



How Data Shapes Our Response to Crises

Garrett Sauls

First, an Introduction



- **Communications Manager at InterWorks**
- **Worked at InterWorks for 7 years**
- **From Woodward, OK**
- **Graduated from OSU in 2012**
- **Live in Tulsa, OK**



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Also ...

- **Libra**
- **ENTJ**
- **Enneagram 8w7**
- **NOT a crisis management professional**





InterWorks is a people-focused consultancy,
delivering tech solutions to clients in search
of premier service and expertise.

What We Do

The Way Our Clients Meet Tech



Infrastructure

The backbone of your business operations, built for efficiency.



Data Management

Maintaining consistent and quality data at scale, all primed for analysis.



Analytics

The practice of bringing data to life to uncover meaningful insight.



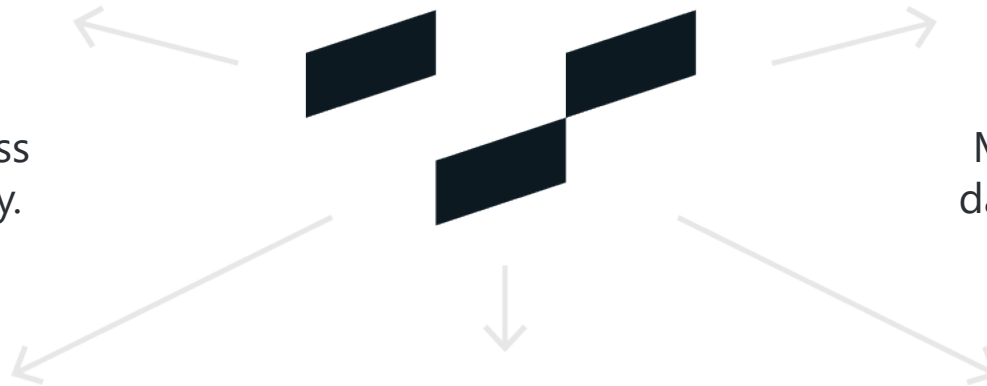
Strategy

Connecting the dots and charting a path to success.



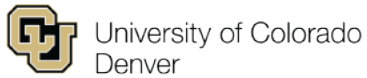
Enablement

Creating empowered, independent communities that are built to last.



Our Clients

(At least a few of them)





