Welcome

Onyeka Onyekwelu
Strategic Engagement Manager – London Office of Technology and Innovation (LOTI)

Rebecca Mackenzie
Account Technology Strategist, Local Regional Government – Microsoft

What’s planned for today?

Morning Session: 10am-11.30am

- Introduction by Rebecca and Onyeka
- Context for today’s challenge: Jay
    - London Boroughs: What are they doing with data?
    - IG, data quality
- PowerBI Overview, Demo and Q&A with Nat
- Logistics with sign-in: Nat, Jess, Anna

Time to complete the challenge: 11.30am-2pm

Presenting back your work: 2-3pm

- Key Takeaways and Learnings from todays session: Onyeka, Becky, Jess, Anna
- 5 Presenters share their work (2-3minutes): Onyeka
- Further Learning Resources & Learning Pathways: Nat

The role of data in Local Authority COVID-19 responses

Jay Saggar, LOTI

Local Authority data teams have worked behind the scenes to support their organisations strategic and frontline responses to COVID-19

- Daily Dashboard of national figures for COVID-19 tests, cases, deaths for the UK
- Latest statistics for NHS Test and Trace (England) and coronavirus testing (UK) - 9 September
- Daily progression dashboard shows both the rate of triage for coronavirus (COVID-19) using NHS Pathways, and the number of people confirmed by a lab to have coronavirus (a positive test)
- Daily coronavirus (COVID-19) shielded patient dashboard is enabling partner organisations across government to support and protect those who need shielding at this time
- All other NHS coronavirus dashboards
- Weekly PHE Coronavirus Disease 2019 (COVID -19) Surveillance Report
- ONS, Death registrations and occurrences by local authority

Data in the public domain

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- **NHS digital portal** (SEFT) - allows access to Tableau dashboards for Pillar 2 testing, Cases, 111 Call triaging and SPL list to postcode district.

- **PHE Power BI dashboard** - Provides access to CO-VIS (the interactive map), line list patient level data on infection and contact tracing.

- **PHE COVID-19 Local Authorities Report Store**
  - PHE, Regional Situational Awareness Report
  - Daily Exceedance Report
  - PHE Daily LA report

- **NHS Test and Trace web-based tool (formerly known as CTAS) -** the number of confirmed cases and contacts reported to the NHS Test and Trace system

- **NSSS** opt in for support service for Clinically Extremely Vulnerable (formally Shielding cohort). Run by GDS and MHCLG

Restricted Data

Dashboards:

- Dashboard to inform operational planning
  - Updated daily
  - Data sets: Local outbreak and NHS Line list (restricted)

- Dashboard to inform SLT and Members of trends and key issues
  - Updated weekly
  - Data set: a mix of restricted and public data

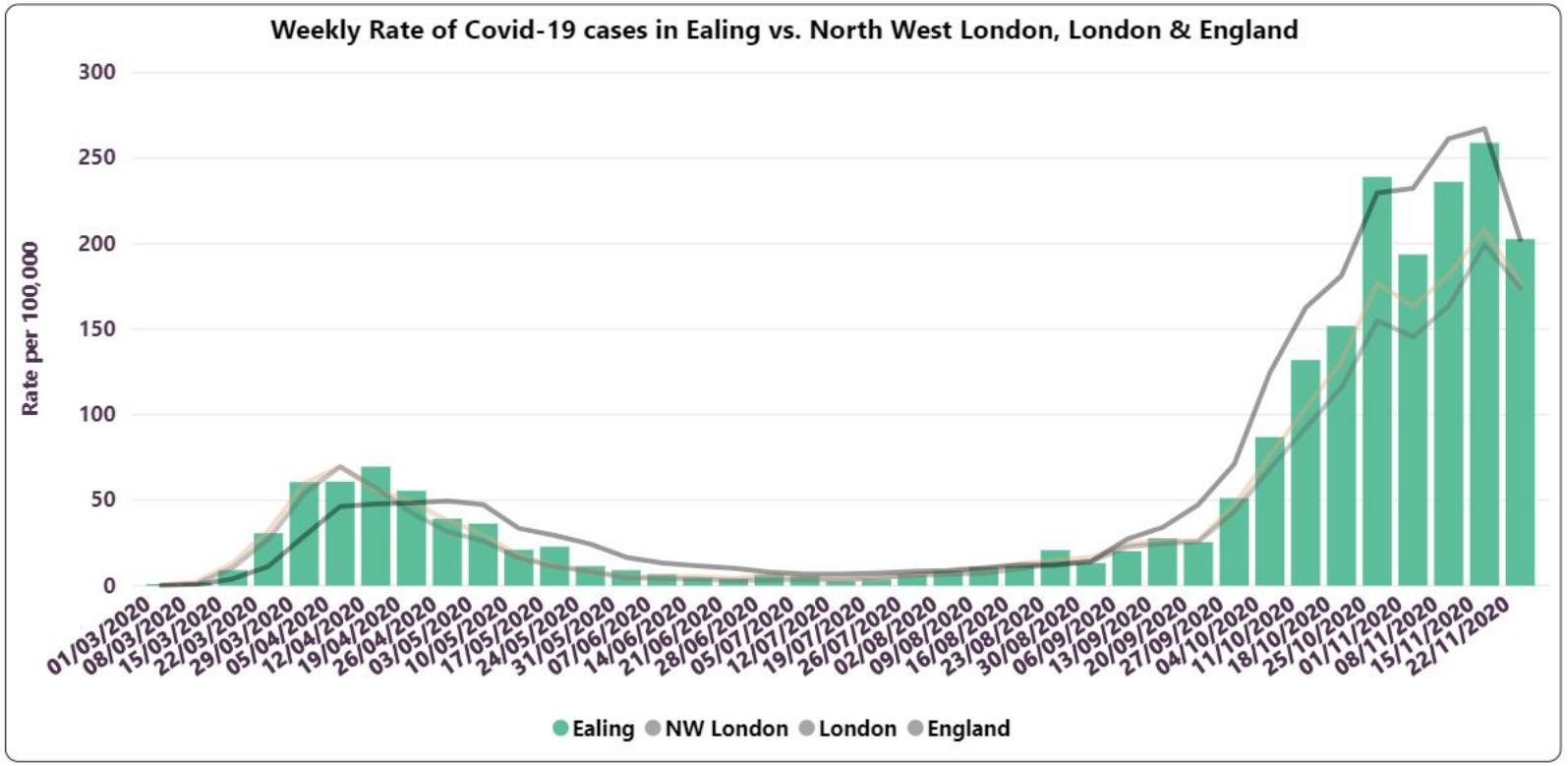
- Public dashboards for resident communication on council websites
  - Updated weekly
  - Data sets: public Covid-19 dashboard data

How have Boroughs used COVID-19 data

Updated on: 26 November 2020

Ealing Covid-19 Dashboard

Weekly Cases (data up to: 22/11/2020)



Click on any bar to view that week's figures; click on the same bar again or in any blank space in the chart to view total figures

Period Covered
16/11/2020 - 22/11/2020

Click to switch between weekly and total figures → Latest week

	Number of Infections	Rate per 100,000
Ealing	693	202.7
NW London	3,718	176.7
London	15,616	174.2
England	113,921	202.4

Source: PHE - https://coronavirus.data.gov.uk

693 people were reported as having Covid-19 in Ealing during the week 16 - 22 November, taking the total number of people infected throughout the pandemic to 7,381. The weekly

