian	
Ionia Correctional Facility	ICF	Ionia	
Kinross Correctional Facility	KCF	Kinloch	
Lakeland Correctional Facility	LCF	Coldwater	
Macomb Correctional Facility	MRF	New Haven	
Marquette Branch Prison	MBP	Marquette	
Michigan Reformatory	RMI	Ionia County	
Muskegon Correctional Facility	MCF	Muskegon	

Load Transform Data Cancel

Fields

Vaccination of de...

% of fully vaccina...

Name

Total Population

Table: Vaccination of detained individuals in Michigan Department of Corrections facility (27 rows)

Update available (click to download)

Type here to search

12:41 PM 5/14/2021

Workshop Test Data - Power BI Desktop

File Home Help Table tools

Clipboard

Columns

Column1	Column2	Column3	Column4
Facility	Code	Location	Notes
Alger Correctional Facility	LMF	Munising	
Baraga Correctional Facility	AMF	Baraga	
Bellamy Creek Correctional Facility	IBC	Ionia	Residential reentry in-reach facility
Carson City Correctional Facility	DRF	Carson City	
Central Michigan Correctional Facility	STF	St. Louis	Mid-Michigan Correctional Facility and Pine River Correctional Facility
Charles Egeler Reception and Guidance Center	RGC	Jackson	
Chippewa Correctional Facility	URF	Kincheloe	
Cooper Street Correctional Facility	JCS	Jackson	Residential reentry in-reach facility
Detroit Detention Center	DDC	Detroit	Central lockup for Detroit
Detroit Reentry Center	DRC	Detroit	Residential reentry in-reach facility, formerly Ryan Correctional Facility
Earnest C. Brooks Correctional Facility	LRF	Muskegon Heights	
G. Robert Cotton Correctional Facility	JCF	Jackson	
Gus Harrison Correctional Facility	ARF	Adrian	
Ionia Correctional Facility	ICF	Ionia	
Kinross Correctional Facility	KCF	Kincheloe	Originally known as Hiawatha Correctional Facility (HTF), closed in 2009
Lakeland Correctional Facility	LCF	Coldwater	
Macomb Correctional Facility	MRF	New Haven	Residential reentry in-reach facility
Marquette Branch Prison	MBP	Marquette	
Michigan Reformatory	RMI	Ionia County	
Muskegon Correctional Facility	MCF	Muskegon	Closed in 2009[2] and reopened October 2012
Newberry Correctional Facility	NCF	Newberry	
Oaks Correctional Facility	ECF	Eastlake	
Parnall Correctional Facility	SMT	Jackson	Residential reentry in-reach facility
Pugley Correctional Facility	MPF	Fife Lake	Residential reentry in-reach facility
Richard A. Handion Correctional Facility	MTU	Ionia	
Saginaw Correctional Facility	SRF	Freeland	Residential reentry in-reach facility
Special Alternative Incarceration Facility	SAI	Chelsea	Residential reentry in-reach facility
St. Louis Correctional Facility	SLF	St. Louis	
Thumb Correctional Facility	TCF	Lapeer	
West Shoreline Correctional Facility	MTF	Muskegon Heights	Residential reentry in-reach facility
Women's Huron Valley Correctional Facility	WHV	Ypsilanti	Facility for females
Woodland Center Correctional Facility	WCC	Whitmore Lake	Mental health facility

Fields

Table 1

Column1

Column2

Column3

Column4

Vaccination of de...

% of fully vaccina...

Name

Total Population

Table: Table 1 (34 rows)

Update available (click to download)

Type here to search

12:44 PM 5/14/2021

Workshop Test Data - Power BI Desktop

File Home Help Table tools

Clipboard Data

Transform data

Use the Power Query editor to connect, prepare, and transform data.

Table 1 (34 rows)

Column1	Column2	Column3
Facility	Code	Location
Alger Correctional Facility	LMF	Munising
Baraga Correctional Facility	AMF	Baraga
Bellamy Creek Correctional Facility	IBC	Ironia
Carson City Correctional Facility	DRF	Carson City
Central Michigan Correctional Facility	STF	St. Louis
Charles Egeler Reception and Guidance Center	RGC	Jackson
Chippewa Correctional Facility	URF	Kincheloe
Cooper Street Correctional Facility	JCS	Jackson
Detroit Detention Center	DDC	Detroit
Detroit Reentry Center	DRC	Detroit
Earnest C. Brooks Correctional Facility	LRF	Muskegon Heights
G. Robert Cotton Correctional Facility	JCF	Jackson
Gus Harrison Correctional Facility	ARF	Adrian
Ironia Correctional Facility	ICF	Ironia
Kinross Correctional Facility	KCF	Kincheloe
Lakeland Correctional Facility	LCF	Coldwater
Macomb Correctional Facility	MRF	New Haven
Marquette Branch Prison	MBP	Marquette
Michigan Reformatory	RMI	Ironia County
Muskegon Correctional Facility	MCF	Muskegon
Newberry Correctional Facility	NCF	Newberry
Oaks Correctional Facility	ECF	Eastlake
Parnall Correctional Facility	SMT	Jackson
Pugley Correctional Facility	MPF	Fife Lake
Richard A. Handion Correctional Facility	MTU	Ironia
Saginaw Correctional Facility	SRF	Freeland
Special Alternative Incarceration Facility	SAI	Chelsea
St. Louis Correctional Facility	SLF	St. Louis
Thumb Correctional Facility	TCF	Lapeer
West Shoreline Correctional Facility	MTF	Muskegon Heights
Women's Huron Valley Correctional Facility	WHV	Ypsilanti
Woodland Center Correctional Facility	WCC	Whitmore Lake

Fields

Table 1

- Column1
- Column2
- Column3
- Column4

Vaccination of de...

- % of fully vaccina...
- Name
- Total Population

Update available (click to download)

Type here to search

12:45 PM 5/14/2021

Workshop Test Data - Power Query Editor

File Home Transform Add Column View Tools Help

Close & Apply New Source Recent Sources Enter Data Data source settings Manage Parameters Refresh Advanced Editor Properties Choose Remove Keep Split Data Type Merge Text Append Merge Vision Azure Machine Learning

Queries [2] Table 1

Column1 Column2 Column3 Column4

1 Facility Code Votes

2 Alger Correctional Facility LMF Residential reentry in-reach facility

3 Baraga Correctional Facility AMF Residential reentry in-reach facility

4 Bellamy Creek Correctional Facility IBC Mid-Michigan Correctional Facility and Pine River Correctional Facility ...

5 Carson City Correctional Facility DRF

6 Central Michigan Correctional Facility STF

7 Charles Egeler Reception and Guidance Center RGC

8 Chippewa Correctional Facility URF

9 Cooper Street Correctional Facility JCS

10 Detroit Detention Center DDC

11 Detroit Reentry Center DRC

12 Earnest C. Brooks Correctional Facility LRF

13 G. Robert Cotton Correctional Facility JCF

14 Gus Harrison Correctional Facility ARF

15 Ionia Correctional Facility ICF

16 Kinross Correctional Facility KCF

17 Lakeland Correctional Facility LCF

18 Macomb Correctional Facility MRF

19 Marquette Branch Prison MBP

20 Michigan Reformatory RMI

21 Muskegon Correctional Facility MCF

22 Newberry Correctional Facility NCF

23 Oaks Correctional Facility ECF

24 null

25 Parnall Correctional Facility SMT Jackson Residential reentry in-reach facility

26 Pugsley Correctional Facility MPF Fife Lake Residential reentry in-reach facility

27 Richard A. Handon Correctional Facility MTU Ionia

28 Saginaw Correctional Facility SRF Freeland Residential reentry in-reach facility

29 Special Alternative Incarceration Facility SAI Chelsea Residential reentry in-reach facility

30 St. Louis Correctional Facility SLF St. Louis

31 Thumb Correctional Facility TCF Lapeer

32 West Shoreline Correctional Facility MTF Muskegon Heights Residential reentry in-reach facility

33 Women's Huron Valley Correctional Facility WHV Ypsilanti Facility for females

34 Woodland Center Correctional Facility WCC Whitmore Lake Mental health facility

Query Settings

PROPERTIES

Name Table 1

APPLIED STEPS

Source

Extracted Table From HTML

Changed Type

4 COLUMNS, 34 ROWS Column profiling based on top 1000 rows

PREVIEW DOWNLOADED AT 12:41 PM

Type here to search

12:46 PM 5/14/2021

Remove Column2 and Column4

Workshop Test Data - Power Query Editor

File Home Transform Add Column View Tools Help

Close & Apply New Source Recent Sources Enter Data Data source settings Manage Parameters Refresh Preview Advanced Editor Properties Choose Columns Remove Columns Keep Rows Remove Rows Split Column Group By Use First Row as Headers Replace Values Merge Queries Append Queries Combine Files Text Analytics Vision Azure Machine Learning AI Insights

Queries [2] < Vaccination of detained... Table 1

Column1 Column3

1	Facility	Location
2	Alger Correctional Facility	Munising
3	Baraga Correctional Facility	Baraga
4	Bellamy Creek Correctional Facility	Ionia
5	Carson City Correctional Facility	Carson City
6	Central Michigan Correctional Facility	St. Louis
7	Charles Egeler Reception and Guidance Center	Jackson
8	Chippewa Correctional Facility	Kincheloe
9	Cooper Street Correctional Facility	Jackson
10	Detroit Detention Center	Detroit
11	Detroit Reentry Center	Detroit
12	Earnest C. Brooks Correctional Facility	Muskegon Heights
13	G. Robert Cotton Correctional Facility	Jackson
14	Gus Harrison Correctional Facility	Adrian
15	Ionia Correctional Facility	Ionia
16	Kinross Correctional Facility	Kincheloe
17	Lakeland Correctional Facility	Coldwater
18	Macomb Correctional Facility	New Haven
19	Marquette Branch Prison	Marquette
20	Michigan Reformatory	Ionia County
21	Muskegon Correctional Facility	Muskegon
22	Newberry Correctional Facility	Newberry
23	Oaks Correctional Facility	Eastlake
24		null
25	Parnall Correctional Facility	Jackson
26	Pugley Correctional Facility	Fife Lake
27	Richard A. Handlon Correctional Facility	Ionia
28	Saginaw Correctional Facility	Freeland
29	Special Alternative Incarceration Facility	Chelsea
30	St. Louis Correctional Facility	St. Louis
31	Thumb Correctional Facility	Lapeer
32	West Shoreline Correctional Facility	Muskegon Heights
33	Women's Huron Valley Correctional Facility	Ypsilanti
34	Woodland Center Correctional Facility	Whitmore Lake

Remove Rows

- Remove Top Rows
- Remove Bottom Rows
- Remove Alternate Rows
- Remove Duplicates
- Remove Blank Rows
- Remove Errors

Query Settings

PROPERTIES

Name

Table 1

APPLIED STEPS

- Source
- Extracted Table From Html
- Changed Type
- Removed Columns

2 COLUMNS, 34 ROWS Column profiling based on top 1000 rows

PREVIEW DOWNLOADED AT 12:41 PM

12:48 PM 5/14/2021

Workshop Test Data - Power Query Editor

File Home Transform Add Column View Tools Help

Close & Apply Recent Sources Enter Data Data source settings Manage Parameters Refresh Preview Advanced Editor Choose Columns Remove Columns Keep Rows Remove Rows Sort Split Column Group By Data Type: Text Use First Row as Headers Replace Values Merge Queries Append Queries Combine Files Text Analytics Vision Azure Machine Learning AI Insights

Queries [2] Table 1

Column1	Column3
1 Facility	Location
2 Alger Correctional Facility	Munising
3 Baraga Correctional Facility	Baraga
4 Bellamy Creek Correctional Facility	Ionia
5 Carson City Correctional Facility	Carson City
6 Central Michigan Correctional Facility	St. Louis
7 Charles Egeler Reception and Guidance Center	Jackson
8 Chippewa Correctional Facility	Kincheloe
9 Cooper Street Correctional Facility	Jackson
10 Detroit Detention Center	Detroit
11 Detroit Reentry Center	Detroit
12 Earnest C. Brooks Correctional Facility	Muskegon Heights
13 G. Robert Cotton Correctional Facility	Jackson
14 Gus Harrison Correctional Facility	Adrian
15 Ionia Correctional Facility	Ionia
16 Kinross Correctional Facility	Kincheloe
17 Lakeland Correctional Facility	Coldwater
18 Macomb Correctional Facility	New Haven
19 Marquette Branch Prison	Marquette
20 Michigan Reformatory	Ionia County
21 Muskegon Correctional Facility	Muskegon
22 Newberry Correctional Facility	Newberry
23 Oaks Correctional Facility	Eastlake
24	null
25 Parnall Correctional Facility	Jackson
26 Pugsley Correctional Facility	Fife Lake
27 Richard A. Handion Correctional Facility	Ionia
28 Saginaw Correctional Facility	Freeland
29 Special Alternative Incarceration Facility	Chelsea
30 St. Louis Correctional Facility	St. Louis
31 Thumb Correctional Facility	Lapeer
32 West Shoreline Correctional Facility	Muskegon Heights
33 Women's Huron Valley Correctional Facility	Ypsilanti
34 Woodland Center Correctional Facility	Whitmore Lake

Remove Top Rows

Specify how many rows to remove from the top.

Number of rows

1

OK Cancel

Query Settings

PROPERTIES

Name

Table 1

APPLIED STEPS

Source

Extracted Table From HTML

Changed Type

Removed Columns

2 COLUMNS, 34 ROWS Column profiling based on top 1000 rows

PREVIEW DOWNLOADED AT 12:41 PM

12:49 PM 5/14/2021

Set number of rows to 1

File Home Transform Add Column View Tools Help

Group By Use First Row as Headers Count Rows

Transpose Reverse Rows

Data Type: Text Detect Data Type Rename

Any Column

Split Column Format Text Column

Merge Columns Extract Parse

Statistics Standard Scientific Number Column

Trigonometry Rounding Information

Date Time Duration Date & Time Column

R Py Run R script Run Python script Scripts

Queries [2]

Sheet1
Table 1

Column1	Column3
1 Alger Correctional Facility	Munising
2 Baraga Correctional Facility	Baraga
3 Bellamy Creek Correctional Facility	Ionia
4 Carson City Correctional Facility	Carson City
5 Central Michigan Correctional Facility	St. Louis
6 Charles Egeler Reception and Guidance Center	Jackson
7 Chippewa Correctional Facility	Kincheloe
8 Cooper Street Correctional Facility	Jackson
9 Detroit Detention Center	Detroit
10 Detroit Reentry Center	Detroit
11 Earnest C. Brooks Correctional Facility	Muskegon Heights
12 G. Robert Cotton Correctional Facility	Jackson
13 Gus Harrison Correctional Facility	Adrian
14 Ionia Correctional Facility	Ionia
15 Kinross Correctional Facility	Kincheloe
16 Lakeland Correctional Facility	Coldwater

Query Settings

PROPERTIES

Name

Table 1

[All Properties](#)

APPLIED STEPS

Source

Extracted Table From Html

Changed Type

Removed Columns

X Removed Top Rows

Home Help **Table tools** Column tools

WorkingExampleForTesting - Power Query Editor

File Home **Transform** Add Column View Tools Help

Transpose Reverse Rows Count Rows

Group By Use First Row as Headers

Table

Queries [2]

Sheet1

Table 1

Column1

1 Alger Correctional Facility

2 Baraga Correctional Facility

3 Bellamy Creek Correctional Facility

4 Carson City Correctional Facility

5 Central Michigan Correctional Facility

6 Charles Egeler Reception and Guidance Center Jackson

7 Chippewa Correctional Facility Kincheloe

8 Cooper Street Correctional Facility Jackson

9 Detroit Detention Center Detroit

10 Detroit Reentry Center Detroit

11 Earnest C. Brooks Correctional Facility Muskegon Heights

12 G. Robert Cotton Correctional Facility Jackson

13 Gus Harrison Correctional Facility Adrian

14 Ionia Correctional Facility Ionia

15 Kinross Correctional Facility Kincheloe

16 Lakeland Correctional Facility Coldwater

2 COLUMNS, 33 ROWS Column profiling based on top 1000 rows

PREVIEW DOWNLOADED AT 2:30 PM

Replace Values

Replace one value with another in the selected columns.