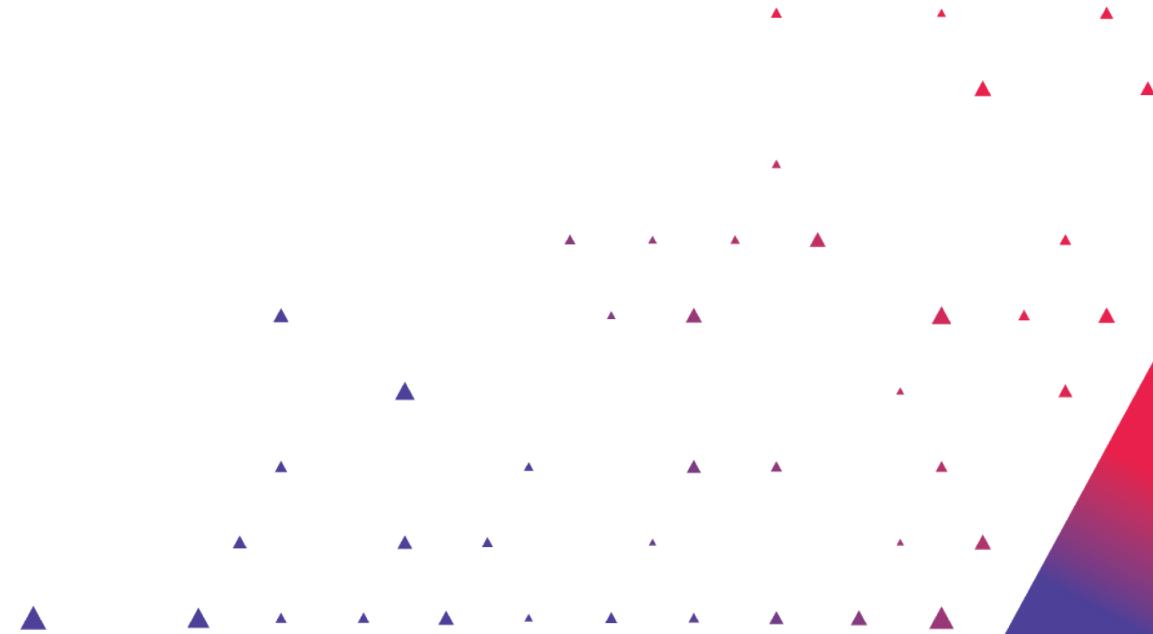
On to the Presentation



Here's What We're Talking About



- **Boy Scouts, tornadoes and why reliable data matters**
- **Data and the COVID-19 crisis**
- **How InterWorks clients are responding**
- **Strategies and resources to become better data stewards**





Chapter 1

Scouts, Tornadoes, Data



It Started with Eagle Scouts



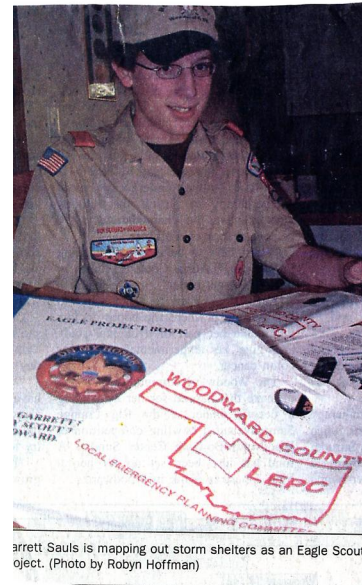
- **What is an Eagle Scout?**
- **Eagle Scout = highest rank in Boy Scouts**
- **Requires many badges and a board of review**
- **Culminates with a community service project**



Eagle Project Snapshot



- My project began in 2002
- Began with the question: "Where are storm shelters located?"
- Worked with Woodward County LEPC to distribute 7,000 surveys
- A follow-up Eagle Project utilized survey responses to map shelters using GPS



Garrett Sauls is mapping out storm shelters as an Eagle Scout project. (Photo by Robyn Hoffman)

Grant will help fund shelter registry project

By ROBYN HOFFMAN
STAFF WRITER

Garrett Sauls knows every minute counts. It could be the difference between life and death.

"If a tornado came through Woodward right now, rescuers might have a hard time finding everybody," Sauls said. "They don't know who has a shelter and who doesn't."

They will now. Sauls is spearheading a storm shelter registry project which will help emergency personnel determine who has shelters and their locations if a disaster should ever occur. The eighth grader's Eagle Scout project will cover Woodward County.

"I'm hoping this will help everyone be better prepared," Sauls said. "This is something that really needs to be done."

Sauls, other scouts and volunteers will distribute storm shelter surveys door to door Nov. 7-8. Once the surveys are completed and mailed, the findings will be used to plot shelter locations. If anyone is trapped in a shelter during a disaster, first responders and emergency managers will know where to look if someone comes up missing.

"Emergency workers will be a lot more prepared if something happens," Sauls said.

Sauls approached the Woodward County Local Emergency Planning Committee in July about a registry for Woodward. The scout said he wanted only input and never expected the LEPC to fund the project. Before he left the meeting, the LEPC agreed to give him a grant of \$5,000 for the project, if Sauls included the rest of the county.

"I was a little surprised," he said. "But I was glad they gave me that support."

LEPC Chairman Bob Gaston said the committee never really thought twice about giving Sauls a grant.

"This is something that's needed to be done for a long time," Gaston said.

After the meeting with LEPC, Sauls decided to expand his project to include different aspects of emergency preparedness. The Northwest Chapter of the American Red Cross supplied him with emergency preparedness checklists and other pamphlets. He also obtained literature about railroad crossing safety, safety belt facts, electrical dangers and smoke detectors.

"I tried to cover just about everything there could be to a disaster," Sauls said. "If people are prepared, they won't be so shocked if something ever happens."