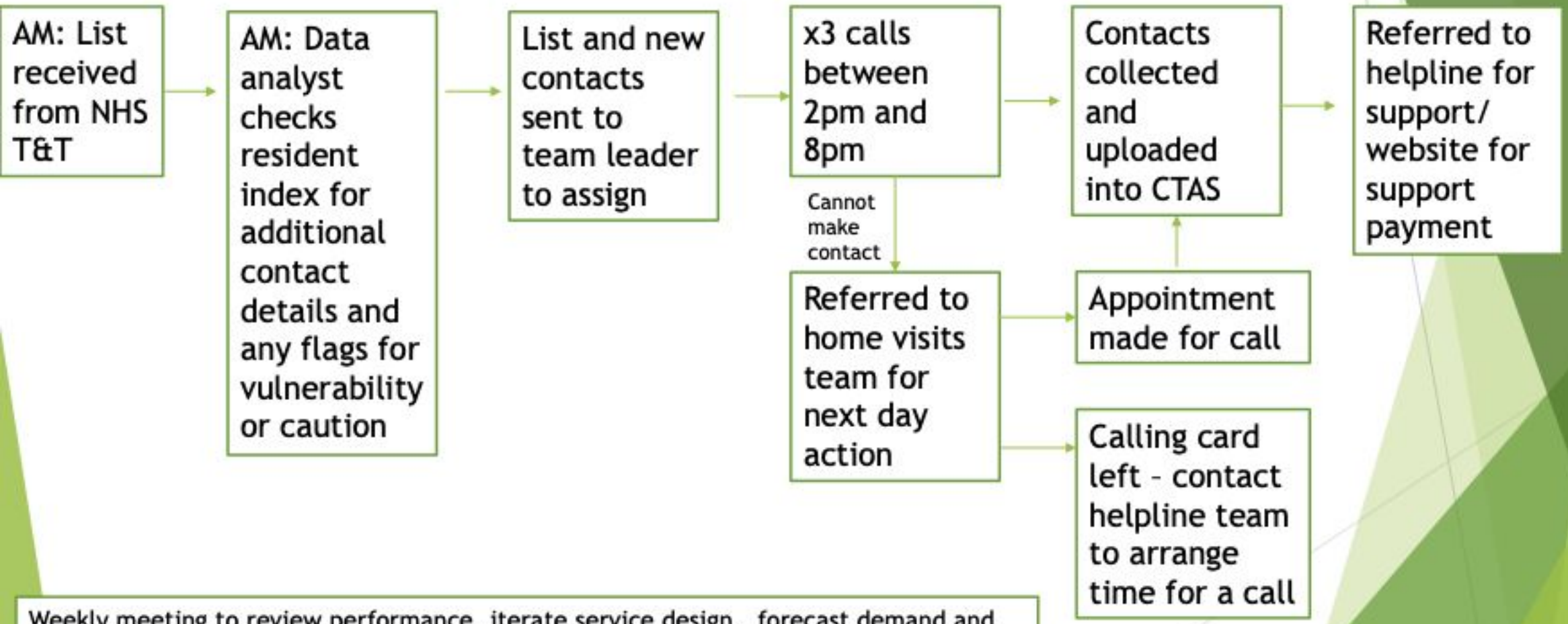
Covid-19 cases by London Borough

Contact Tracing

- Receive contact tracing data from PHE
- Enrich using other council data sources such as CTAX
- Contact those who the central tracing service have not reached after 24 hours
- Offer support to those required to isolate
- Update central government contact tracing database (CTAS)

Contact Tracing

Local contact tracing service design (7 days a week)



Weekly meeting to review performance, iterate service design, forecast demand and schedule resources. Dedicated service manager, team leaders and scheduler supported by flexible pool of staff to cope with different levels of demand

Supporting those Shielding and isolating

Shielding

- Receive SPL and NSSS weekly
- Process additions and subtractions
- Notify adult/children's social services if required
- Schedule welfare calls and record needs
- Refer to correct pathway or service
    - Food support
    - Prescriptions delivery
    - Finance/benefits support
    - Housing support

Supporting those shielding and isolating

Managing and mitigating local outbreaks

- Process daily and weekly public and private PHE data sets
- Present insights to inform outbreak management
- Supporting local business
- Monitor additional data sources such as o2, Mastercard and CCTV data to evaluate effectiveness of interventions

Managing and mitigating local outbreaks

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Challenges

- New and changing policy
- Data Governance
  - Handling new data sets
  - Unprecedented use cases
- Data quality
  - Data gathered from multiple evolving sources
  - Multiple transformations through transfers and analysis
  - Deliberate errors in some contact tracing data
- Missing and inadequate data documentation
- Matching data across multiple sources
- APIs for automating data downloads

- Mass Testing
- New (and better!) central Test and Trace system from January
- Vaccine distribution
- Covid Recovery

Coming next

Microsoft

Power BI – From Data to Decisions for Everyone

Nat Van Gulck
nathaniel.vangulck@microsoft.com
Power BI Technical Specialist

Why modern Business Intelligence?

- **Gut feel can no longer be trusted. Pause. Analyse. Act.** Changing landscape - COVID-19 and Brexit mean staff experience and gut feel cannot be relied on to make decisions. Big and small decisions must be supported by sound data analysis by and for *everyone*.
- **Let analysts analyse.** No more analysts updating reports manually by exporting data from backend systems, copying and pasting cells from one Excel workbook to another.
- **No more rear-view mirror "monthly" reports.** Instant web and mobile access to up-to-date interactive reports\dashboards is needed to create a genuine Data Culture.
- **Integration with productivity tools.** Users expect insights at their fingertips not just in yet another website.
- **Single version of the truth.** Users need to discover and rapidly slice-and-dice datasets that have been certified for use by data stewards.
- **Cross-agency work.** Local Government, NHS and other agency need to work together to improve outcomes for citizens. Secure online report sharing is a key part of bridging the divide.

Data Insights

Traditionally we've seen an unhealthy tug of war between centralised and decentralised Business Intelligence.

- **Centralised**: The BI team or IT takes ownership of reporting and publishes out to Business Users. This leads to bottlenecks, inflexibility and frustration.

- **Decentralised**: Business users take matters in their own hands, extract data as flat files from core systems and create\share disconnected Excel workbooks. This leads to multiple versions of the truth, unsafe data practices and wasted effort.

- **Best of both worlds**: What if business users can be empowered to derive and share their own data insights in a governed and secure fashion?

Microsoft Power Platform

The low-code platform that spans Office 365, Azure, Dynamics 365, and standalone applications

Innovation anywhere. Unlocks value everywhere.