Value To Find

Replace With

Advanced options

OK Cancel

In the "Value to Find" field, hit the spacebar once and then leave the "Replace With" value blank. This replaces spaces with blanks.

Source

Extracted Table From Html

Changed Type

Removed Columns

Removed Top Rows

Workshop Test Data - Power Query Editor

File Home Transform Add Column View Tools Help

Queries [2] < Table 1

Column1	Column3
1 AlperCorrectionalFacility	Munising
2 BaragaCorrectionalFacility	Baraga
3 BellamyCreekCorrectionalFacility	Ionia
4 CarsonCityCorrectionalFacility	Carson City
5 CentralMichiganCorrectionalFacility	St. Louis
6 CharlesEglerReceptionandGuidanceCenter	Jackson
7 ChippewaCorrectionalFacility	Kincheloe
8 CooperStreetCorrectionalFacility	Jackson
9 DetroitDetentionCenter	Detroit
10 DetroitReentryCenter	Detroit
11 EarnestC.BrooksCorrectionalFacility	Muskegon Heights
12 G.RobertCottonCorrectionalFacility	Jackson
13 GusHarrisonCorrectionalFacility	Adrian
14 IoniaCorrectionalFacility	Ionia
15 KinrossCorrectionalFacility	Kincheloe
16 LakelandCorrectionalFacility	Coldwater
17 MacombCorrectionalFacility	New Haven
18 MarquetteBranchPrison	Marquette
19 MichiganReformatory	Ionia County
20 MuskegonCorrectionalFacility	Muskegon
21 NewberryCorrectionalFacility	Newberry
22 OaksCorrectionalFacility	Eastlake
23	
24 ParnallCorrectionalFacility	Jackson
25 PugsleyCorrectionalFacility	Fife Lake
26 RichardA.HandonCorrectionalFacility	Ionia
27 SaginawCorrectionalFacility	Freeland
28 SpecialAlternativeIncarcerationFacility	Chelsea
29 St.LouisCorrectionalFacility	St. Louis
30 ThumbCorrectionalFacility	Lapeer
31 WestShorelineCorrectionalFacility	Muskegon Heights
32 WomenShuronValleyCorrectionalFacility	Ypsilanti
33 WoodlandCenterCorrectionalFacility	Whitmore Lake

Replace Values

Replace one value with another in the selected columns.

Value To Find
Ionia County

Replace With
Ionia

OK Cancel

1. Type in a space then leave the replace field blank (this deletes spaces)
2. Replace Ionia County with Ionia
3. Freeland with Tittabawassee
4. Whitmore Lake with Hamburg
5. Kincheloe with Kinross

Now do #2 – #5 for Column 3 modifications.

Query Settings

PROPERTIES

Name
Table 1

APPLIED STEPS

Source
Extracted Table From Html
Changed Type
Removed Columns
Removed Top Rows
Replaced Value

2 COLUMNS, 33 ROWS Column profiling based on top 1000 rows

PREVIEW DOWNLOADED AT 12:41 PM

12:53 PM 5/14/2021

Step 3 Finished Product

Workshop Test Data - Power Query Editor

File Home Transform Add Column View Tools Help

Close & Apply • New Source • Recent Sources • Data • Data Sources • Parameters • Refresh Preview • Query • Properties • Advanced Editor • Choose Columns • Remove Columns • Manage Columns • Keep Rows • Remove Rows • Reduce Rows • Sort • Split Column • Group By • Data Type • Text • Use First Row as Headers • Merge Queries • Append Queries • Combine Files • Combine • Test Analytics • Vision • Azure Machine Learning • AI Insights

Queries (2)

Vaccination of detained ...

Table 1

Column1	Column3
1	AlgerCorrectionalFacility
2	BaragaCorrectionalFacility
3	BellamyCreekCorrectionalFacility
4	CarlsonCityCorrectionalFacility
5	CentralKingsburgCorrectionalFacility
6	CharlesEglerReceptionandGuidanceCenter
7	ChippewaCorrectionalFacility
8	CooperStreetCorrectionalFacility
9	DetroitDetentionCenter
10	DetroitReentryCenter
11	EarnestC.BrooksCorrectionalFacility
12	G.RobertCottonCorrectionalFacility
13	GustafsonCorrectionalFacility
14	IoniaCorrectionalFacility
15	KalamazooCorrectionalFacility
16	LakelandCorrectionalFacility
17	MacombCorrectionalFacility
18	MarquetteBranchPrison
19	MichiganReformatory
20	MuskegonCorrectionalFacility
21	NewberryCorrectionalFacility
22	OakCorrectionalFacility
23	
24	PemellCorrectionalFacility
25	PapleyCorrectionalFacility
26	RichardJ.WardlawCorrectionalFacility
27	SaginawCorrectionalFacility
28	SpecialAlternativeIncarcerationFacility
29	St.LouisCorrectionalFacility
30	ThumbCorrectionalFacility
31	WestShorelineCorrectionalFacility
32	WomenInJuvonValleyCorrectionalFacility
33	WoodlandCenterCorrectionalFacility

AlgerCorrectionalFacility

Query Settings

PROPERTIES

Name

Table 1

All Properties

APPLIED STEPS

- Source
- Extracted Table From Html
- Changed Type
- Removed Columns
- Removed Top Rows
- Replaced Value
- Replaced Value1
- Replaced Value2
- Replaced Value3
- Replaced Value4

2 COLUMNS, 33 ROWS Column profiling based on top 1000 rows

PREVIEW DOWNLOADED AT 12:41 PM

Type here to search

12:59 PM 5/14/2021

Part 3 Continued...

- Click close and apply in the top left corner to finalize the changes to the file.
- This would be a good time to save your “pbix” file.

Untitled - Power BI Desktop

File Home Help Table tools

Get data View data Refresh Manage relationships New measure New column New table Manage relationships View data Refresh Manage relationships

File Home Transform Add Column View Tools Help

Close & Apply New Source Recent Sources Enter Data Data source settings Manage Parameters Refresh Preview Manage Query Choose Columns Remove Columns Keep Rows Remove Rows Split Column Group By Data Type: Text Merge Queries Append Queries Combine Files Text Analytics Vision Azure Machine Learning

Close & Apply Close the Query Editor window and apply any pending changes. may be up to 3 days old. Refresh

Columns Columns

Table 1	Columns	Location
1	Facility	Location
2	AlgerCorrectionalFacility	Munising
3	BaragaCorrectionalFacility	Baraga
4	BellamyCreekCorrectionalFacility	Ionia
5	CarsonCityCorrectionalFacility	Carson City
6	CentralMichiganCorrectionalFacility	St. Louis
7	CharlesEglerReceptionandGuidanceCenter	Jackson
8	ChippewaCorrectionalFacility	Kinross
9	CooperStreetCorrectionalFacility	Jackson
10	DetroitDetentionCenter	Detroit
11	DetroitReentryCenter	Detroit
12	ErnestC.BrooksCorrectionalFacility	Muskegon Heights
13	G.RobertCottonCorrectionalFacility	Jackson
14	GusHarrisonCorrectionalFacility	Adrian
15	IoniaCorrectionalFacility	Ionia
16	KinrossCorrectionalFacility	Kinross
17	LakelandCorrectionalFacility	Coldwater
18	MacombCorrectionalFacility	New Haven
19	MarquetteBranchPrison	Marquette
20	MichiganReformatory	Ionia
21	MuskegonCorrectionalFacility	Muskegon
22	NewberryCorrectionalFacility	Newberry
23	OaksCorrectionalFacility	Eastlake
24		null
25	ParnallCorrectionalFacility	Jackson
26	PugleyCorrectionalFacility	Fife Lake
27	RichardA.HandonCorrectionalFacility	Ionia
28	SaginawCorrectionalFacility	Tittabawassee
29	SpecialAlternativeIncarcerationFacility	Chelsea

2 COLUMNS, 34 ROWS Column profiling based on top 1000 rows

Table: Table 1 (34 rows)

Update available (click to download)

2:17 PM 5/21/2021

Acquiring the County Name Based on the City Name

Step 4: Acquire the County Data

- At this point you should have two files in your "pbix" file.
- Sheet1 has correctional facility vaccination information
- Table1 has location "city" information
- Now we need to know in which counties the facilities are located
- Import the Excel file called "Counties" into the application

The screenshot displays the Microsoft Power BI Desktop application window. The title bar reads "Untitled - Power BI Desktop" and the user name "Luke Ely" is visible in the top right corner. The ribbon at the top includes tabs for File, Home, Insert, Modeling, View, and Help. The "Home" tab is active, and the "Get data" button is highlighted with a red box. A dropdown menu is open, showing "Common data sources" with options like Excel, Power BI datasets, Power BI dataflows, SQL Server, Analysis Services, Text/CSV, Web, OData feed, Blank query, and Power BI Template Apps. The "Excel" option is also highlighted with a red box. The main workspace area contains the text "Add data to your report" and "Once loaded, your data will appear in the Fields pane." Below this text are four tiles: "Import data from Excel" (green), "Import data from SQL Server" (blue), "Paste data into a blank table" (yellow), and "Try a sample dataset" (grey). A link "Get data from another source" is at the bottom. On the right side, the "Visualizations" pane is visible, showing various chart types and options for Values, Drill through, Cross-report, and Filters. The bottom status bar shows "Page 1 of 1" and "Update available (click to download)".

Untitled - Power BI Desktop Luke Ely

File Home Insert Modeling View Help

Get data Excel Power BI datasets SQL Server Enter data Recent sources Transform data Refresh New visual Text box More visuals New measure Quick measure Publish

Navigator

Display Options

Counties.xlsx [1]

Sheet1

Sheet1

(UTC)	Population	People Fully Vaccinated	Fully Vaccinated
Alcona	10364	4519.436	0.436
Alger	9194	3867.4206	0.420
Allegan	115250	39914.3461	0.346
Alpena	28612	11730.41	0.4
Antrim	23177	9916.4278	0.427
Arenac	15165	5492.3621	0.362
Baraga	8507	2573.3025	0.302
Barry	60057	20156.3356	0.335
Bay	104786	40538.3869	0.386
Bentley	17552	8397.4784	0.478
Berrien	154807	52117.3438	0.343
Branch	43584	12571.2884	0.288
Calhoun	134473	42597.3168	0.316
Cass	51460	12666.2461	0.246
Charlevoix	26219	12018.4584	0.458
Cheboygan	25458	9556.3911	0.391
Chippewa	37834	13464.3559	0.355
Clare	30616	10205.3333	0.333
Clinton	77896	32648.4191	0.419
Crawford	13836	5224.3776	0.377
Delta	36190	13369.3694	0.369
Dickinson	25570	8920.3488	0.348
Eaton	109155	42994.3939	0.393

Load Transform Data Cancel

Visualizations

Fields

Filters

Values

Add data fields here

Drill through

Cross-report

Off

Keep all filters

On

Add drill-through fields here

Page 1 of 1

Update available (click to download)

Type here to search

1:53 PM 5/21/2021

Part 4 Completed Product – Need to Convert to %

Untitled - Power BI Desktop Luke Ely

File Home Help Table tools Column tools

Name Fully Vaccinated Format Percentage Summarization Don't summarize Data type Decimal number Data category Uncategorized Sort by column Sort Data groups Manage relationships New column Calculations

(UTC)	Population	People Fully Vaccinated	Fully Vaccinated
Alcona	10364	4519.436	43.61%
Alger	9194	3867.4206	42.06%
Allegan	115250	39924.3463	34.63%
Alpena	28612	11730.41	41.00%
Antrim	23177	9916.4278	42.79%
Arenac	15165	5492.3621	36.22%
Barraga	8507	2573.3025	30.25%
Barry	60057	20156.3356	33.56%
Bay	104786	40538.3869	38.69%
Benzie	17552	8397.4784	47.84%
Berrien	154807	53217.3438	34.38%
Branch	43584	12571.2884	28.84%
Calhoun	134473	42597.3168	31.68%
Cass	51460	12666.2461	24.61%
Charlevoix	26219	12018.4584	45.84%
Cheboygan	25458	9956.3911	39.11%
Chippewa	37834	13464.3539	35.59%
Clare	30616	10205.3333	33.33%
Clinton	77896	32648.4191	41.91%
Crawford	13836	5224.3776	37.76%
Delta	36190	13369.3694	36.94%
Dickinson	25370	8920.3488	34.89%
Eaton	109155	42994.3939	39.39%
Emmet	33039	15965.4832	48.32%
Genesee	409361	127960.3126	31.26%
Gladwin	25289	8904.3521	35.21%
Gogebic	15414	5176.3358	33.58%
Grand Traverse	91746	44280.4826	48.26%
Grafton	41067	12703.3093	30.93%
Hilldale	45830	12041.2627	26.27%
Houghton	36360	11712.3221	32.21%
Huron	31543	12552.3979	39.79%
Ingham	289564	112262.3877	38.77%
Ionia	64176	21099.3288	32.88%
Iosco	25247	10205.4042	40.42%
Iron	11212	4229.3772	37.72%
Isabella	70775	20936.2958	29.58%
Jackson	158913	56507.3556	35.56%

Fields

Search

- 1st Merge
- % of fully vaccina...
 - Column1
 - Column2
 - Name
- Total Population
- 2nd Merge
- Sheet1
- Sheet1 (2)
- Sheet1 (3)
- City
- County
- Table 1

Table: Sheet1 (2) (84 rows) Column: Fully Vaccinated (84 distinct values)

Update available (click to download)

3:29 PM 5/21/2021

Part 4 Completed Product

Convert Fully Vaccinated to a percent using the % short-cut

File Home Help **Table tools** **Column tools**

Name: Fully Vaccinated

Data type: Decimal number

Format: Percentage

Short-cut: %

Summation: Σ Summation

Data: Data

(UTC)	Population	People Fully Vaccinated	Fully Vaccinated
Alcona	10364	4519.436	43.61%
Alger	9194	3867.4206	42.06%
Allegan	115250	39914.3463	34.63%
Alpena	28612	11730.41	41.00%
Antrim	23177	9916.4278	42.79%
Arenac	15165	5492.3621	36.22%
Benzie	8507	3573.3025	40.95%

Downloading City Information

Step 5: Acquire the County Data

- At this point you should have three files in your "pbix" file.
- Sheet1 has correctional facility vaccination information
- Table1 has location "city" information
- Sheet1 (2) has the overall county vaccination information
- Now we need to know in which counties the cities are located
 - Import the Excel file called "Cities" into the application
 - Import the file called "cities" into the application.
 - Change the "column1" name to "City"
 - Change the "column2" name to "County"

Untitled - Power BI Desktop Luke Ely

File Home Help Table tools

Get data Refresh Manage relationships New measure New column New table Manage roles View as Publish

Common data sources

- Excel
- Power BI datasets
- Power BI dataflows
- SQL Server
- Analysis Services
- Text/CSV
- Web
- OData feed
- Blank query
- Power BI Template Apps
- More...