Power BI

Business analytics

Power Apps

Application development

Power Automate

Process automation

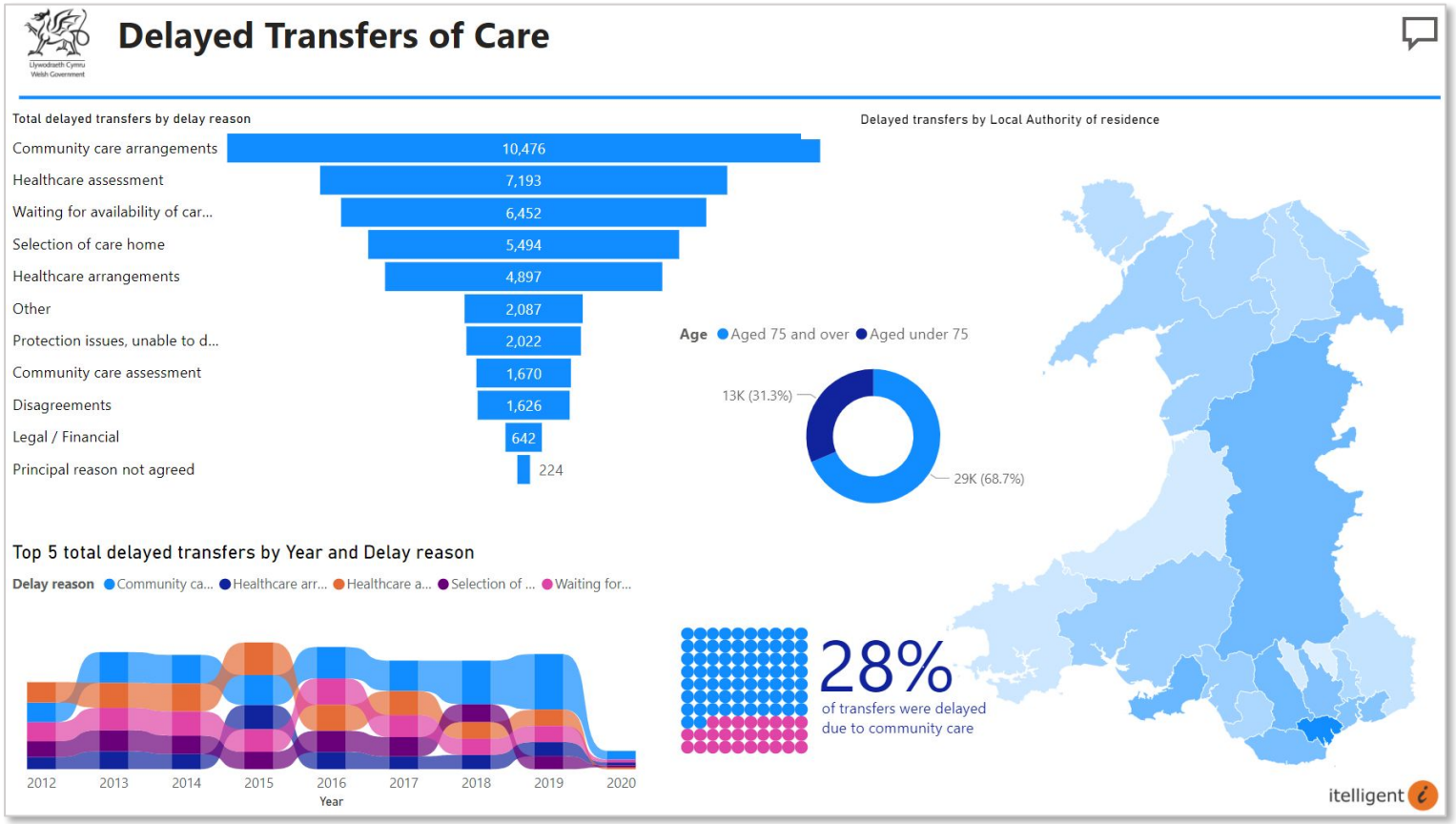
Power Virtual Agents

Intelligent chat bots

Power BI: the bridge between data and decisions

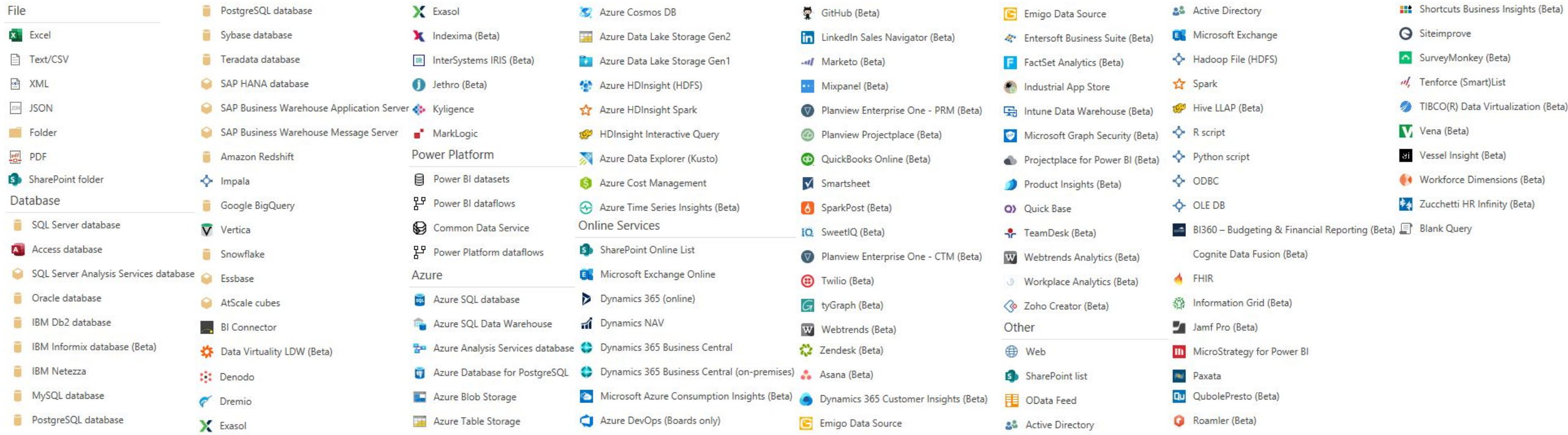
Cloud data

On-premises data



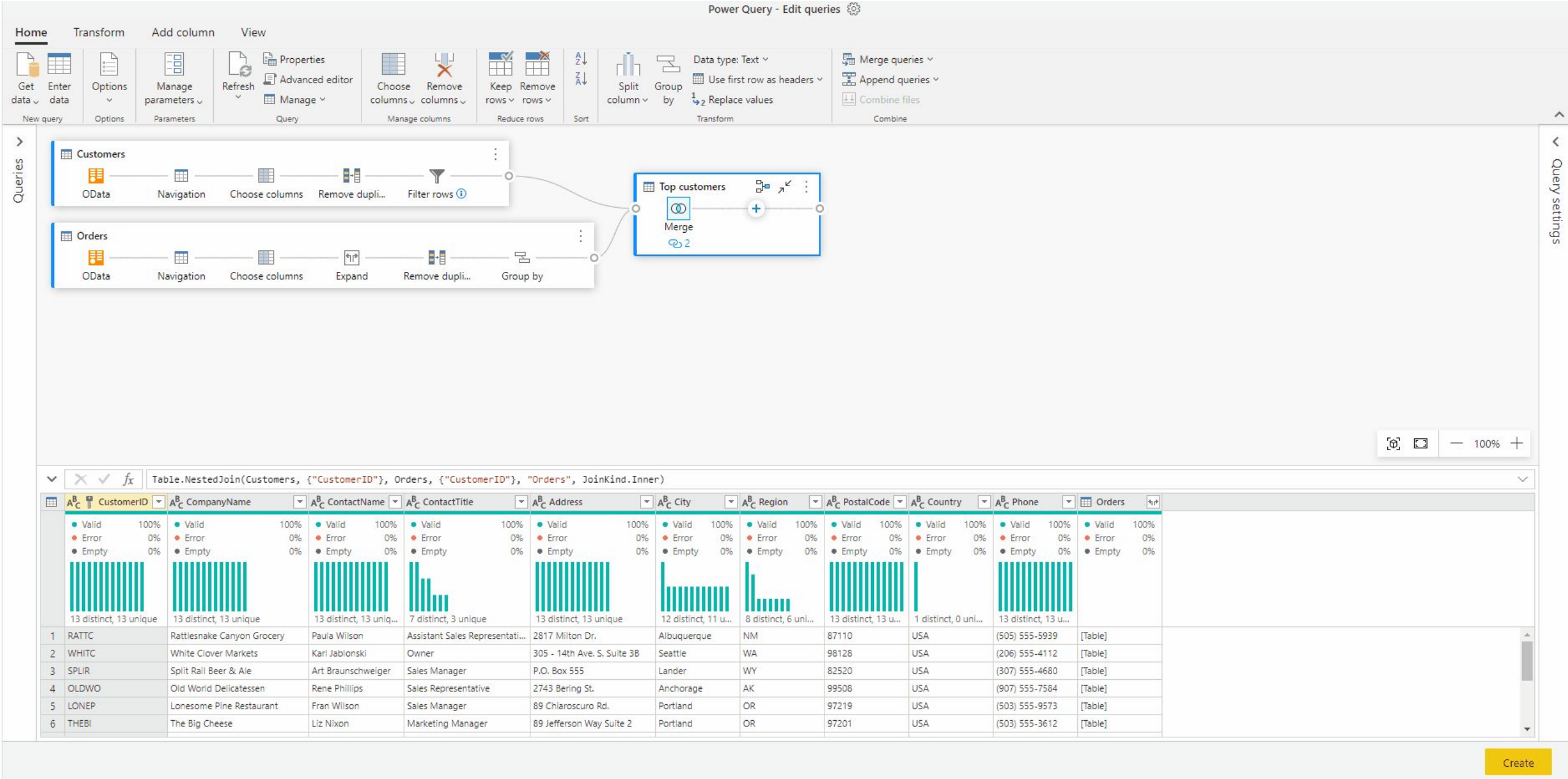
- Web
- On-premises
- Mobile
- Embedded
- Teams
- PowerPoint
- SharePoint
- Excel
- Power Platform
- "..."

Discover value in any data



As of April 2020

…and growing

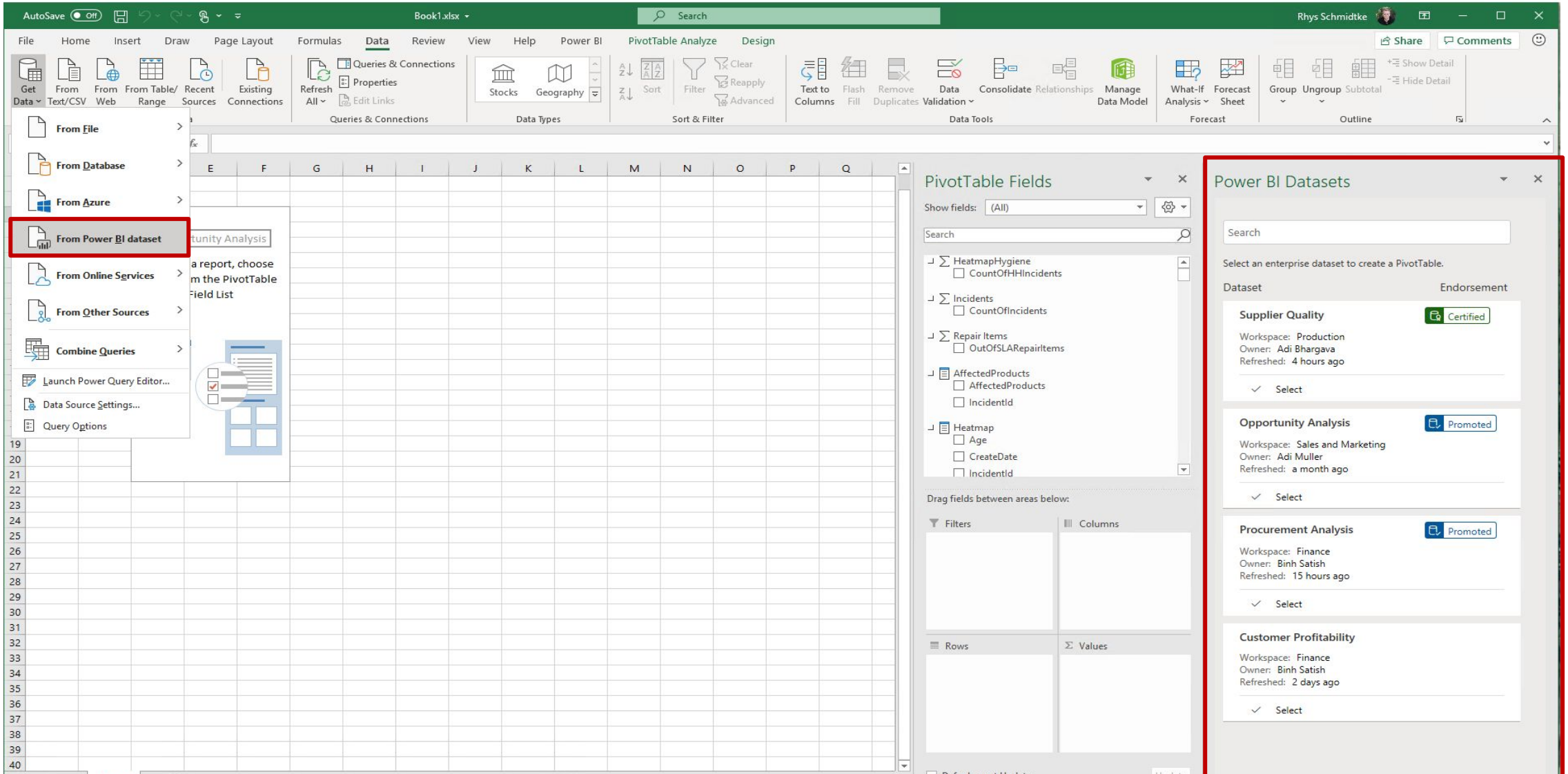

Power Query - Edit queries
Home
Transform
Add column
View
Get data
Enter data
Options
Manage parameters
Refresh
Properties
Advanced editor
Manage
Choose columns
Remove columns
Keep rows
Remove rows
Split column
Group by
Data type: Text
Use first row as headers
Replace values
Merge queries
Append queries
Combine files
New query
Options
Parameters
Query
Manage columns
Reduce rows
Sort
Transform
Combine
Queries
Customers
OData
Navigation
Choose columns
Remove dupli...
Filter rows
Orders
OData
Navigation
Choose columns
Expand
Remove dupli...
Group by
Top customers
Merge
2
Query settings
100%
Table.NestedJoin(Customers, {"CustomerID"}, Orders, {"CustomerID"}, "Orders", JoinKind.Inner)
CustomerID
CompanyName
ContactName
ContactTitle
Address
City
Region
PostalCode
Country
Phone
Orders
Valid 100%
Error 0%
Empty 0%
13 distinct, 13 unique
13 distinct, 13 unique
13 distinct, 13 uniq...
7 distinct, 3 unique
13 distinct, 13 unique
12 distinct, 11 u...
8 distinct, 6 uni...
13 distinct, 13 u...
1 distinct, 0 uni...
13 distinct, 13 u...
1 RATTC Rattlesnake Canyon Grocery Paula Wilson Assistant Sales Representati... 2817 Milton Dr. Albuquerque NM 87110 USA (505) 555-5939 [Table]
2 WHITC White Clover Markets Karl Jablonski Owner 305 - 14th Ave. S. Suite 3B Seattle WA 98128 USA (206) 555-4112 [Table]
3 SPLIR Split Rail Beer & Ale Art Braunschweiger Sales Manager P.O. Box 555 Lander WY 82520 USA (307) 555-4680 [Table]
4 OLDWO Old World Delicatessen Rene Phillips Sales Representative 2743 Bering St. Anchorage AK 99508 USA (907) 555-7584 [Table]
5 LONEP Lonesome Pine Restaurant Fran Wilson Sales Manager 89 Chiaroscuro Rd. Portland OR 97219 USA (503) 555-9573 [Table]
6 THEBI The Big Cheese Liz Nixon Marketing Manager 89 Jefferson Way Suite 2 Portland OR 97201 USA (503) 555-3612 [Table]
Create

Integrate with Office & Teams

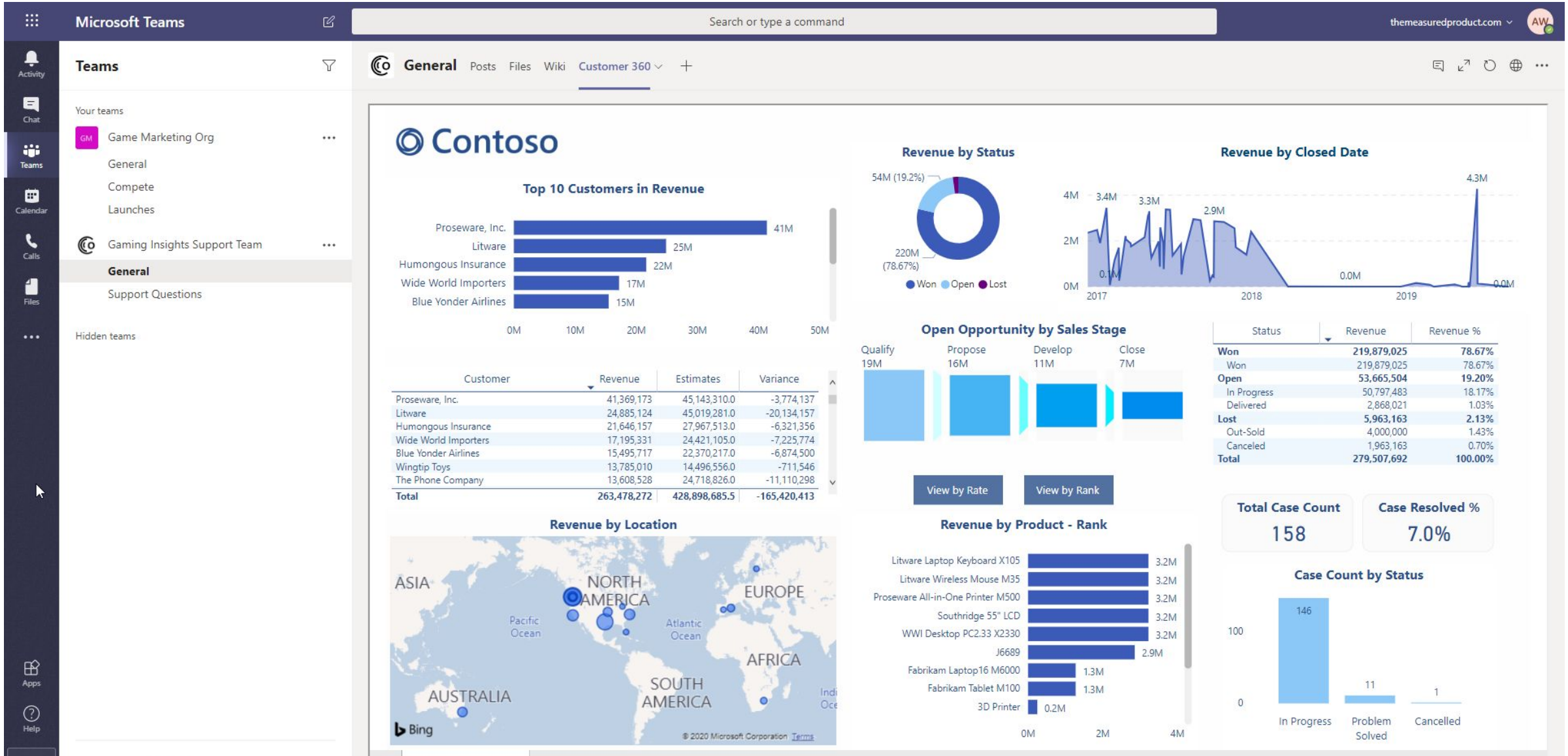
Create, collaborate and share insights using Office