	Vaccinated	Fully Vaccinated
Alco	4519.436	0.4361
Alge	3867.4206	0.4206
Alig	39914.3463	0.3463
Alpe	11730.41	0.41
Antr	9916.4278	0.4279
Arer	5492.5621	0.5622
Bara	2573.3025	0.3025
Barr	20156.3356	0.3356
Bay	40538.3869	0.3869
Bent	8397.4784	0.4784
Berr	53217.3438	0.3438
Brar	12571.2884	0.2884
Calh	42597.3168	0.3168
Casi	12666.2461	0.2461
Char	12018.4584	0.4584
Chel	9956.3911	0.3911
Chip	13464.3559	0.3559
Clare	90616	0.3333
Clinton	77896	0.4191
Crawford	13836	0.3776
Delta	36190	0.3694
Dickinson	25570	0.3489
Eaton	109155	0.3939
Emmet	33039	0.4832
Genesee	409361	0.3126
Gladwin	25289	0.3521
Gogebic	15414	0.3358
Grand Traverse	91746	0.4826
Grafton	41067	0.3093
Hillsdale	45830	0.2627
Houghton	36360	0.3221
Huron	31543	0.3979
Ingham	289564	0.3877
Ionia	64176	0.3288
Iosco	25247	0.4042
Iron	11212	0.3772
Isabella	70775	0.2958
Jackson	158913	0.3556
Kalamazoo	261573	0.4156
Kalamazoo	17463	0.3449

Table: Sheet1 (84 rows)

Fields

- Sheet1
- Sheet1 (2)

Update available (click to download)

2:04 PM 5/21/2021

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File Home Help Table tools

Get data Refresh Manage relationships New measure New column New table Manage roles View as Publish

Table: Sheet1 (84 rows)

(UTC)	Population	People Fully Vaccinated	Fully Vaccinated
Alcona	10364	4519.436	0.4361
Alger	9194	3867.4206	0.4206
Allegan	115250	39914.3463	0.3463
Alpena	28612	11730.41	0.41
Antrim	23177	9916.4278	0.4279
Arenac	15165	5492.5621	0.5622
Baraga	8507	2573.3025	0.3025
Barry	60057	20156.3356	0.3356
Bay	104786	40538.3869	0.3869
Benzie	17552	8397.4784	0.4784
Berrien	154807	53217.3438	0.3438
Branch	43584	12571.2884	0.2884
Calhoun	134473	42597.3168	0.3168
Cass	51460	12666.2461	0.2461
Charlevoix	26219	12018.4584	0.4584
Cheboygan	25458	9956.9911	0.9911
Chippewa	37834	13464.3559	0.3559
Clare	90616	10205.8333	0.3333
Clinton	77896	32648.4191	0.4191
Crawford	13836	5224.3776	0.3776
Delta	36190	13369.3694	0.3694
Dickinson	25570	8920.3489	0.3489
Eaton	109155	42694.3939	0.3939
Emmet	33039	15965.4832	0.4832
Genesee	409361	17960.3126	0.3126
Gladwin	25389	8904.3521	0.3521
Gogebic	15414	5176.3358	0.3358
Grand Traverse	91746	44280.4826	0.4826
Grafton	41067	12703.3093	0.3093
Hillsdale	45830	12041.2627	0.2627
Houghton	36360	11712.3221	0.3221
Huron	31543	12552.3979	0.3979
Ingham	289564	112262.3877	0.3877
Ionia	64176	21099.3288	0.3288
Iosco	25247	10205.4042	0.4042
Iron	11212	4229.3772	0.3772
Isabella	70775	20936.2958	0.2958
Jackson	158913	56507.3556	0.3556
Kalamazoo	261573	108704.4156	0.4156
Kalkaska	17463	6022.3448	0.3448

Navigator

Display Options

- Cities.xlsx (1)
 - Sheet1

Sheet1

Column1	Column2
City Name	County[1]
Acme	Grand Traverse
Ada	Kent
Adams	Arenac
Addison	Lenawee
Adrian	Lenawee
Aetna	Mecosta
Albion	Keweenaw
Albion	Tuscola
Albion	Iosco
Albion	Ingham
Alamo	Kalamazoo
Alanson	Emmet
Albee	Saginaw
Albert	Montmorency
Albion	Calhoun
Alcona	Alcona
Algonac	Branch
Algonac	Kent
Algonac	St. Clair
Allegan	Allegan
Allen	Hillsdale
Allendale	Ottawa
Allen Park	Wayne

Load Transform Data Cancel

Update available (click to download)

2:03 PM 5/21/2021

Change the "column1" name to "City"
Change the "column2" name to "County"

The screenshot shows the Microsoft Power BI Desktop interface. On the left, a table with 1,328 rows is displayed, with columns 'City Name' and 'County'. The 'City Name' column is highlighted with a red box. In the 'Fields' pane on the right, the 'City' column is selected, and a context menu is open with the 'Rename' option highlighted by a red box. The status bar at the bottom indicates 'Table: Sheet1 (3) (1,328 rows) Column: City (1,328 distinct values)'.



Creating File Relationships

Step 6: Create Relationships for your Data

- At this point you should have four files in your “pbix” file.
- Sheet1 has correctional facility vaccination information
- Table1 has location “city” information
- Sheet1 (2) has the overall county vaccination information
- Sheet1 (3) shows which cities belong to which counties

Step 6

- Open the relationships view from the tab on the left 
- Open the dropdown menu and select manage relationships and then choose the "New" option.
- Select "Sheet 1" as the first table (top) and click the "Name" column
- Select "Table 1" as the second table and click the "Column1" column
- Set cardinality as "One to one"
- Select OK to create the relationship

Untitled - Power BI Desktop

File Home Help

Get data Refresh Manage relationships Manage roles View as Q&A setup Language Linguistic schema Publish

Sheet1

- % of fully vaccinated people
- Name
- Total Population

Sheet1 (2)

- Fully Vaccinated
- People Fully Vaccinated
- Population

Sheet1 (3)

- Column1
- Column2

Table 1

- Column1
- Column2

Properties

General

Name

Sheet1

Description

Enter a description

Synonyms

sheet 1, Sheet1

Row label

Select a row label

Is hidden

No

Advanced

Fields

Search

Sheet1

Sheet1 (2)

Sheet1 (3)

Table 1

All tables

Type here to search

2:30 PM 5/21/2021

Untitled - Power BI Desktop

File Home Help

Get data Refresh Manage relationships Manage roles View as Q&A setup Language Linguistic schema Publish

Sheet1

- % of fully vaccinated p...
- Name
- Total Population

Sheet1 (2)

- (UTC)
- Fully Vaccinated
- People Fully Vaccinated
- Population

Manage relationships

Active From: Table (Column) To: Table (Column)

There are no relationships defined yet.

New... Autodetect... Edit... Delete

Close

Properties

General

Name

Sheet1

Description

Enter a description

Synonyms

sheet 1, Sheet1

Row label

Select a row label

Is hidden

No

Advanced

Fields

Search

- Sheet1
- Sheet1 (2)
- Sheet1 (3)
- Table 1

All tables

Type here to search

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Step 6

Sheet1

Name	Total Population	% of fully vaccinated population (Moderna or Janssen)
BaragaCorrectionalFacility	735	0.48
GusHarrisonCorrectionalFacility	1856	0.56
CarsonCityCorrectionalFacility	2211	0.63

Table 1

Column1	Column3
AlgerCorrectionalFacility	Munising
BaragaCorrectionalFacility	Baraga
BellamyCreekCorrectionalFacility	Ionia

Cardinality

One to one (1:1)

Cross filter direction

Both

☒ Make this relationship active

☐ Assume referential integrity

OK

Cancel

Untitled - Power BI Desktop

File Home Help

Get data Refresh Manage relationships Manage roles View as Q&A setup Language Linguistic schema Publish

Sheet1

- % of fully vaccinated p...
- Name
- Total Population

Sheet1 (2)

- (UTC)
- Fully Vaccinated
- People Fully Vaccinated
- Population

Manage relationships

Active	From Table (Column)	To Table (Column)
☒	Sheet1 (Name)	Table 1 (Column1)

New... Autodetect... Edit... Delete

Close

Properties

General

Name: Sheet1

Description: Enter a description

Synonyms: sheet 1, Sheet1

Row label: Select a row label

Is hidden: No

Advanced

Fields

Search

- Sheet1
- Sheet1 (2)
- Sheet1 (3)
- Table 1

All tables

Type here to search

2:34 PM 5/21/2021

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File Home Help

Get data Refresh Manage relationships Manage roles View as Q&A setup Language Linguistic schema Publish

Sheet1

- % of fully vaccinated p...
- Name
- Total Population

Sheet1 (2)

- (UTC)
- Fully Vaccinated
- People Fully Vaccinated
- Population

Sheet1 (3)

- Column1
- Column2

Table 1

- Column1
- Column2

Properties

General

Name

Sheet1

Description

Enter a description

Synonyms

sheet 1, Sheet1

Row label

Select a row label

Is hidden

No

Advanced

Fields

Search

- Sheet1
- Sheet1 (2)
- Sheet1 (3)
- Table 1

All tables

Type here to search

2:26 PM 5/21/2021

Step 7 Merging the Two Files into a New Table

- We will be merging city information onto the correctional facility information so we can merge city & county information later
- Select the "New Table" button
- Rename the table to "First Merge" by deleting the default name
- Use the left outer join function to merge the two files: 1st Merge = `NATURALLEFTOUTERJOIN(Sheet1, 'Table 1')`

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File Home Help Table tools

Clipboard

Write a DAX expression to create a new table.

Table: Sheet1 (3) (1,328 rows)

Update available (click to download)

2:31 PM 5/21/2021

Type here to search

Fields

Search

- Sheet1
- Sheet1 (2)
- Sheet1 (3)
- Table 1

Column1	Column2
Acme	Kent
Adams	Arenac
Addison	Lenaawee
Adrian	Lenaawee
Aetna	Mecosta
Ahmeeek	Keweenaw
Akron	Tuscola
Alabaster	Iosco
Alaiedon	Ingham
Alamo	Kalamazoo
Alanson	Emmet
Albee	Saginaw
Albert	Montmorency
Albion	Calhoun
Alcona	Alcona
Algansee	Branch
Algoma	Kent
Algonac	St. Clair
Allegan	Allegan
Allen	Hillsdale
Allendale	Ottawa
Allen Park	Wayne
Allis	Presque Isle
Allouez	Keweenaw
Alma	Gratiot
Almena	Van Buren
Almer	Tuscola
Almira	Benzie
Almont	Lapeer
Aloha	Cheboygan
Alpena	Alpena
Alpha	Iron
Alpine	Kent
Amber	Mason
Amboy	Hillsdale
Ann Arbor	Washtenaw

1st Merge =

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File Home Help Table tools

Clipboard Data Queries Relationships Calculations Security Share

1st Merge = NATURALLEFTOUTERJOIN(Sheet1, 'Table 1')

Name	Total Population	% of fully vaccinated population (Moderna or Janssen)	Column1	Column2
BaragaCorrectionalFacility	735	0.48	BaragaCorrectionalFacility	Baraga
GusHarrisonCorrectionalFacility	1856	0.56	GusHarrisonCorrectionalFacility	Adrian
CarsonCityCorrectionalFacility	2211	0.63	CarsonCityCorrectionalFacility	Carson City
OakCorrectionalFacility	990	0.49	OakCorrectionalFacility	Eastlake
BelamyCreekCorrectionalFacility	1608	0.65	BelamyCreekCorrectionalFacility	Ionia
IoniaCorrectionalFacility	638	0.66	IoniaCorrectionalFacility	Ionia
G.RobertCottonCorrectionalFacility	1568	0.66	G.RobertCottonCorrectionalFacility	Jackson
CooperStreetCorrectionalFacility	1454	0.55	CooperStreetCorrectionalFacility	Jackson
KinrossCorrectionalFacility	998	0.63	KinrossCorrectionalFacility	Kinross
LakelandCorrectionalFacility	1449	0.62	LakelandCorrectionalFacility	Coldwater
AlgerCorrectionalFacility	754	0.53	AlgerCorrectionalFacility	Munising
ErnestC.BrooksCorrectionalFacility	1159	0.63	ErnestC.BrooksCorrectionalFacility	Muskegon Heights
MarquetteBranchPrison	587	0.74	MarquetteBranchPrison	Marquette
MuskegonCorrectionalFacility	1263	0.63	MuskegonCorrectionalFacility	Muskegon
MacombCorrectionalFacility	1190	0.49	MacombCorrectionalFacility	New Haven
RichardA.HandlonCorrectionalFacility	1132	0.7	RichardA.HandlonCorrectionalFacility	Ionia
NewberryCorrectionalFacility	560	0.6	NewberryCorrectionalFacility	Newberry
CharlesEgelerReceptionandGuidanceCenter	1273	0.54	CharlesEgelerReceptionandGuidanceCenter	Jackson
MichiganReformatory	653	0.58	MichiganReformatory	Ionia
St.LouisCorrectionalFacility	1072	0.38	St.LouisCorrectionalFacility	St. Louis
ParnallCorrectionalFacility	1360	0.58	ParnallCorrectionalFacility	Jackson
SaginawCorrectionalFacility	1447	0.74	SaginawCorrectionalFacility	Tittabawassee
CentralMichiganCorrectionalFacility	2090	0.7	CentralMichiganCorrectionalFacility	St. Louis
ThumbCorrectionalFacility	981	0.48	ThumbCorrectionalFacility	Lapeer
ChippewaCorrectionalFacility	1718	0.67	ChippewaCorrectionalFacility	Kinross
WoodlandCenterCorrectionalFacility	334	0.56	WoodlandCenterCorrectionalFacility	Hamburg
Women'sHuronValleyCorrectionalFacility	1617	0.61	Women'sHuronValleyCorrectionalFacility	Ipsilanti

Table: 1st Merge (27 rows)

Update available (click to download)

Type here to search

2:37 PM 5/21/2021

1st Merge = NATURALLEFTOUTERJOIN(Sheet1, 'Table 1')

Step 8: Creating more Relationships – Link 1st Merge data with County

- Open the relationships tab,  pull down the dropdown menu and select manage relationships, then new relationship
- Select 1st Merge as the first table (top) and select the column "Column2"
- Select Sheet1 (3) as the second table and select the column "City"
- Make the Cardinality "Many to One" then hit OK

The screenshot displays the Microsoft Power BI Desktop interface. The ribbon at the top includes tabs for File, Home, and Help. The Home tab is active, showing various tool groups like Clipboard, Data, Queries, Relationships, Security, Q&A, and Share. The main workspace shows a data model with the following tables:

- 1st Merge**: Contains columns for '% of fully vaccinated pi', 'Column1', 'Column2', 'Name', and 'Total Population'.
- Sheet1 (2)**: Contains columns for '(UTC)', 'Fully Vaccinated', 'People Fully Vaccinated', and 'Population'.
- Sheet1 (3)**: Contains columns for 'Column1' and 'Column2'.
- Table 1**: Contains columns for 'Column1' and 'Column2'.