Seamlessly integrate fully interactive reports

Certified data sets accessible in Excel

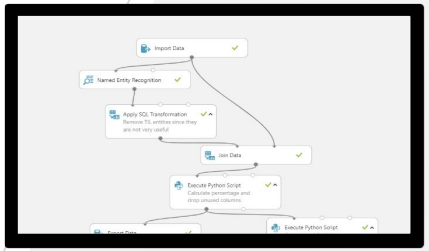


Teams integration

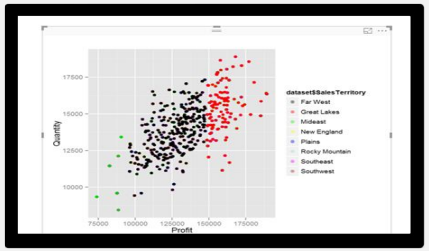


AI Powered Analytics

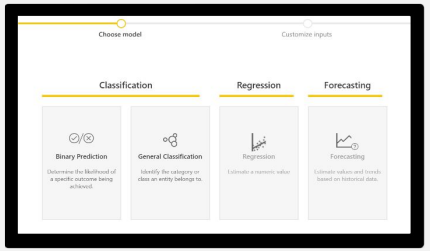
Data Scientists



Extend with Azure ML

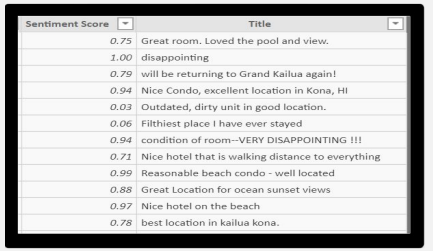


R Integration

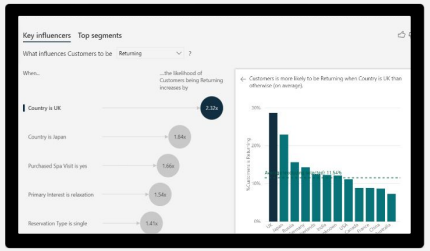


Create ML models

Analysts

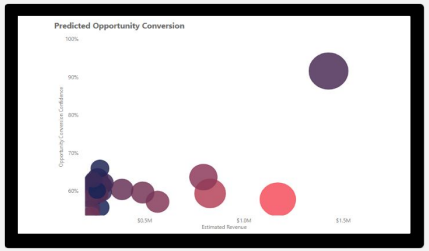


Sentiment Analysis

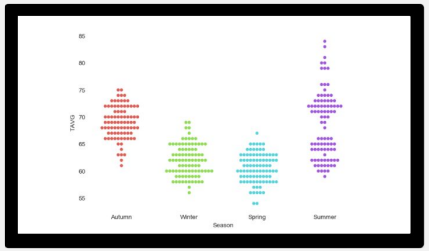


AI Visualizations

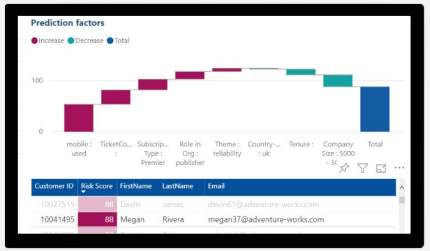
End users



Integrate into reports

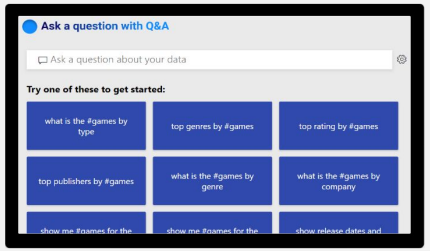


Python Integration



Explore predictions

Key Phrase Extraction



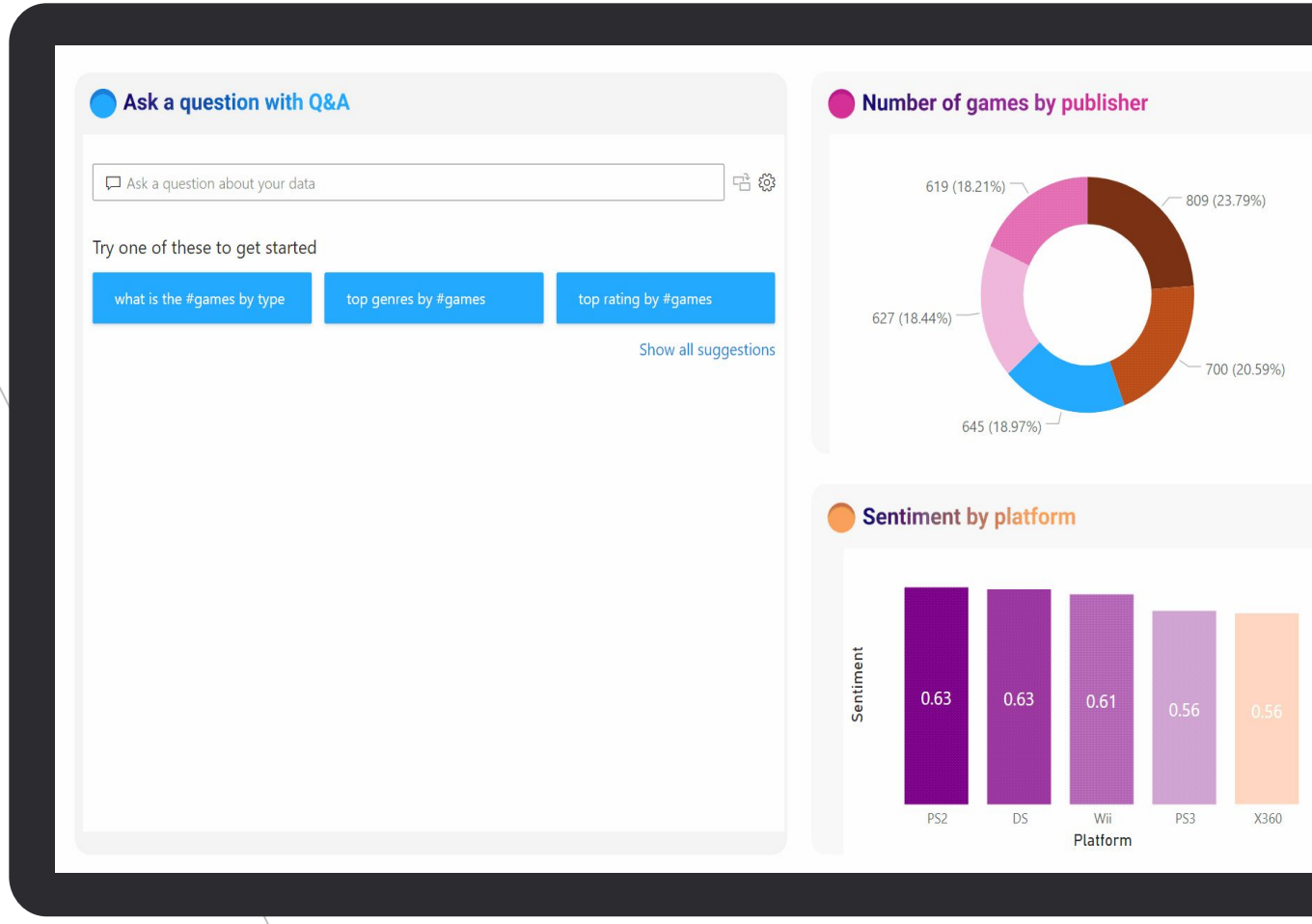
Natural Language

Enabling users – Q&A Visual

Ask natural language questions and get answers in the form of a visual

Consumers can quickly get answers to their data

Designers can create visuals in report by simply double-clicking anywhere on the report canvas, and then using natural language to get started



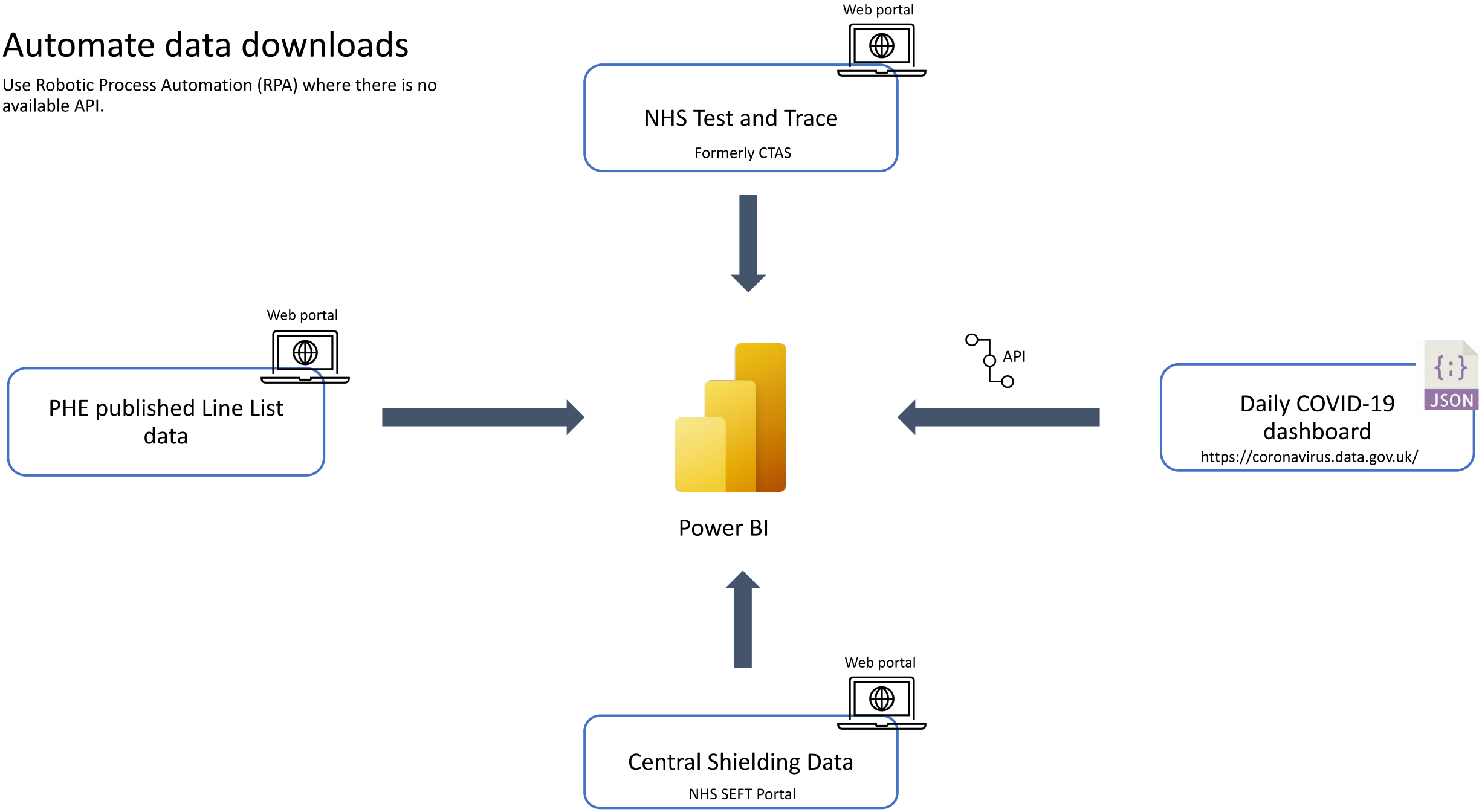
Microsoft Loti

Power BI Demo

Nat Van Gulck

Automate data downloads

Use Robotic Process Automation (RPA) where there is no available API.



Our advice for clinicians on the coronavirus is here.
If you are a member of the public looking for health advice, go to the NHS website. And if you are looking for the latest travel information, and advice about the government response to the outbreak, go to the gov.uk website.