Relationships are shown between the tables. A context menu is open for the '1st Merge' table, with the 'Manage relationships' option highlighted. The Properties pane on the right shows the 'General' tab for the selected table, including a search bar, a list of fields, and settings for 'Row label', 'Is hidden', and 'Synonyms'.

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File Home Help

Clipboard Get data Excel Power BI datasets SQL Server Enter data Recent sources Transform Refresh data Queries Relationships Manage roles View as Q&A Language Linguistic schema Publish Share

1st Merge

Manage relationships

Active	From Table (Column)	To Table (Column)
☒	Table 1 (Column1)	Sheet1 (Name)

New... Autodetect... Edit... Delete

Close

Properties

General

Name
1st Merge

Description
Enter a description

Synonyms
1st merge

Row label
Select a row label

Is hidden
No

Fields

Search

1st Merge
Sheet1
Sheet1 (2)
Sheet1 (3)
Table 1

All tables

Type here to search

Update available (click to download)

2:45 PM 5/21/2021

Untitled - Power BI Desktop

File Home Help

Clipboard Get data Excel Power BI datasets SQL Server Enter data Recent sources Transform Refresh data Queries Manage relationships Manage roles View as Q&A Language setup Q&A Linguistic schema Publish

Properties Fields

General

Name: 1st Merge

Description: Enter a description

Synonyms: 1st merge

Row label: Select a row label

Is hidden: No

Fields

Search

1st Merge

Select tables and columns that are related.

Total Population	% of fully vaccinated population (Moderna or Janssen)	Column1	Column2
725	0.48	BaragaCorrectionalFacility	Baraga
1856	0.56	GusHarrisonCorrectionalFacility	Adrian
2211	0.63	CarsonCityCorrectionalFacility	Carson City

Sheet1 (3)

City	Column2
City Name	County(1)
Acme	Grand Traverse
Ada	Kent

Cardinality: Many to one (1:1)

Cross filter direction: Single

☒ Make this relationship active

☐ Assume referential integrity

☐ Apply security filter in both directions

OK Cancel

All tables

Type here to search

Update available (click to download)

3:06 PM 5/21/2021

Step 8 continued: Merging to Append County to Data

- Open the “New Table” option
- Rename the new table to “2nd Merge”
- Merge the files using the following code:
`2nd Merge = NATURALLEFTOUTERJOIN('1st Merge', 'Sheet1 (3)')`
- Change the “% full vaccinated column to a percent data type by clicking the column and then the percent sign up above.

The screenshot displays the Microsoft Power BI Desktop application window. The title bar reads "Untitled - Power BI Desktop" and the user name "Luke Ely" is visible in the top right corner. The ribbon is set to the "Table tools" tab, and the "New table" button is highlighted with a red rectangle. The left-hand pane shows a table with one row, also highlighted with a red rectangle. The right-hand pane shows the "Fields" list, which includes a search bar and a list of fields: "1st Merge", "Sheet1", "Sheet1 (2)", "Sheet1 (3)", "Table", "Column", and "Table 1". The "Table" field is currently selected. The status bar at the bottom left indicates "Table: Table (1 rows)". The Windows taskbar is visible at the bottom of the screen, showing the Start button, a search bar, and several application icons. The system clock in the bottom right corner shows the time as 2:54 PM on 5/21/2021.

Change File Name to 2nd Merge

Untitled - Power BI Desktop

File Home Help Table tools

Name: 2nd Merge

Table tools: Mark as date table, Manage relationships, New measure, Quick measure, New column, New table

Table: 2nd Merge = NATURALLEFTOUTERJOIN('1st Merge', 'Sheet1 (3)')

City	County	Name	Total Population	% of fully vaccinated population (Moderna or Janssen)	Column1	Column2
Baraga	Baraga	BaragaCorrectionalFacility	735	0.48	BaragaCorrectionalFacility	Baraga
Adrian	Lenawee	GusHarrisonCorrectionalFacility	1856	0.56	GusHarrisonCorrectionalFacility	Adrian
Carson City	Montcalm	CarsonCityCorrectionalFacility	2211	0.63	CarsonCityCorrectionalFacility	Carson City
Eastlake	Manistee	OakCorrectionalFacility	990	0.49	OakCorrectionalFacility	Eastlake
Ionla	Ionla	BelamyCreekCorrectionalFacility	1608	0.65	BelamyCreekCorrectionalFacility	Ionla
Ionla	Ionla	IonlaCorrectionalFacility	638	0.66	IonlaCorrectionalFacility	Ionla
Jackson	Jackson	G.RobertCottonCorrectionalFacility	1568	0.86	G.RobertCottonCorrectionalFacility	Jackson
Jackson	Jackson	CooperStreetCorrectionalFacility	1454	0.55	CooperStreetCorrectionalFacility	Jackson
Kinross	Chippewa	KinrossCorrectionalFacility	998	0.63	KinrossCorrectionalFacility	Kinross
Coldwater	Branch	LakelandCorrectionalFacility	1449	0.62	LakelandCorrectionalFacility	Coldwater
Munising	Alger	AlgerCorrectionalFacility	754	0.53	AlgerCorrectionalFacility	Munising
Muskegon Heights	Muskegon	ErnestC.BrooksCorrectionalFacility	1159	0.63	ErnestC.BrooksCorrectionalFacility	Muskegon Heights
Marquette	Mackinac	MarquetteBranchPrison	587	0.74	MarquetteBranchPrison	Marquette
Muskegon	Muskegon	MuskegonCorrectionalFacility	1263	0.63	MuskegonCorrectionalFacility	Muskegon
New Haven	Gratot	MacombCorrectionalFacility	1190	0.49	MacombCorrectionalFacility	New Haven
Ionla	Ionla	RichardA.HandlonCorrectionalFacility	1132	0.7	RichardA.HandlonCorrectionalFacility	Ionla
Newberry	Luce	NewberryCorrectionalFacility	560	0.6	NewberryCorrectionalFacility	Newberry
Jackson	Jackson	CharlesEgelerReceptionandGuidanceCenter	1273	0.54	CharlesEgelerReceptionandGuidanceCenter	Jackson
Ionla	Ionla	MichiganReformatory	653	0.58	MichiganReformatory	Ionla
St. Louis	Gratot	St.LouisCorrectionalFacility	1072	0.38	St.LouisCorrectionalFacility	St. Louis
Jackson	Jackson	ParnallCorrectionalFacility	1360	0.58	ParnallCorrectionalFacility	Jackson
Tittabawassee	Saginaw	SaginawCorrectionalFacility	1447	0.74	SaginawCorrectionalFacility	Tittabawassee
St. Louis	Gratot	CentralMichiganCorrectionalFacility	2090	0.7	CentralMichiganCorrectionalFacility	St. Louis
Lapeer	Lapeer	ThumbCorrectionalFacility	981	0.48	ThumbCorrectionalFacility	Lapeer
Kinross	Chippewa	ChippewaCorrectionalFacility	1718	0.67	ChippewaCorrectionalFacility	Kinross
Hamburg	Livingston	WoodlandCenterCorrectionalFacility	334	0.56	WoodlandCenterCorrectionalFacility	Hamburg
Ypsilanti	Washtenaw	Women'sHuronValleyCorrectionalFacility	1617	0.61	Women'sHuronValleyCorrectionalFacility	Ypsilanti

Table: 2nd Merge (27 rows)

Update available (click to download)

3:10 PM 5/21/2021

2nd Merge = NATURALLEFTOUTERJOIN('1st Merge', 'Sheet1 (3)')

Untitled - Power BI Desktop

File Home Help Table tools Column tools

Name % of fully vaccinate... Format Percentage

Data type Decimal number \$ % 00 2

Summarization Sum

Data category Uncategorized

Sort by column

Data groups

Manage relationships

New column

Calculations

Structure Display the values in this column in percentages.

1 2nd Merge • NATURALLEFTOUTERJOIN('1st Merge', 'Sheet1 (3)')

City County Name Total Population % of fully vaccinated population (Moderna or Janssen) Column1 Column2

Baraga Baraga BaragaCorrectionalFacility 735 46.00% BaragaCorrectionalFacility Baraga

Adrian Lenawee GuishHarrisonCorrectionalFacility 1856 56.00% GuishHarrisonCorrectionalFacility Adrian

Carson City Montcalm CarsonCityCorrectionalFacility 2211 63.00% CarsonCityCorrectionalFacility Carson City

Eastlake Manistee OaksCorrectionalFacility 990 49.00% OaksCorrectionalFacility Eastlake

Ionia Ionia BellamyCreekCorrectionalFacility 1608 65.00% BellamyCreekCorrectionalFacility Ionia

Ionia Ionia IoniaCorrectionalFacility 638 66.00% IoniaCorrectionalFacility Ionia

Jackson Jackson G.RobertCottonCorrectionalFacility 1568 66.00% G.RobertCottonCorrectionalFacility Jackson

Jackson Jackson CooperStreetCorrectionalFacility 1454 55.00% CooperStreetCorrectionalFacility Jackson

Kinross Chippewa KinrossCorrectionalFacility 998 63.00% KinrossCorrectionalFacility Kinross

Coldwater Branch LakeandCorrectionalFacility 1449 62.00% LakeandCorrectionalFacility Coldwater

Munising Alger AlgerCorrectionalFacility 754 53.00% AlgerCorrectionalFacility Munising

Muskegon Heights Muskegon EarnestC.BrooksCorrectionalFacility 1159 63.00% EarnestC.BrooksCorrectionalFacility Muskegon Heights

Marquette Mackinac MarquetteBranchPrison 587 74.00% MarquetteBranchPrison Marquette

Muskegon Muskegon MuskegonCorrectionalFacility 1263 63.00% MuskegonCorrectionalFacility Muskegon

New Haven Gratiot MacombCorrectionalFacility 1190 49.00% MacombCorrectionalFacility New Haven

Ionia RichardA.HandlonCorrectionalFacility 1132 70.00% RichardA.HandlonCorrectionalFacility Ionia

Newberry Luce NewberryCorrectionalFacility 560 60.00% NewberryCorrectionalFacility Newberry

Jackson Jackson CharlesEglerReceptionandGuidanceCenter 1273 54.00% CharlesEglerReceptionandGuidanceCenter Jackson

Ionia Ionia MichiganReformatory 653 58.00% MichiganReformatory Ionia

St. Louis Gratiot St.LouisCorrectionalFacility 1072 38.00% St.LouisCorrectionalFacility St. Louis

Jackson Jackson ParnallCorrectionalFacility 1360 58.00% ParnallCorrectionalFacility Jackson

Tittabawassee Saginaw SaginawCorrectionalFacility 1447 74.00% SaginawCorrectionalFacility Tittabawassee

St. Louis Gratiot CentralMichiganCorrectionalFacility 2090 70.00% CentralMichiganCorrectionalFacility St. Louis

Lapeer Lapeer ThumbCorrectionalFacility 981 48.00% ThumbCorrectionalFacility Lapeer

Kinross Chippewa ChippewaCorrectionalFacility 1718 67.00% ChippewaCorrectionalFacility Kinross

Hamburg Livingston WoodlandCenterCorrectionalFacility 334 56.00% WoodlandCenterCorrectionalFacility Hamburg

Ypsilanti Washtenaw Women'sHuronValleyCorrectionalFacility 1617 61.00% Women'sHuronValleyCorrectionalFacility Ypsilanti

Change format of this column to % using column tools tab and the % short-cut

Fields

Search

1st Merge

% of fully vaccina... Column1 Column2 Name

Total Population

2nd Merge

Sheet1

Sheet1 (2) (UTC)

Fully Vaccinated

People Fully Vacci...

Population

Sheet1 (3)

City County

Table 1

Table: 2nd Merge (27 rows) Column: % of fully vaccinated population (Moderna or Janssen) (17 distinct values)

Update available (click to download)

Type here to search

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Final Product

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File Home Help Table tools Column tools

Name % of fully vaccine... Format Percentage Summarization Sum Data category Uncategorized Sort by column Sort Data groups Manage relationships New column

Structure Formatting Properties

1 2nd Merge • NATURALLEFTOUTERJOIN('1st Merge', 'Sheet1 (3)')

City	County	Name	Total Population	% of fully vaccinated population (Moderna or Janssen)	Column1	Column2
Baraga	Baraga	BaragaCorrectionalFacility	735	48.00%	BaragaCorrectionalFacility	Baraga
Adrian	Lenawee	GusHarrisonCorrectionalFacility	1856	56.00%	GusHarrisonCorrectionalFacility	Adrian
Carson City	Montcalm	CarsonCityCorrectionalFacility	2211	63.00%	CarsonCityCorrectionalFacility	Carson City
Eastlake	Manistee	OaksCorrectionalFacility	990	49.00%	OaksCorrectionalFacility	Eastlake
Ionia	Ionia	BellamyCreekCorrectionalFacility	1608	65.00%	BellamyCreekCorrectionalFacility	Ionia
Ionia	Ionia	IoniaCorrectionalFacility	638	66.00%	IoniaCorrectionalFacility	Ionia
Jackson	Jackson	G.RobertCottonCorrectionalFacility	1568	66.00%	G.RobertCottonCorrectionalFacility	Jackson
Jackson	Jackson	CooperStreetCorrectionalFacility	1454	55.00%	CooperStreetCorrectionalFacility	Jackson
Kinross	Chippewa	KinrossCorrectionalFacility	998	63.00%	KinrossCorrectionalFacility	Kinross
Coldwater	Branch	LakelandCorrectionalFacility	1449	62.00%	LakelandCorrectionalFacility	Coldwater
Munising	Alger	AlgerCorrectionalFacility	754	53.00%	AlgerCorrectionalFacility	Munising
Muskegon Heights	Muskegon	ErnestC.BrooksCorrectionalFacility	1159	63.00%	ErnestC.BrooksCorrectionalFacility	Muskegon Heights
Marquette	Mackinac	MarquetteBranchPrison	587	74.00%	MarquetteBranchPrison	Marquette
Muskegon	Muskegon	MuskegonCorrectionalFacility	1263	63.00%	MuskegonCorrectionalFacility	Muskegon
New Haven	Gratiot	MacombCorrectionalFacility	1190	49.00%	MacombCorrectionalFacility	New Haven
Ionia	Ionia	RichardA.HandonCorrectionalFacility	1132	70.00%	RichardA.HandonCorrectionalFacility	Ionia
Newberry	Lucie	NewberryCorrectionalFacility	560	60.00%	NewberryCorrectionalFacility	Newberry
Jackson	Jackson	CharlesEglerReceptionandGuidanceCenter	1279	54.00%	CharlesEglerReceptionandGuidanceCenter	Jackson
Ionia	Ionia	MichiganReformatory	653	58.00%	MichiganReformatory	Ionia
St. Louis	Gratiot	St.LouisCorrectionalFacility	1073	38.00%	St.LouisCorrectionalFacility	St. Louis
Jackson	Jackson	ParnalCorrectionalFacility	1360	58.00%	ParnalCorrectionalFacility	Jackson
Tittabawassee	Saginaw	SaginawCorrectionalFacility	1447	74.00%	SaginawCorrectionalFacility	Tittabawassee
St. Louis	Gratiot	CentralMichiganCorrectionalFacility	2090	70.00%	CentralMichiganCorrectionalFacility	St. Louis
Lapeer	Lapeer	ThumbCorrectionalFacility	981	48.00%	ThumbCorrectionalFacility	Lapeer
Kinross	Chippewa	ChippewaCorrectionalFacility	1718	67.00%	ChippewaCorrectionalFacility	Kinross
Hamburg	Livingston	WoodlandCenterCorrectionalFacility	394	56.00%	WoodlandCenterCorrectionalFacility	Hamburg
Ypsilanti	Washtenaw	Women'sHuronValleyCorrectionalFacility	1617	61.00%	Women'sHuronValleyCorrectionalFacility	Ypsilanti