COVID-19 Hospital Activity

A number of data collections have been implemented to support incident management. The collections were activated at short notice and the content of the collections has evolved as the incident has developed. The data collected is classified as management information. It has been collected on a daily basis with a tight turn round time. No revisions have been made to the dataset. Any analysis of the data should be undertaken with this in mind.

The publication covers

Today's Challenge

Context

COVID-19 has further emphasized the need for joint working between Local authorities and local NHS Partners to improve transfers of care along a “discharge to assess” model (see Warwickshire case study at https://aka.ms/ukpsworkshop) so the hospital social care teams can support people leaving hospital early.

Task

As a Local Authority analyst you have been asked to help develop an understanding of pressures at local NHS Partners and the impact that COVID-19 has had along with discharge trends and volumes.

Microsoft Loti

Demo

Nat Van Gulck

Microsoft Loti

Workshop Intro

Nat Van Gulck

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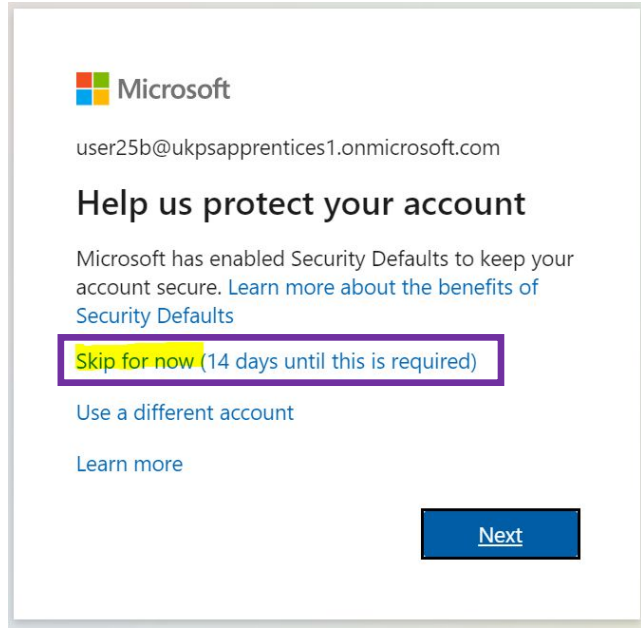
Signing in

1. Open a private browser session
2. Go to https://app.powerbi.com
3. Sign in using credentials provided (see screenshot)
4. Navigate to the Power BI workspace associated with your username
5. Select the “COVID Analysis” report
6. Select “Edit” in the toolbar
7. Right-click the “Overview” page and select “Duplicate”
8. Modify, delete and create your own charts
9. Add as many new report pages as you need
10. Regularly save your work by going to “File > Save”



Question? Please ask in meeting chat or come off mute.

Workshop

1. Open a private browser session
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Presentations intro

Onyeka Onyekwelu
Strategic Engagement Manager – London Office of Technology and Innovation (LOTI)

Rebecca Mackenzie
Account Technology Strategist, Local Regional Government – Microsoft

Agenda

2:00 – 2:05 pm

Introduction – Onyeka Onyekwelu and Rebecca Mackenzie

2:05 - 2:15 pm

Presentation 1 + Q&A

2:15 – 2:25 pm

Presentation 2 + Q&A

2:25 – 2:35 pm

Presentation 3 + Q&A

2:35 – 2:45 pm

Presentation 4 + Q&A

2:45 – 2:55 pm

Presentation 5 + Q&A

2:55 – 3:00 pm

Close

Power BI Workshop Winners

#1 – User5

Ripon Miah
Apprenticeship Levy Manager, Tower Hamlets

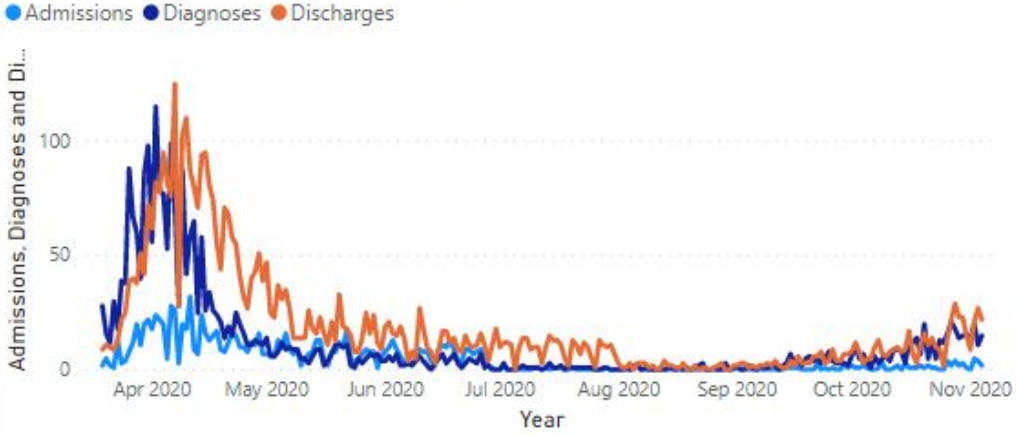
1,105
Admissions

2,647
Diagnoses

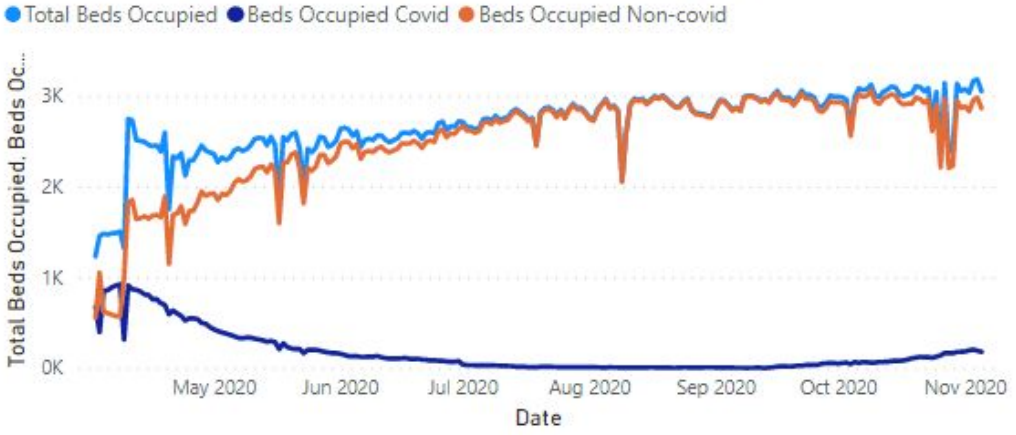
4,309
Discharges

Date
1/1/2020
12/29/2020

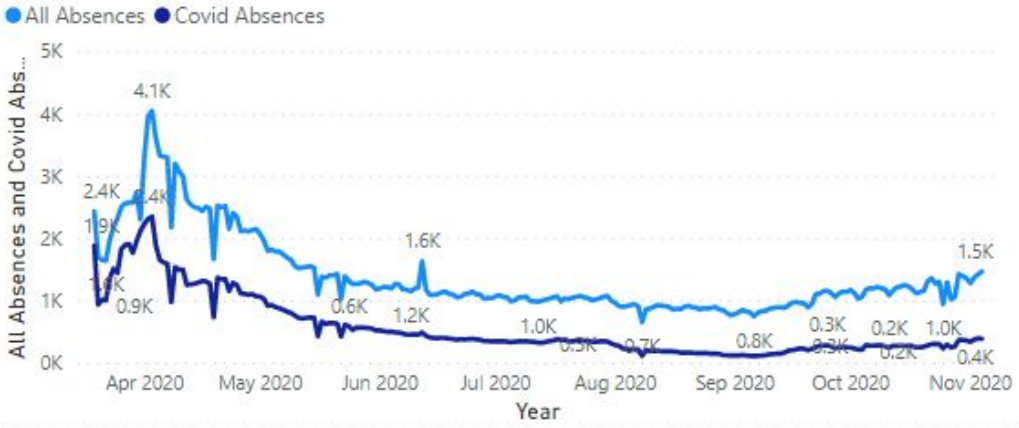
Admissions, Diagnoses and Discharges by Year, Quarter, Month and Day



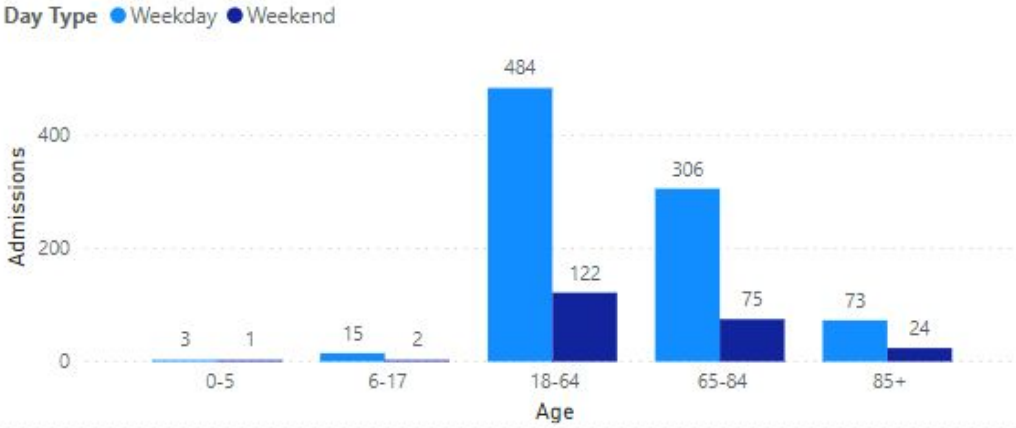
Total Beds Occupied, Beds Occupied Covid and Beds Occupied Non-covid by Date