Fields

Search

- 1st Merge
- % of fully vaccine...
 - Column1
 - Column2
 - Name
 - Total Population
- 2nd Merge
 - Sheet1
 - Sheet1 (2) (UTC)
 - Fully Vaccinated
 - People Fully Vaccinated
 - Population
 - Sheet1 (3)
 - City
 - County
 - Table 1

Table: 2nd Merge (27 rows) Column: % of fully vaccinated population (Moderna or Janssen) (17 distinct values)

Type here to search

Update available (click to download)

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Step 9: Get the Overall Numbers of Vaccinated within Counties

- Open the relationships tab and select manage relationships then new relationship.
- Set "2nd Merge" as the first table and select the column labeled "County"
- Set "Sheet1 (2)" as the second table and select the column labeled "(UTC)"
- Ensure the cardinality is set to "Many to One"

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File Home Help

Clipboard

Get data Excel Power BI datasets SQL Server Enter data Recent sources Transform Refresh data Queries Relationships Manage relationships Manage roles View as Q&A Language Linguistic schema Q&A Publish

1

Sheet1 (2)

UTC

Fully Vaccinated

People Fully Vaccinated

Population

Sheet1 (3)

City

County

Table 1

Column1

Column2

1st Merge

% of fully vaccinated p...

Column1

Column2

Name

Total Population

2nd Merge

% of fully vaccinated p...

City

Column1

Column2

County

Name

Total Population

Manage relationships

Select columns

Select measures

Refresh data

Delete from model

Hide in report view

Properties

General

Name

2nd Merge

Description

Enter a description

Synonyms

2nd merge

Row label

Select a row label

Is hidden

No

Fields

Search

1st Merge

2nd Merge

Sheet1

Sheet1 (2)

Sheet1 (3)

Table 1

All tables

Type here to search

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File Home Help

Clipboard Get data Excel Power BI datasets SQL Server Enter data Recent sources Transform Refresh data Queries Relationships Manage roles View as Q&A Language Linguistic schema Publish

1st Merge

Manage relationships

Active	From Table (Column)	To Table (Column)
☒	1st Merge (Column2)	Sheet1 (3) (City)
☒	Table 1 (Column1)	Sheet1 (Name)

New... Autodetect... Edit... Delete

Close

Properties

General

Name
2nd Merge

Description
Enter a description

Synonyms
2nd merge

Row label
Select a row label

Is hidden
No

Fields

Search

- 1st Merge
- 2nd Merge
- Sheet1
- Sheet1 (2)
- Sheet1 (3)
- Table 1

All tables

Type here to search

Update available (click to download)

3:20 PM 4/21/2021

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File Home Help

Paste Cut Copy

Get data Excel Power BI datasets SQL Server Enter data Recent sources Transform Refresh data Queries Relationships Manage roles View as Q&A Language Linguistic schema Publish Share

Clipboard

1

Sheet1 (2)

(UTC)

Fully Vaccinated

People Fully Vaccinated

Population

City

County

City

County

Create relationship

Select tables and columns that are related.

2nd Merge

City	County	Name	Total Population	% of fully vaccinated population (Modern or Jax)
Baraga	Baraga	BaragaCorrectionalFacility	725	
Adrian	Lenawee	GusHarrisonCorrectionalFacility	1856	
Carson City	Montcalm	CarsonCityCorrectionalFacility	2211	

Sheet1 (2)

(UTC)	Population	People Fully Vaccinated	Fully Vaccinated
Alcona	10364	4519.436	0.4361
Alger	9194	3867.4206	0.4206
Allegan	115250	39914.3463	0.3463

Cardinality: Many to one (*)

Cross filter direction: Single

☒ Make this relationship active

☐ Assume referential integrity

☐ Apply security filter in both directions

OK Cancel

Properties

General

Name: 2nd Merge

Description: Enter a description

Synonyms: 2nd merge

Row label: Select a row label

Is hidden: No

Fields

Search

1st Merge

2nd Merge

Sheet1

Sheet1 (2)

Sheet1 (3)

Table 1

All tables

Type here to search

Update available (click to download)

3:22 PM 5/21/2021

Step 9 continued: Setting up the Final Merge

- Select the New Table Option and set the file name as "Complete Merge"

Enter the following code to merge the files:

```
Complete Merge = NATURALLEFTOUTERJOIN('2nd Merge', 'Sheet1 (2)')
```

- Change the "Fully Vaccinated" and "% vaccinated population" to precents.

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File Home Help Table tools

Name 2nd Merge

Structure

Mark as date table > Calendars

Manage relationships Relationships

New measure measure column

Quick New table

New table

Write a DAX expression to create a new table.

1 2nd Merge • NATURALLEFTOUTERJOIN('1st Merge', 'Sheet1 (2)')

City	County	Name	Total Population	% of fully vaccinated population (Moderna or Janssen)	Column1	Column2
Baraga	Baraga	BaragaCorrectionalFacility	735	48.00%	BaragaCorrectionalFacility	Baraga
Adrian	Lenawee	GusHarrisonCorrectionalFacility	1856	56.00%	GusHarrisonCorrectionalFacility	Adrian
Carson City	Montcalm	CarsonCityCorrectionalFacility	2211	63.00%	CarsonCityCorrectionalFacility	Carson City
Eastlake	Manistee	OakCorrectionalFacility	990	49.00%	OakCorrectionalFacility	Eastlake
Ionla	Ionla	BellamyCreekCorrectionalFacility	1608	65.00%	BellamyCreekCorrectionalFacility	Ionla
Ionla	Ionla	IonlaCorrectionalFacility	638	66.00%	IonlaCorrectionalFacility	Ionla
Jackson	Jackson	G.RobertCottonCorrectionalFacility	1568	66.00%	G.RobertCottonCorrectionalFacility	Jackson
Jackson	Jackson	CooperStreetCorrectionalFacility	1454	55.00%	CooperStreetCorrectionalFacility	Jackson
Kinross	Chippewa	KinrossCorrectionalFacility	998	63.00%	KinrossCorrectionalFacility	Kinross
Coldwater	Branch	LakelandCorrectionalFacility	1449	62.00%	LakelandCorrectionalFacility	Coldwater
Munising	Alger	AlgerCorrectionalFacility	754	53.00%	AlgerCorrectionalFacility	Munising
Muskegon Heights	Muskegon	ErnestC.BrooksCorrectionalFacility	1159	63.00%	ErnestC.BrooksCorrectionalFacility	Muskegon Heights
Marquette	Mackinac	MarquetteBranchPrison	587	74.00%	MarquetteBranchPrison	Marquette
Muskegon	Muskegon	MuskegonCorrectionalFacility	1263	63.00%	MuskegonCorrectionalFacility	Muskegon
New Haven	Gratiot	MacombCorrectionalFacility	1190	49.00%	MacombCorrectionalFacility	New Haven
Ionla	Ionla	RichardA.HandlonCorrectionalFacility	1132	70.00%	RichardA.HandlonCorrectionalFacility	Ionla
Newberry	Luce	NewberryCorrectionalFacility	560	60.00%	NewberryCorrectionalFacility	Newberry
Jackson	Jackson	CharlesEgelerReceptionandGuidanceCenter	1273	54.00%	CharlesEgelerReceptionandGuidanceCenter	Jackson
Ionla	Ionla	MichiganReformatory	653	58.00%	MichiganReformatory	Ionla
St. Louis	Gratiot	St.LouisCorrectionalFacility	1072	38.00%	St.LouisCorrectionalFacility	St. Louis
Jackson	Jackson	ParnallCorrectionalFacility	1360	58.00%	ParnallCorrectionalFacility	Jackson
Tittabawassee	Saginaw	SaginawCorrectionalFacility	1447	74.00%	SaginawCorrectionalFacility	Tittabawassee
St. Louis	Gratiot	CentralMichiganCorrectionalFacility	2090	70.00%	CentralMichiganCorrectionalFacility	St. Louis
Lapeer	Lapeer	ThumbCorrectionalFacility	981	48.00%	ThumbCorrectionalFacility	Lapeer
Kinross	Chippewa	ChippewaCorrectionalFacility	1718	67.00%	ChippewaCorrectionalFacility	Kinross
Hamburg	Livingston	WoodlandCenterCorrectionalFacility	334	56.00%	WoodlandCenterCorrectionalFacility	Hamburg
Ypsilanti	Washtenaw	Women'sHuronValleyCorrectionalFacility	1617	61.00%	Women'sHuronValleyCorrectionalFacility	Ypsilanti

Fields

Search

1st Merge

% of fully vaccina...

Column1

Column2

Name

Total Population

2nd Merge

% of fully vaccina...

City

Column1

Column2

County

Name

Total Population

Sheet1

Sheet1 (2)

Sheet1 (3)

City

County

Table 1

Table: 2nd Merge (27 rows)

Update available (click to download)

Type here to search

3:32 PM 5/21/2021

The screenshot shows the Microsoft Power BI Desktop interface. The title bar indicates the file is 'Untitled - Power BI Desktop' and the user is 'Luke Ely'. The 'Table tools' ribbon is active, with the 'Complete Merge' option highlighted in a red box. The main workspace contains the text 'Change to "Complete Merge"'. On the right, the 'Fields' pane lists various data fields, with 'Table' selected at the bottom. The taskbar at the bottom shows the Windows Start button, a search bar, and several open applications including Edge, File Explorer, and PowerPoint. The system clock shows 3:33 PM on 5/21/2021.

Untitled - Power BI Desktop Luke Ely

File Home Help Table tools

Name Complete Merge

Structure

Mark as date table -> Relationships

Manage relationships

New measure measure column

Quick New table

Table: Complete Merge (27 rows)

(UTC)	Population	People Fully Vaccinated	Fully Vaccinated	City	County	Name	Total Population	% of fully vaccinated population (Moderna or Janssen)	Column1	Column2
Baraga	6507	2573.3025	0.3025	Baraga	Baraga	BaragaCorrectionalFacility	735	0.48	BaragaCorrectionalFacility	Baraga
Lenawee	98476	31846.3234	0.3234	Adrian	Lenawee	GusHarrisonCorrectionalFacility	1856	0.56	GusHarrisonCorrectionalFacility	Adrian
Montcalm	63209	18345.2902	0.2902	Carson City	Montcalm	CarsonCityCorrectionalFacility	2211	0.63	CarsonCityCorrectionalFacility	Carson City
Manistee	24444	10939.4475	0.4475	Eastlake	Manistee	OakCorrectionalFacility	990	0.49	OakCorrectionalFacility	Eastlake
Ionla	64176	21099.3288	0.3288	Ionla	Ionla	BelamyCreekCorrectionalFacility	1608	0.65	BelamyCreekCorrectionalFacility	Ionla
Ionla	64176	21099.3288	0.3288	Ionla	Ionla	IonlaCorrectionalFacility	638	0.66	IonlaCorrectionalFacility	Ionla
Jackson	158913	56507.3556	0.3556	Jackson	Jackson	G.RobertCottonCorrectionalFacility	1568	0.66	G.RobertCottonCorrectionalFacility	Jackson
Jackson	158913	56507.3556	0.3556	Jackson	Jackson	CooperStreetCorrectionalFacility	1454	0.53	CooperStreetCorrectionalFacility	Jackson
Chippewa	37834	13464.3559	0.3559	Kinross	Chippewa	KinrossCorrectionalFacility	998	0.63	KinrossCorrectionalFacility	Kinross
Branch	43584	12571.2884	0.2884	Coldwater	Branch	LakeandCorrectionalFacility	1449	0.62	LakeandCorrectionalFacility	Coldwater
Alger	9194	3867.4206	0.4206	Munising	Alger	AlgerCorrectionalFacility	754	0.53	AlgerCorrectionalFacility	Munising
Muskegon	173043	62866.3633	0.3633	Muskegon Heights	Muskegon	ErnestC.BrooksCorrectionalFacility	1159	0.63	ErnestC.BrooksCorrectionalFacility	Muskegon Heights
Mackinac	10817	4653.4302	0.4302	Marquette	Mackinac	MarquetteBranchPrison	587	0.74	MarquetteBranchPrison	Marquette
Muskegon	173043	62866.3633	0.3633	Muskegon	Muskegon	MuskegonCorrectionalFacility	1263	0.63	MuskegonCorrectionalFacility	Muskegon
Gratiot	41067	12703.3093	0.3093	New Haven	Gratiot	MacombCorrectionalFacility	1190	0.49	MacombCorrectionalFacility	New Haven
Ionla	64176	21099.3288	0.3288	Ionla	RichardA.HandonCorrectionalFacility	1132	0.7	RichardA.HandonCorrectionalFacility	Ionla	
Luce	6364	1940.3048	0.3049	Newberry	Luce	NewberryCorrectionalFacility	560	0.6	NewberryCorrectionalFacility	Newberry
Jackson	158913	56507.3556	0.3556	Jackson	Jackson	CharlesEgelerReceptionandGuidanceCenter	1273	0.54	CharlesEgelerReceptionandGuidanceCenter	Jackson
Ionla	64176	21099.3288	0.3288	Ionla	Ionla	MichiganReformatory	653	0.58	MichiganReformatory	Ionla
Gratiot	41067	12703.3093	0.3093	St. Louis	Gratiot	St.LouisCorrectionalFacility	1072	0.38	St.LouisCorrectionalFacility	St. Louis
Jackson	158913	56507.3556	0.3556	Jackson	Jackson	ParnallCorrectionalFacility	1360	0.58	ParnallCorrectionalFacility	Jackson
Saginaw	192778	69781.362	0.362	Tittabawassee	Saginaw	SaginawCorrectionalFacility	1447	0.74	SaginawCorrectionalFacility	Tittabawassee
Gratiot	41067	12703.3093	0.3093	St. Louis	Gratiot	CentralMichiganCorrectionalFacility	2090	0.7	CentralMichiganCorrectionalFacility	St. Louis
Lapeer	88202	26293.2981	0.2981	Lapeer	Lapeer	ThumbCorrectionalFacility	981	0.48	ThumbCorrectionalFacility	Lapeer
Chippewa	37834	13464.3559	0.3559	Kinross	Chippewa	ChippewaCorrectionalFacility	1718	0.67	ChippewaCorrectionalFacility	Kinross
Livingston	188482	74641.396	0.396	Hamburg	Livingston	WoodlandCenterCorrectionalFacility	334	0.56	WoodlandCenterCorrectionalFacility	Hamburg
Washtenaw	365961	170039.4646	0.4646	Ypsilanti	Washtenaw	Women'sHuronValleyCorrectionalFacility	1617	0.61	Women'sHuronValleyCorrectionalFacility	Ypsilanti

Fields

Search

- 1st Merge
- % of fully vaccina...
- Column1
- Column2
- Name
- Total Population
- 2nd Merge
- % of fully vaccina...
- City
- Column1
- Column2
- County
- Name
- Total Population
- Complete Merge
- (UTC)
- % of fully vaccina...
- City
- Column1
- Column2
- County
- Fully Vaccinated
- Name
- People Fully Vaccl...
- Population
- Total Population
- Sheet1
- Sheet1 (2)
- Sheet1 (3)
- City

Update available (click to download)

Type here to search

3:35 PM 5/21/2021

Complete Merge = NATURALLEFTOUTERJOIN('2nd Merge','Sheet1 (2)')

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File Home Help Table tools Column tools

Name Fully Vaccinated Format General Summarization Sum Data category Uncategorized

Data type Decimal number \$ - % Auto

Structure Formatting Properties Sort by column Sort Data groups Manage relationships New column Calculations

1 Complete Merge = NATURALLEFTOUTERJOIN('2nd Merge','Sheet1 (2)')

(UTC)	Population	People Fully Vaccinated	Fully Vaccinated	City	County	Name	Total Population	% of fully vaccinated population (Moderna or Janssen)	Column1	Column2
Baraga	8507	2573.302	0.3025	Baraga	Baraga	BaragaCorrectionalFacility	735	0.48	BaragaCorrectionalFacility	Baraga
Lenawee	98476	31846.323	0.3234	Adrian	Lenawee	GusHarrisonCorrectionalFacility	1856	0.56	GusHarrisonCorrectionalFacility	Adrian
Montcalm	63209	18345.290	0.2902	Carson City	Montcalm	CarsonCityCorrectionalFacility	2211	0.63	CarsonCityCorrectionalFacility	Carson City
Manistee	24444	10939.447	0.4475	Eastlake	Manistee	OakCorrectionalFacility	990	0.49	OakCorrectionalFacility	Eastlake
Ionla	64176	21099.328	0.3288	Ionla	Ionla	BelamyCreekCorrectionalFacility	1608	0.65	BelamyCreekCorrectionalFacility	Ionla
Ionla	64176	21099.328	0.3288	Ionla	Ionla	IonlaCorrectionalFacility	638	0.66	IonlaCorrectionalFacility	Ionla
Jackson	158913	56507.355	0.3556	Jackson	Jackson	G.RobertCottonCorrectionalFacility	1568	0.66	G.RobertCottonCorrectionalFacility	Jackson
Jackson	158913	56507.355	0.3556	Jackson	Jackson	CooperStreetCorrectionalFacility	1454	0.35	CooperStreetCorrectionalFacility	Jackson
Chippewa	37834	13464.355	0.3559	Kinross	Chippewa	KinrossCorrectionalFacility	998	0.63	KinrossCorrectionalFacility	Kinross
Branch	43584	12571.288	0.2884	Coldwater	Branch	LakelandCorrectionalFacility	1449	0.62	LakelandCorrectionalFacility	Coldwater
Alger	9194	3867.420	0.4206	Munising	Alger	AlgerCorrectionalFacility	754	0.53	AlgerCorrectionalFacility	Munising
Muskegon	173043	62866.363	0.3633	Muskegon Heights	Muskegon	ErnestC.BrooksCorrectionalFacility	1159	0.63	ErnestC.BrooksCorrectionalFacility	Muskegon Heights
Mackinac	10817	4653.430	0.4302	Marquette	Mackinac	MarquetteBranchPrison	587	0.74	MarquetteBranchPrison	Marquette
Muskegon	173043	62866.363	0.3633	Muskegon	Muskegon	MuskegonCorrectionalFacility	1263	0.63	MuskegonCorrectionalFacility	Muskegon
Griatot	41067	12703.309	0.3093	New Haven	Griatot	MacombCorrectionalFacility	1190	0.49	MacombCorrectionalFacility	New Haven
Ionla	64176	21099.328	0.3288	Ionla	Ionla	RichardA.HandionCorrectionalFacility	1132	0.7	RichardA.HandionCorrectionalFacility	Ionla
Luce	6364	1940.304	0.3049	Newberry	Luce	NewberryCorrectionalFacility	560	0.6	NewberryCorrectionalFacility	Newberry
Jackson	158913	56507.355	0.3556	Jackson	Jackson	CharlesEgelerReceptionandGuidanceCenter	1273	0.54	CharlesEgelerReceptionandGuidanceCenter	Jackson
Ionla	64176	21099.328	0.3288	Ionla	Ionla	MichiganReformatory	653	0.58	MichiganReformatory	Ionla
Griatot	41067	12703.309	0.3093	St. Louis	Griatot	St.LouisCorrectionalFacility	1072	0.38	St.LouisCorrectionalFacility	St. Louis
Jackson	158913	56507.355	0.3556	Jackson	Jackson	ParnallCorrectionalFacility	1560	0.58	ParnallCorrectionalFacility	Jackson
Saginaw	192778	69781.362	0.362	Tittabawassee	Saginaw	SaginawCorrectionalFacility	1447	0.74	SaginawCorrectionalFacility	Tittabawassee
Griatot	41067	12703.309	0.3093	St. Louis	Griatot	CentralMichiganCorrectionalFacility	2090	0.7	CentralMichiganCorrectionalFacility	St. Louis
Lapeer	88202	26293.298	0.2981	Lapeer	Lapeer	ThumbCorrectionalFacility	981	0.48	ThumbCorrectionalFacility	Lapeer
Chippewa	37834	13464.355	0.3559	Kinross	Chippewa	ChippewaCorrectionalFacility	1718	0.67	ChippewaCorrectionalFacility	Kinross
Livingston	188482	74641.39	0.39	Hamburg	Livingston	WoodlandCenterCorrectionalFacility	334	0.56	WoodlandCenterCorrectionalFacility	Hamburg
Washtenaw	365961	170039.464	0.4646	Ypsilanti	Washtenaw	Women'sHuronValleyCorrectionalFacility	1617	0.61	Women'sHuronValleyCorrectionalFacility	Ypsilanti

Table: Complete Merge (27 rows) Columns: Fully Vaccinated (17 distinct values)

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Final Product

Untitled - Power BI Desktop Luke By

File Home Help Table tools Column tools

Name: % of fully vaccinated... Format: Percentage

Data type: Decimal number

Summarization: Sum

Data category: Uncategorized

Sort by column: Sort

Data groups: Groups

Manage relationships: Relationships

New column: Calculations

Structure: 1 Complete Merge • NATURALLEFTOUTERJOIN('2nd Merge', 'Sheet1 (2)')

Formatting: Properties

(UTC)	Population	People Fully Vaccinated	Fully Vaccinated	City	County	Name	Total Population	% of fully vaccinated population (Moderna or Janssen)	Column1	Column2
Baraga	8507	2573.3025	30.25%	Baraga	Baraga	BaragaCorrectionalFacility	735	48.00%	BaragaCorrectionalFacility	Baraga
Lenawee	98474	31846.3234	32.54%	Adrian	Lenawee	GusHarrisonCorrectionalFacility	1856	56.00%	GusHarrisonCorrectionalFacility	Adrian
Montcalm	63209	18345.2902	29.02%	Carson City	Montcalm	CarsonCityCorrectionalFacility	2211	63.00%	CarsonCityCorrectionalFacility	Carson City
Manistee	24444	10939.4475	44.75%	Eastlake	Manistee	OaksCorrectionalFacility	990	49.00%	OaksCorrectionalFacility	Eastlake
Ionla	64176	21099.3288	32.88%	Ionla	Ionla	BelamyCreekCorrectionalFacility	1608	65.00%	BelamyCreekCorrectionalFacility	Ionla
Ionla	64176	21099.3288	32.88%	Ionla	Ionla	IonlaCorrectionalFacility	638	66.00%	IonlaCorrectionalFacility	Ionla
Jackson	158913	56507.3556	35.56%	Jackson	Jackson	G.RobertCottonCorrectionalFacility	1568	66.00%	G.RobertCottonCorrectionalFacility	Jackson
Jackson	158913	56507.3556	35.56%	Jackson	Jackson	CooperStreetCorrectionalFacility	1454	55.00%	CooperStreetCorrectionalFacility	Jackson
Chippewa	37834	13464.3559	35.59%	Kinross	Chippewa	KinrossCorrectionalFacility	998	63.00%	KinrossCorrectionalFacility	Kinross
Branch	43594	12571.2884	28.84%	Coldwater	Branch	LakeLandCorrectionalFacility	1449	62.00%	LakeLandCorrectionalFacility	Coldwater
Alger	9194	3567.4205	42.05%	Munising	Alger	AlgerCorrectionalFacility	754	53.00%	AlgerCorrectionalFacility	Munising
Muskegon	173043	62866.3633	36.33%	Muskegon Heights	Muskegon	EarnestC.BrooksCorrectionalFacility	1159	63.00%	EarnestC.BrooksCorrectionalFacility	Muskegon Heights
MacInac	10817	4653.4302	43.02%	Marquette	MacInac	MarquetteBranchPrison	587	74.00%	MarquetteBranchPrison	Marquette
Muskegon	173043	62866.3633	36.33%	Muskegon	Muskegon	MuskegonCorrectionalFacility	1263	65.00%	MuskegonCorrectionalFacility	Muskegon
Gratiot	41067	12703.3093	30.93%	New Haven	Gratiot	MacombCorrectionalFacility	1190	49.00%	MacombCorrectionalFacility	New Haven
Ionla	64176	21099.3288	32.88%	Ionla	Ionla	RichardA.HandsonCorrectionalFacility	1132	70.00%	RichardA.HandsonCorrectionalFacility	Ionla
Luce	6364	1940.3048	30.49%	Newberry	Luce	NewberryCorrectionalFacility	560	60.00%	NewberryCorrectionalFacility	Newberry
Jackson	158913	56507.3556	35.56%	Jackson	Jackson	CharlesEglerReceptionandGuidanceCenter	1273	54.00%	CharlesEglerReceptionandGuidanceCenter	Jackson
Ionla	64176	21099.3288	32.88%	Ionla	Ionla	MichiganReformatory	653	58.00%	MichiganReformatory	Ionla
Gratiot	41067	12703.3093	30.93%	St. Louis	Gratiot	St.LouisCorrectionalFacility	1072	38.00%	St.LouisCorrectionalFacility	St. Louis
Jackson	158913	56507.3556	35.56%	Jackson	Jackson	ParnalCorrectionalFacility	1380	58.00%	ParnalCorrectionalFacility	Jackson
Saginaw	192778	69781.362	36.20%	Tittabawassee	Saginaw	SaginawCorrectionalFacility	1447	74.00%	SaginawCorrectionalFacility	Tittabawassee
Gratiot	41067	12703.3093	30.93%	St. Louis	Gratiot	CentralMichiganCorrectionalFacility	2090	70.00%	CentralMichiganCorrectionalFacility	St. Louis
Lapeer	88202	26293.2981	29.81%	Lapeer	Lapeer	ThumbCorrectionalFacility	981	48.00%	ThumbCorrectionalFacility	Lapeer
Chippewa	37834	13464.3559	35.59%	Kinross	Chippewa	ChippewaCorrectionalFacility	1718	67.00%	ChippewaCorrectionalFacility	Kinross
Livingston	188482	74641.396	39.60%	Hamburg	Livingston	WoodlandCenterCorrectionalFacility	334	56.00%	WoodlandCenterCorrectionalFacility	Hamburg
Washtenaw	365961	170039.4646	46.46%	Ypsilanti	Washtenaw	Women'sHuronValleyCorrectionalFacility	1617	61.00%	Women'sHuronValleyCorrectionalFacility	Ypsilanti

Fields

Search

- 1st Merge
- 2nd Merge
- Complete Merge
- (UTC)
- % of fully vaccinated population (Moderna or Janssen)
- City
- Column1
- Column2
- County
- Fully Vaccinated
- Name
- People Fully Vaccinated
- Population
- Total Population
- Sheet1
- Sheet1 (2)
- (UTC)
- Fully Vaccinated
- People Fully Vaccinated
- Population
- Sheet1 (3)
- Table 1

Table: Complete Merge (27 rows) Column: % of fully vaccinated population (Moderna or Janssen) (17 distinct values)

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Creating Visuals based on the Data Sets

Step 10 Slicers and Tables

- Insert a slicer in the center middle of the visual tab  and drag the "Name" column from the "Complete Merge" file to the field bar and opt to make the list a dropdown menu.
- Repeat this process but instead drag the "County" option into the field option. Move this slicer to the right of the last one.
- Select the Table option and insert Name, County, and Total Population into the values field. (Refer to pictures for all slicer and table placement)

Workshop Test Data - Power BI Desktop

File Home Insert Modeling View Help Format Data / Drill

Clipboard: Paste, Cut, Copy, Format painter

Data: Get data, Excel, Power BI datasets, SQL Server, Enter data, Recent sources

Queries: Transform data, Refresh

Visuals: New visual, Text box, More visuals

Calculations: New measure, Quick measure

Share: Publish

Select or drag fields to populate this visual

Filters

Filters on this visual: Add data fields here

Filters on this page: Add data fields here

Filters on all pages: Add data fields here

Visualizations

Field: Add data fields here

Drill through

Cross-report

Keep all filters: On

Add drill-through fields here

Fields

Complete Merge

- ☐ (UTC)
- ☐ % of fully v...
- ☐ City Name
- ☐ Column1
- ☐ Column3
- ☐ County(1)
- ☐ Name
- ☐ People Full...
- ☐ Percent Full...
- ☐ Population
- ☐ Total Popul...

Correctional Facil...

First Merge

List of municipali...

Table 1

Table 4

- ☐ (UTC)
- ☐ People Full...
- ☐ Percent Full...
- ☐ Population

Vaccination of de...