All Absences and Covid Absences by Year, Quarter, Month and Day



Admissions by Age and Day Type



Filters

Search

Filters on this page

Add data fields here

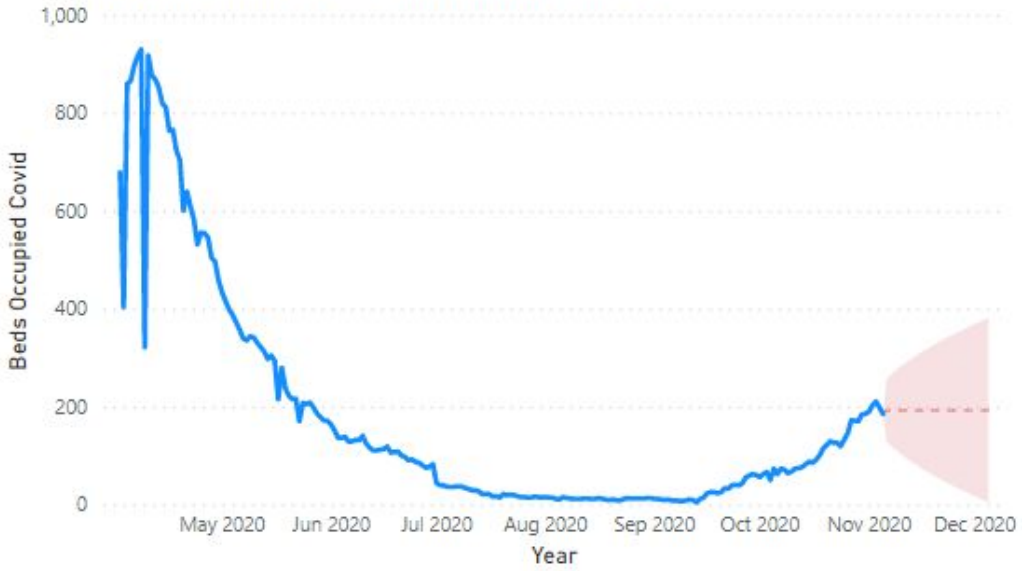
Filters on all pages

Local Authority ...
is TOWER HAMLETS

Add data fields here

Source https://www.england.nhs.uk/statistics/statistical-work-areas/covid-19-hospital-activity/ licensed under Open Government Licence v3.0

Beds Occupied Covid by Year, Quarter, Month and Day



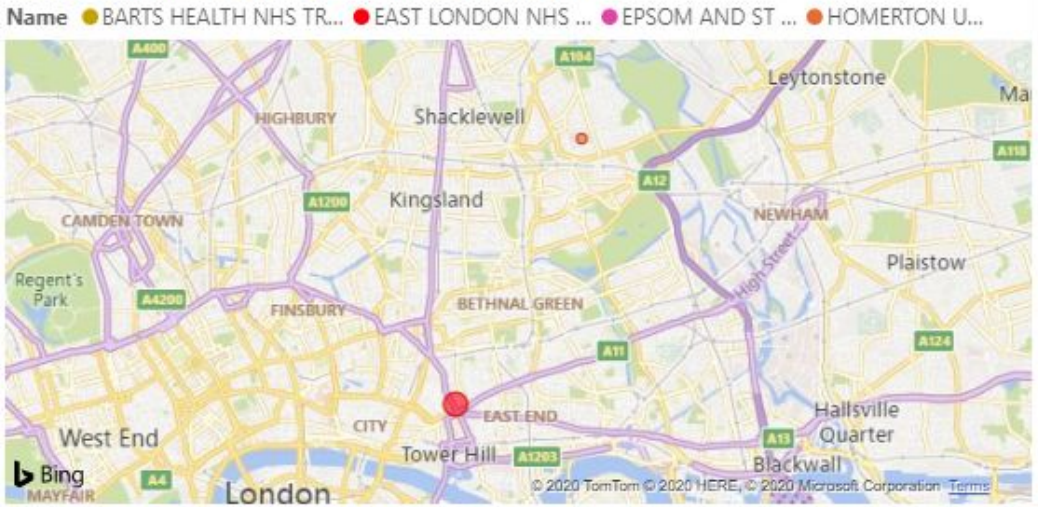
Beds Occupied Covid trended down, resulting in a 95.05% decrease between April 2020 and November 2020.

Value averaged 4,817.25 per month between April 2020 and November 2020.

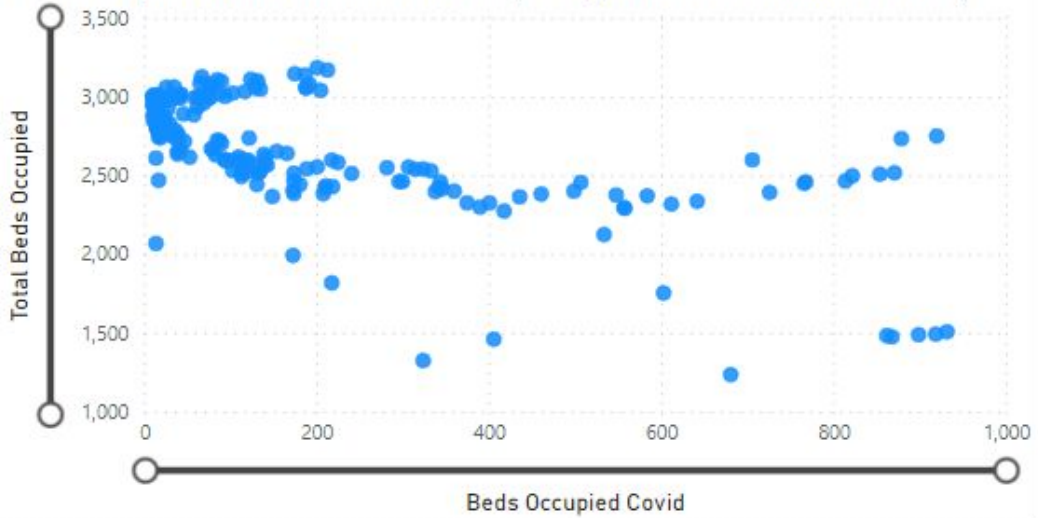
Beds Occupied Covid experienced the longest period of decline (-19668) between April 2020 and August 2020.

Beds Occupied Covid decreased for the last 1 month on record.

Covid Absences by NHS Trust Postcode and Name



Beds Occupied Covid and Total Beds Occupied by Year, Quarter, Month and Day



Filters

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Add data fields here

Filters on all pages

Local Authority ...
is TOWER HAMLETS

Add data fields here

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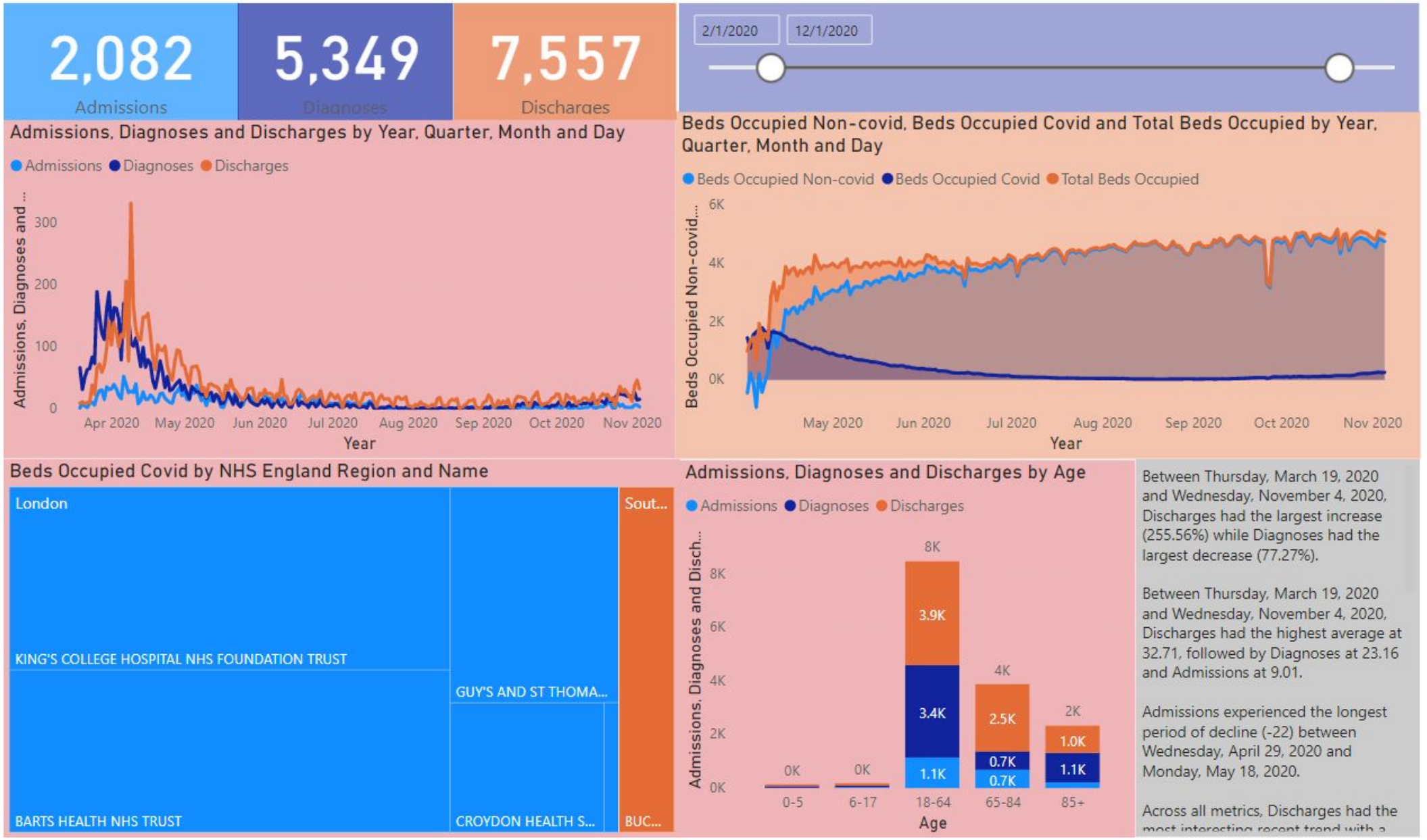
#2 – User58