Page 1 of 1

Type here to search

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10:07 AM 5/18/2021

Workshop Test Data - Power BI Desktop

File Home Insert Modeling View Help Format Data / Drill

Clipboard: Paste, Copy, Format painter

Data: Get data, Excel, Power BI datasets, SQL Server, Enter data, Recent sources

Queries: Transform data, Refresh

Visuals: New visual, Text box, More visuals

Calculations: New measure, Quick measure

Share: Publish

Visual: List, Dropdown

Filters: Search, Filters on this visual, Name is (All), Add data fields here, Filters on this page, Add data fields here, Filters on all pages, Add data fields here

Visualizations: Search, Visualizations, Fields, Complete Merge, (UTC), % of fully v..., City Name, Column1, Column3, County[1], Name, People Full..., Percent Full..., Population, Total Popul..., Correctional Faci..., First Merge, List of municipalit..., Table 1, Table 4, (UTC), People Full..., Percent Full..., Population, Vaccination of de...

Drill through: Cross-report, Off, Keep all filters, On, Add drill-through fields here

Page 1 of 1

Type here to search

Update available (click to download)

10:08 AM 5/18/2021

Workshop Test Data - Power BI Desktop

File Home Insert Modeling View Help Format Data / Drill

Clipboard: Paste, Cut, Copy, Format painter

Data: Get data, Excel, Power BI datasets, SQL Server, Enter data, Recent sources

Queries: Transform data, Refresh

Visuals: New visual, Text box, More visuals

Calculations: New measure, Quick measure

Share: Publish

Name: All

County[1]

- ☐ Alger
- ☐ Baraga
- ☐ Branch
- ☐ Chippewa
- ☐ Gratiot
- ☐ Ionia
- ☐ Jackson
- ☐ Lapeer
- ☐ Lenawee
- ☐ Livingston
- ☐ Luce
- ☐ Mackinac
- ☐ Manistee
- ☐ Montcalm

List

Dropdown

Filters

Search

Filters on this visual

County[1]
is (All)

Add data fields here

Filters on this page

Add data fields here

Filters on all pages

Add data fields here

Visualizations

Field

County[1]

Drill through

Cross-report

Off

Keep all filters

On

Add drill-through fields here

Fields

Search

Complete Merge

- ☐ (UTC)
- ☐ % of fully v...
- ☐ City Name
- ☐ Column1
- ☐ Column3
- ☒ County[1]
- ☐ Name
- ☐ People Full...
- ☐ Percent Full...
- ☐ Population
- ☐ Total Popul...

Correctional Facil...

First Merge

List of municipalit...

Table 1

Table 4

Vaccination of de...

Page 1 of 1

Page 1

Update available (click to download)

10:12 AM 5/18/2021

Workshop Test Data - Power BI Desktop

File Home Insert Modeling View Help Format Data / Drill

Clipboard: Paste, Cut, Copy, Format painter

Data: Get data, Excel, Power BI datasets, SQL Server, Enter data, Recent sources

Queries: Transform data, Refresh

Visuals: New visual, Text box, More visuals

Calculations: New measure, Quick measure

Share: Publish

Name: All County[1]: All

Filters on this visual: County[1] is (All), Name is (All), Total Population is (All)

Visualizations: Bar chart, Line chart, Pie chart, Map, Table, Matrix, Combo chart, Gauge, KPI, Scorecard, Funnel, Treemap, Sunburst, Hierarchical chart, Scatter plot, Area chart, Stacked bar chart, Stacked area chart, Waterfall chart, Bullet chart, Card, Table, Matrix, Drill-through, Cross-report, Off, On

Fields: Complete Merge, County[1], Name, Total Population, County[1], Total Population, Drill through, Cross-report, Off, On, Add drill-through fields here

Page 1 of 1

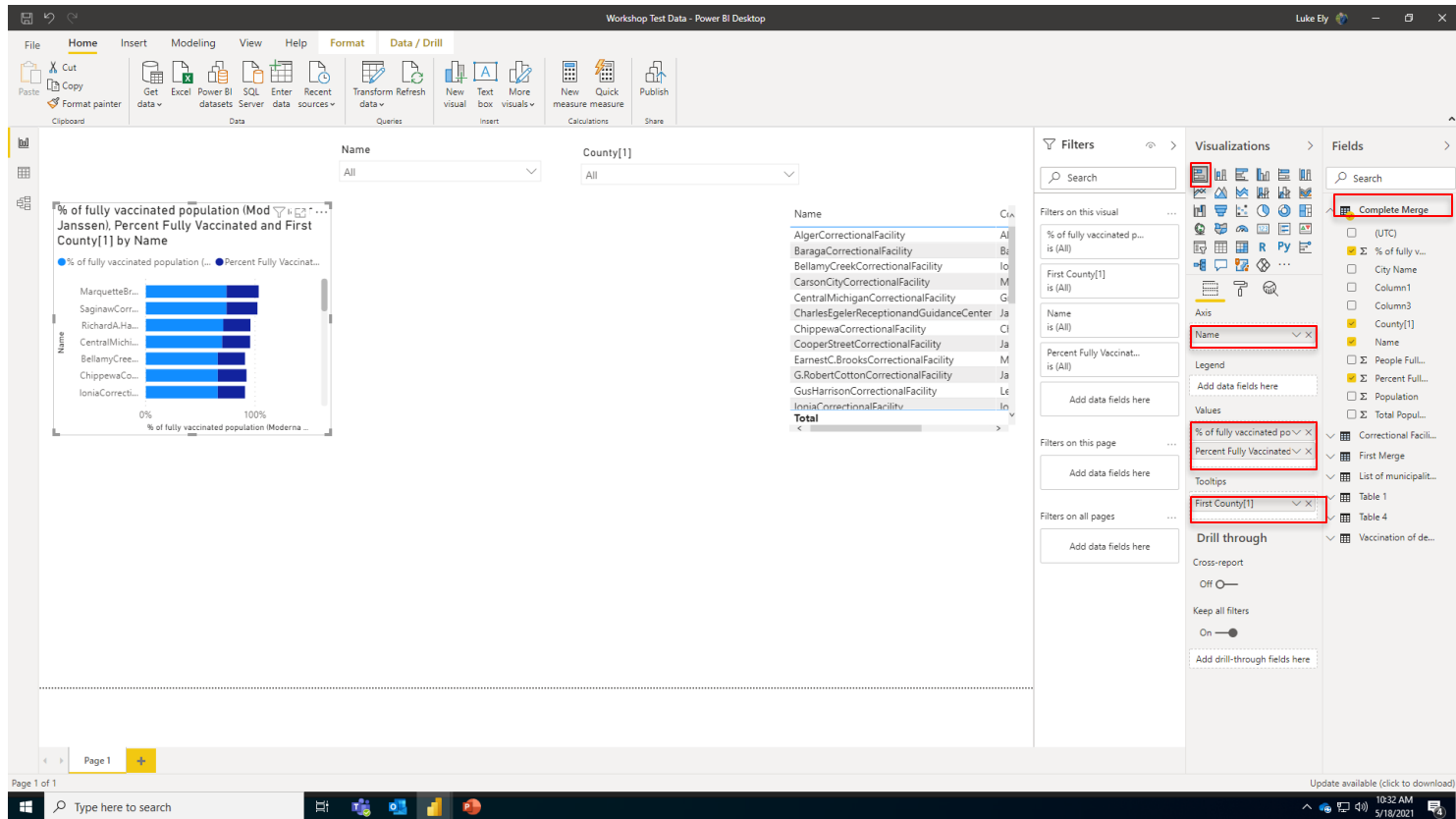
Type here to search

Update available (click to download)

10:15 AM 5/18/2021

Step 11 Graphs and Charts

- Select the graph visualization option put Name as the axis, People and Percent fully vaccinated in the Values, and County as the Tooltips.
- Go into the table "Sheet1 (2)" and make the last column a Percent
- Select the graph option again and put (UTC) on the axis and People fully vaccinated on the values tab.



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File Home Insert Modeling View Help Format Data / Drill

Clipboard Copy Paste Format painter Get data Excel Power BI datasets SQL Server Enter data Recent sources Transform data Queries Refresh New visual Text box More visuals Calculations New measure Quick measure measure Publish

Name County

All All

% of fully vaccinated population (Moderna or Janssen), Fully Vaccinated and First County by Name

• % of fully vaccinated population (Moderna... • Fully Vaccinated

MarquetteBr...
SaginawCorr...
CentralMichi...
RichardALHa...
ChippewaCo...
G.RobertCott...
IoniaCorrecti...

0% 100%

% of fully vaccinated population (Moderna...

Fully Vaccinated by (UTC)

Leelanau
Emmet
Grand Traverse
Benzie
Washtenaw
Charlevoix
Presque Isle
Manistee
Oakland
Marquette

0% 50%

Fully Vaccinated

Name	County	Total Population
AlgerCorrectionalFacility	Alger	754
BaragaCorrectionalFacility	Baraga	735
BellamyCreekCorrectionalFacility	Ionia	1608
CarsonCityCorrectionalFacility	Montcalm	2211
CentralMichiganCorrectionalFacility	Grafton	2090
CharlesEgelerReceptionandGuidanceCenter	Jackson	1273
ChippewaCorrectionalFacility	Chippewa	1718
CooperStreetCorrectionalFacility	Jackson	1454
EarnestC.BrooksCorrectionalFacility	Muskegon	1159
G.RobertCottonCorrectionalFacility	Jackson	1568
GusHarrisonCorrectionalFacility	Lenawee	1856
IoniaCorrectionalFacility	Ionia	638
Total		32697

Filters

Search

Filters on this visual

(UTC)
is (All)

Fully Vaccinated
is (All)

Add data fields here

Filters on this page

Add data fields here

Filters on all pages

Add data fields here

Visualizations

Search

Axis

(UTC)

Legend

Add data fields here

Values

Fully Vaccinated

Fields

Search

1st Merge
2nd Merge
Complete Merge
Sheet1
Sheet1 (2)
Sheet1 (3)
Table 1

UTC

Fully Vaccin...

People Full...

Population

Tooltips

Add data fields here

Drill through

Cross-report

Off

Keep all filters

On

Add drill-through fields here

Page 1 of 1

Type here to search

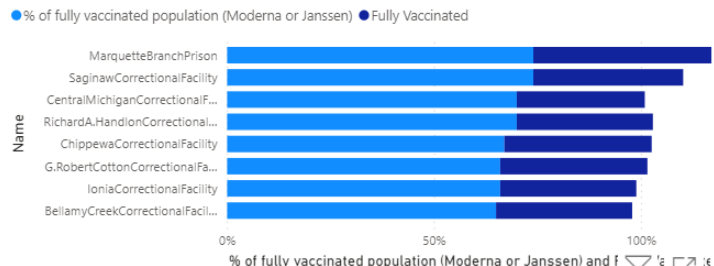
Update available (click to download)

4:16 PM
5/21/2021

These columns come from Sheet1 (2)

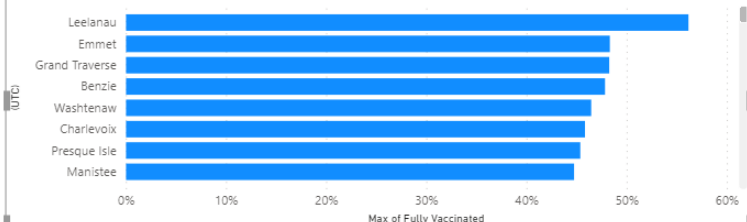
County: All | Name: All

% of fully vaccinated population (Moderna or Janssen), Fully Vaccinated and First County by Name



Name	County	Total Population
AlgerCorrectionalFacility	Alger	754
BaragaCorrectionalFacility	Baraga	735
BellamyCreekCorrectionalFacility	Ionia	1608
CarsonCityCorrectionalFacility	Montcalm	2211
CentralMichiganCorrectionalFacility	Gratiot	2090
CharlesEgelerReceptionandGuidanceCenter	Jackson	1273
ChippewaCorrectionalFacility	Chippewa	1718
CooperStreetCorrectionalFacility	Jackson	1454
EarnestC.BrooksCorrectionalFacility	Muskegon	1159
G.RobertCottonCorrectionalFacility	Jackson	1568
G.W.HarrisonCorrectionalFacility	Leelanau	1055
Total		32697

Fully Vaccinated by (UTC)



Visualizations

Fields

Remove field

Rename for this visual

Move to

Sum

Average

Minimum

Maximum

Count (Distinct)

Count

Standard deviation

Variance

Median

Show value as

New quick measure

Max of Fully Vaccinated

County

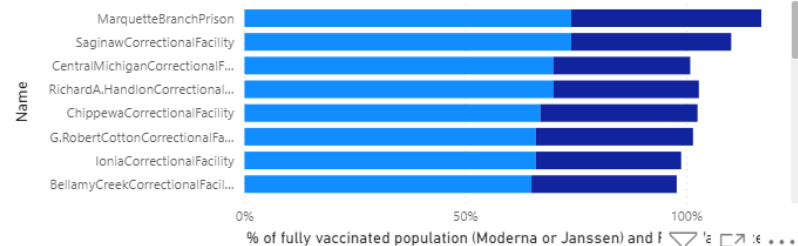
All ▾

Name

All ▾

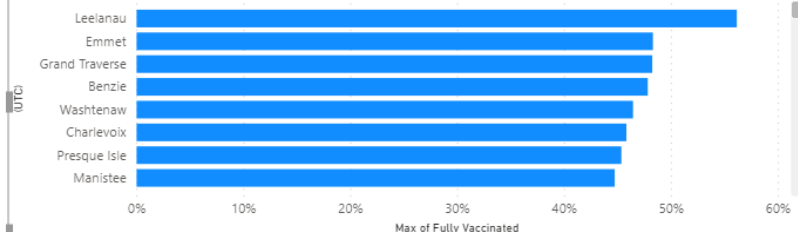
% of fully vaccinated population (Moderna or Janssen), Fully Vaccinated and First County by Name

● % of fully vaccinated population (Moderna or Janssen) ● Fully Vaccinated



Name	County	Total Population
AlgerCorrectionalFacility	Alger	754
BaragaCorrectionalFacility	Baraga	735
BellamyCreekCorrectionalFacility	Ionia	1608
CarsonCityCorrectionalFacility	Montcalm	2211
CentralMichiganCorrectionalFacility	Gratiot	2090
CharlesEgelerReceptionandGuidanceCenter	Jackson	1273
ChippewaCorrectionalFacility	Chippewa	1718
CooperStreetCorrectionalFacility	Jackson	1454
EarnestC.BrooksCorrectionalFacility	Muskegon	1159
G.RobertCottonCorrectionalFacility	Jackson	1568
GusHarmonCorrectionalFacility	Leelanau	1856
Total		32697

Fully Vaccinated by (UTC)



<
 Visualizations
 >

Filters

Search

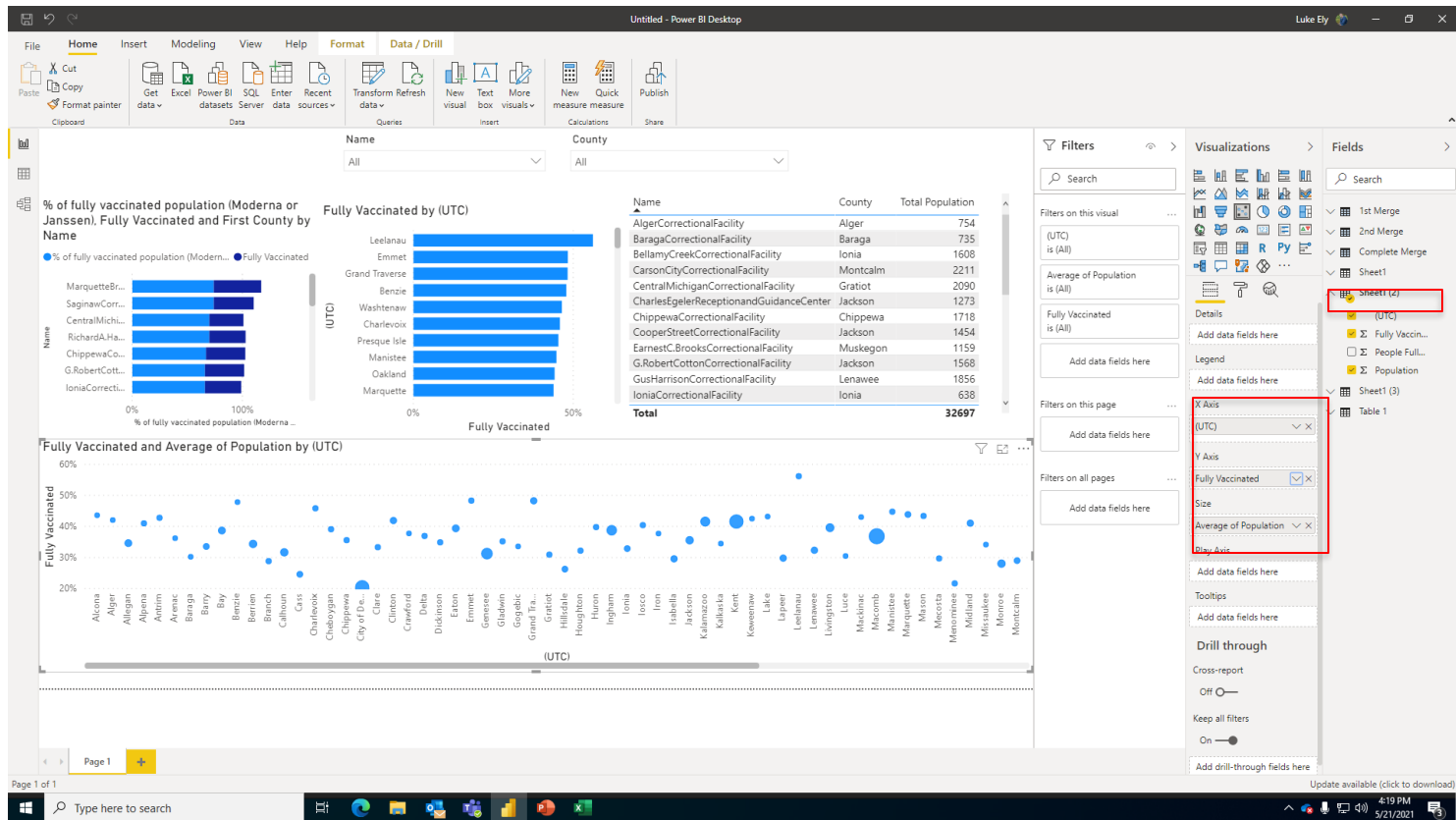
Title text
 Fully Vaccinated by

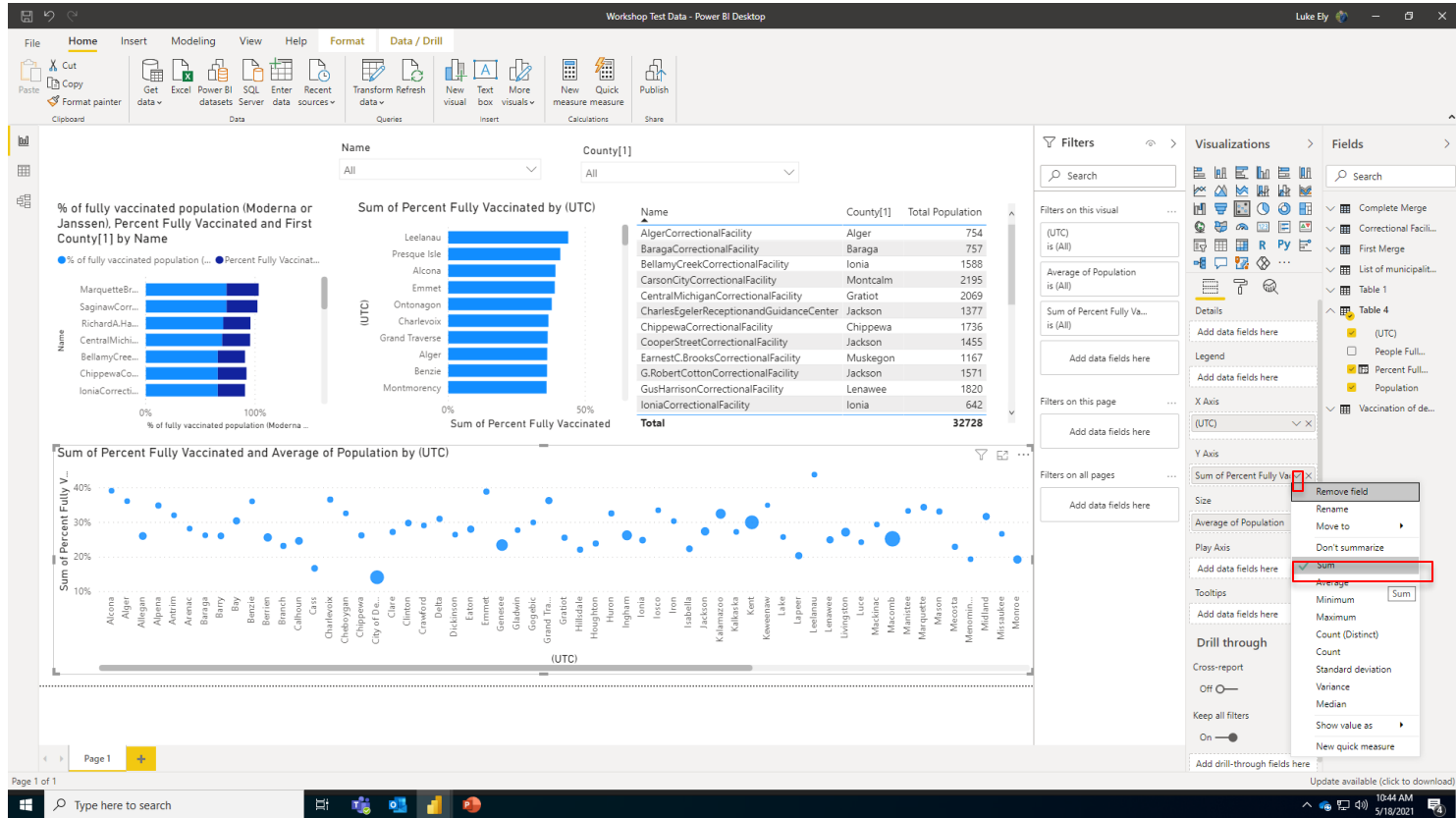
Word wrap
 On

Font color

Step 11 Continued: Scatter Chart

- Select the scatter chart option
- Using "Sheet1 (2)" put UTC as the x-axis, Fully Vaccinated as the y-axis, and Population for size.
- Using the drop-down menu change the y-axis to sum and the size to average.
- The size of the dots will be reflective of the various populations for each county





Step 12: Set up a Final Relationship to Link all the Visuals Together for Filtering

- Go to the relationships tab and open manage relationships. Create a relationship between "Sheet1 (2)" and "Complete Merge" by the "(UTC)" and "(UTC)" columns.
- Change the Cross-filter Direction to the both option
- Check the "Apply Security Filter in both directions option" then hit OK to complete the relationship.

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File Home Help

Clipboard Data Queries Relationships Security Q&A Language Linguistic schema Q&A Share

Get data Excel Power BI datasets SQL Server Enter data Recent sources Transform Refresh data Manage relationships Manage roles View as Q&A Language Linguistic schema Publish

1st Merge

- % of fully vaccinated p...
- Column1
- Column2
- Name
- Total Population

2nd Merge

- % of fully vaccinated p...
- City
- Column1
- Column2
- County
- Name
- Total Population

Complete Merge

- (UTC)
- % of fully vaccinated ...
- City
- Column1
- Column2
- County
- Fully Vaccinated

Properties

General

Add related tables

Manage relationships

Select columns

Select measures

Refresh data

Delete from model

Hide in report view

Synonyms

complete merge, merge

Row label

Select a row label

Is hidden

No

Fields

Search

1st Merge

2nd Merge

Complete Merge

Sheet1

Sheet1 (2)

Sheet1 (3)

Table 1

All tables

Type here to search

Update available (click to download)

3:48 PM 5/21/2021

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Paste Cut Copy Get data Excel Power BI datasets SQL Server Enter data Recent sources Transform Refresh data Queries Manage relationships Manage roles View as Q&A Language Linguistic schema Publish Share

Clipboard Data Queries Relationships Security Q&A Language Linguistic schema Publish Share

1st Merge Complete Merge

Manage relationships

Active	From Table (Column)	To Table (Column)
☒	1st Merge (Column2)	Sheet1 (3) (City)
☒	2nd Merge (County)	Sheet1 (2) (UTC)
☒	Table 1 (Column1)	Sheet1 (Name)

New... Autodetect... Edit... Delete

Close

Properties

General

Name
Complete Merge

Description
Enter a description

Synonyms
complete merge, merge

Row label
Select a row label

Is hidden
No

Fields

Search

- 1st Merge
- 2nd Merge
- Complete Merge
- Sheet1
- Sheet1 (2)
- Sheet1 (3)
- Table 1

All tables

Type here to search

Update available (click to download)

3:49 PM 5/21/2021

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File Home Help

Paste Cut Copy Get data Excel Power BI datasets SQL Server Enter data Recent sources Transform Refresh data Queries Manage relationships Manage roles View as Q&A Language Linguistic schema Publish

Clipboard Data Queries Relationships Security Q&A Share

1 vaccinated 1 Sheet1 (3) City County Table 1

Create relationship

Select tables and columns that are related.

Complete Merge

Column1	Column2	(UTC)	Population	People Fully Vaccinated	Fully Vaccinated
BaragaCorrectionalFacility	Baraga	Baraga	8507	2573.3025	30.25% Bar
GusHarrisonCorrectionalFacility	Adrian	Lenawee	98474	31846.3234	32.34% Ad
CarsonCityCorrectionalFacility	Carson City	Montcalm	63209	18345.2902	29.02% Car

Sheet1 (2)

(UTC)	Population	People Fully Vaccinated	Fully Vaccinated
Alicona	10364	4519.436	43.61%
Aiger	9194	3867.4206	42.06%
Allegan	115250	39914.3463	34.63%

Cardinality: Many to one (*:1)

☒ Make this relationship active

☐ Assume referential integrity

Cross filter direction: Both

☒ Apply security filter in both directions

OK Cancel

Properties

General

Name: Complete Merge

Description: Enter a description

Synonyms: complete merge, merge

Row label: Select a row label

Is hidden: No

Fields

Search

- 1st Merge
- 2nd Merge
- Complete Merge
- Sheet1
- Sheet1 (2)
- Sheet1 (3)
- Table 1

All tables

Type here to search

Update available (click to download)

3:50 PM 5/21/2021

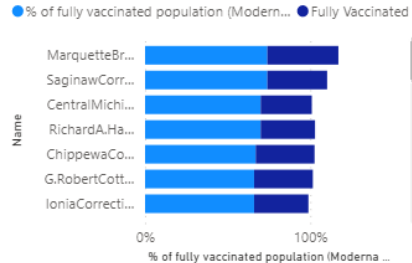
Wrap up: Dashboard of Covid-19 Vaccination Analytics



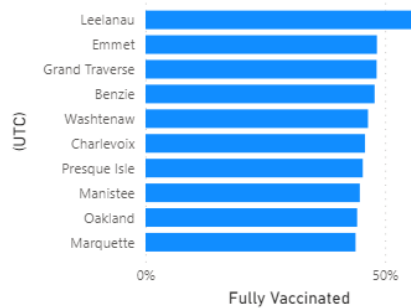
Name: County:

COVID Hands-on Workshop

% of fully vaccinated population (Moderna or Janssen), Fully Vaccinated and First County by Name

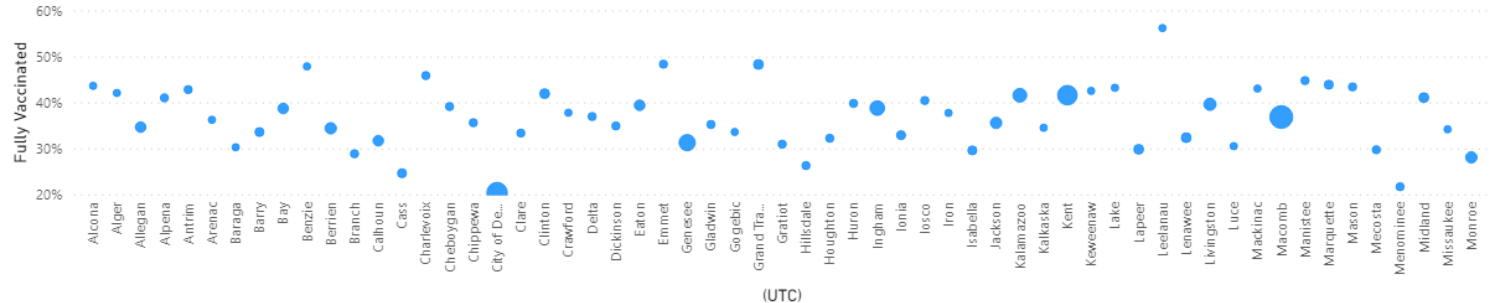


Fully Vaccinated by (UTC)



Name	County	Total Population
AlgerCorrectionalFacility	Alger	754
BaragaCorrectionalFacility	Baraga	735
BellamyCreekCorrectionalFacility	Ionia	1608
CarsonCityCorrectionalFacility	Montcalm	2211
CentralMichiganCorrectionalFacility	Gratiot	2090
CharlesEgelerReceptionandGuidanceCenter	Jackson	1273
ChippewaCorrectionalFacility	Chippewa	1718
CooperStreetCorrectionalFacility	Jackson	1454
EarnestC.BrooksCorrectionalFacility	Muskegon	1159
G.RobertCottonCorrectionalFacility	Jackson	1568
GusHarrisonCorrectionalFacility	Lenawee	1856
IoniaCorrectionalFacility	Ionia	600
Total		32697

Fully Vaccinated and Average of Population by (UTC)



Thank you!