Shaun Madziva

Systems Support Apprentice, Southwark Council



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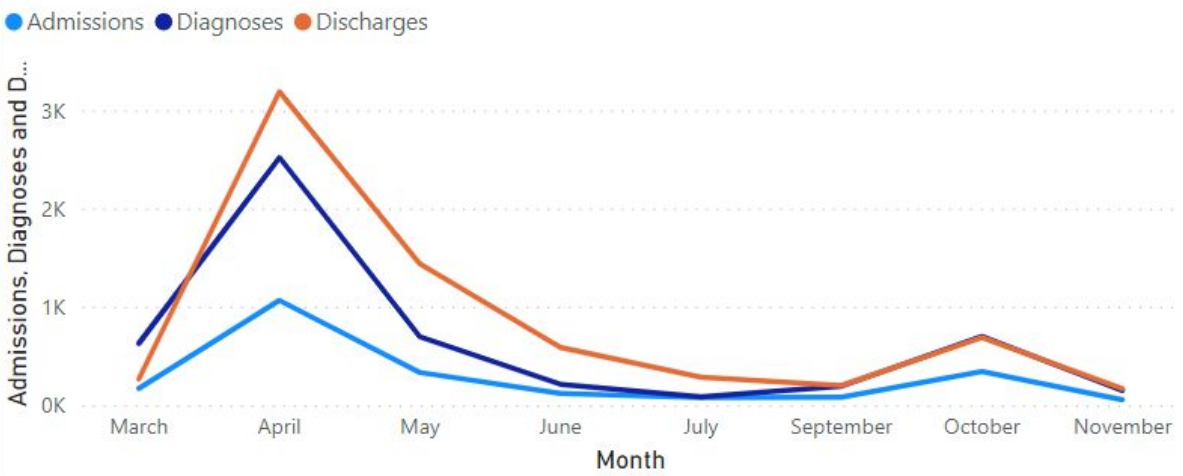
#3 – User50

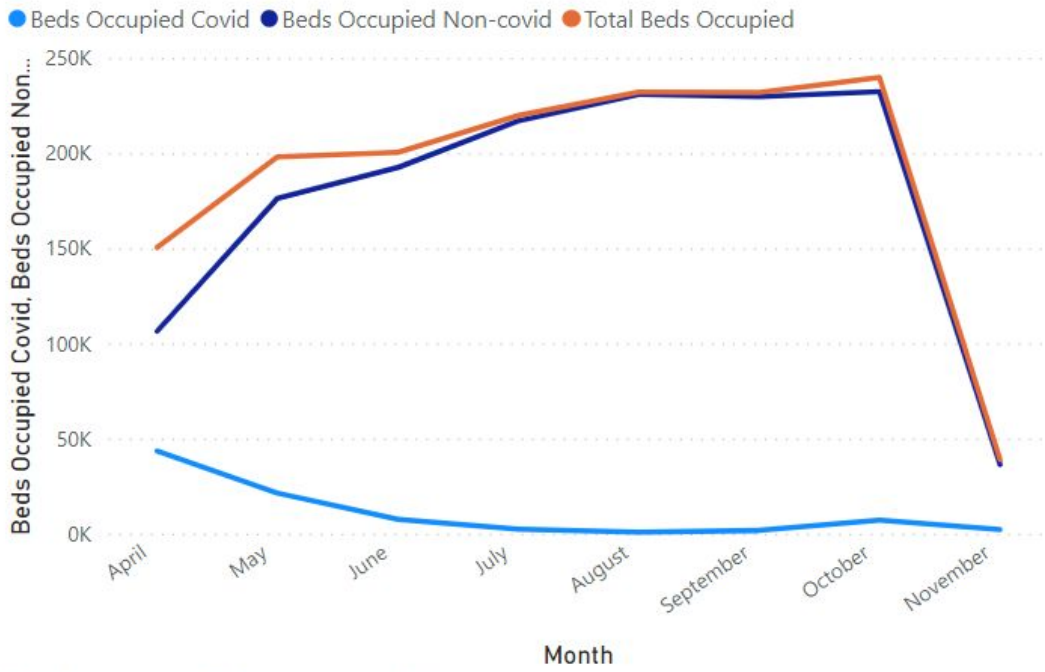
Pooja Majur Krishnadas

Process Engineer

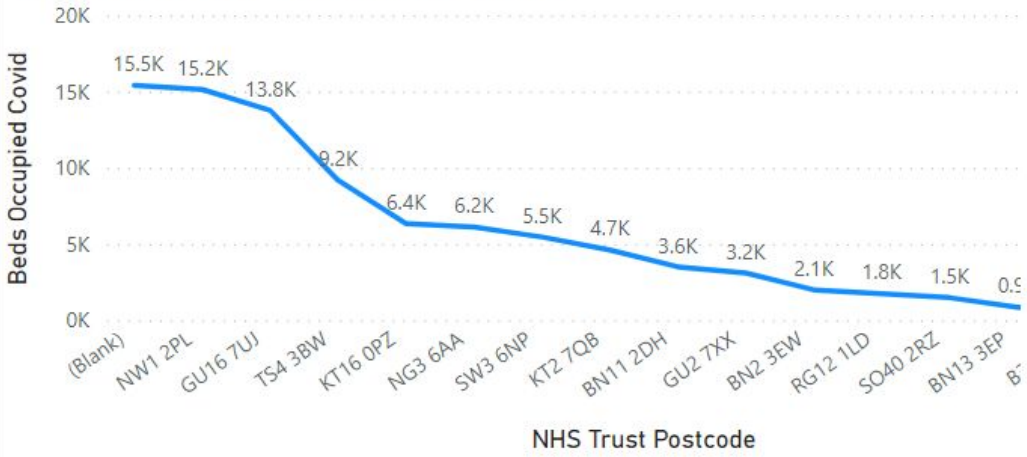
Between March 2020 and November 2020, Discharges had the highest average at 860.88, followed by Diagnoses at 656.38 and Admissions at 289.13.
Across all metrics, Diagnoses had the most interesting recent trend with a 78.14% decrease in the last 1 month on record.



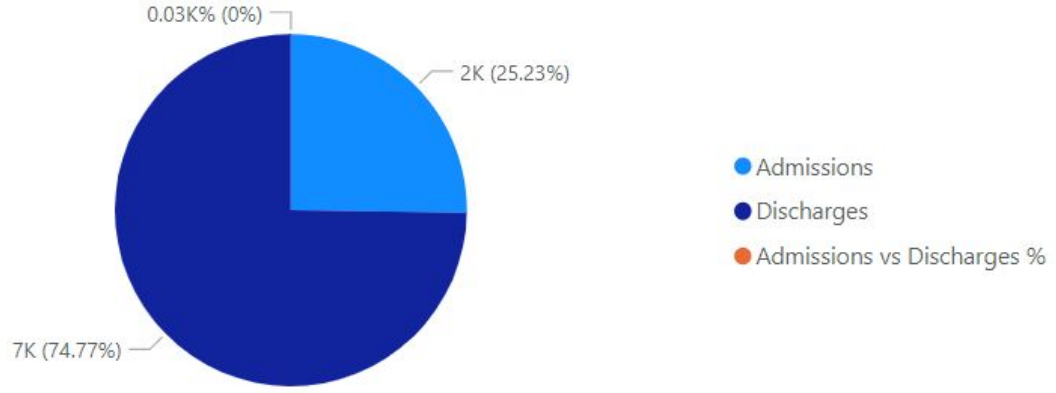
Beds Occupied Covid, Beds Occupied Non-covid and Total Beds Occupied by Month



Beds Occupied Covid by NHS Trust Postcode



Admissions, Discharges and Admissions vs Discharges %



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Goodbye

Onyeka Onyekwelu
Strategic Engagement Manager – London Office of Technology and Innovation (LOTI)

Rebecca Mackenzie
Account Technology Strategist, Local Regional Government – Microsoft