See Project on page 2



Fast Forward to April 14, 2012





The Damage



- **EF3 tornado**
- **6 killed, 28 injured**
- **89 homes, 13 businesses damaged or destroyed**
- **State of emergency declared for county**
- **Federal disaster declaration denied**
- **2+ years to process insurance claims**

What Did We Learn?



- **DATA COLLECTION CAN SAVE LIVES (AND RESOURCES)**
 - Shelter location data greatly assisted EMS efforts
 - Modern radar and storm tracking methods were invaluable
- **YOUR DATA SOURCE MATTERS**
 - Sirens failed, and local radio coverage >>> regional TV coverage
 - Social media is amazing, awful and sometimes absurd
- **DATA DRIVES DECISIONS**
 - Shelter data validated and progressed public safety improvements
 - The good, the bad and the ugly of insurance claims analysis
- **FIBERGLASS INSULATION IS LIKE GLITTER**
 - It never goes away ...



Chapter 2

Global Pandemics, Chicken Sandwiches, New Normal



Unknown to Emergent in 3 Months



- Dec. 31 – Cases of “pneumonia from an unknown cause” emerge in Wuhan, Hubei, China
- Jan. 21 – Cases reported in Japan, South Korea, Thailand and US
- Jan. 30 – Cases top 9k worldwide, declared global health emergency
- Feb. 24 – US markets react, dropping 1k+ points
- March 6 – \$8.3 billion emergency spending approved in US
- March 11 – Outbreak categorized as a pandemic
- March 13 – US declares national state of emergency
- April 2 – Cases top 1m
- April 15 – Cases top 2m

A better timeline:

<https://www.who.int/news-room/detail/08-04-2020-who-timeline---covid-19>



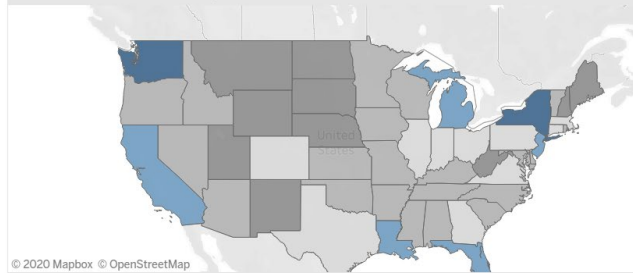
Situation Report

As of **Tuesday, April 14, 2020**, of the **318.5M** people living in the United States, **3,098,235 (1.0%)** have been tested, with **602,417 (19.4%)** confirmed cases. **54,215 (9.0%)** are currently hospitalized and **25,667 (4.3%)** have died.

Select State: (All) | Select Metric: Deaths | Restaurants: (All) | Schools: (All) | Non Essential Businesses: (All)

US Map: Deaths by State

click on state to filter dashboard // hover over state for more information

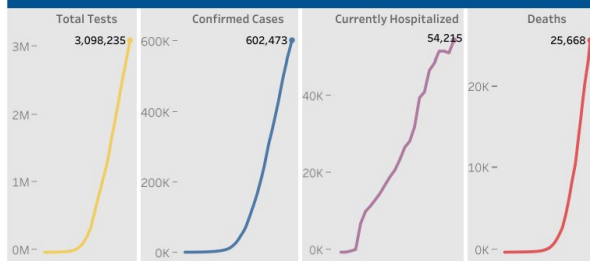


© 2020 Mapbox © OpenStreetMap

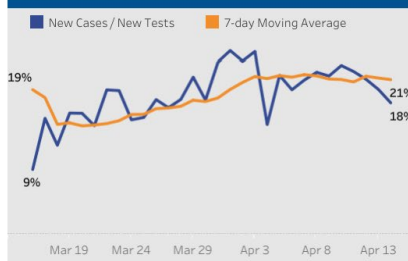
Cases Summary

602,473 Confirmed Cases	19.4% Positive Test Rate
3,098,235 Total Tests	1.0% Percent Tested
25,668 Deaths	4.3% Case Fatality Rate
54,215 Currently Hospitalized	9.0% Hospitalization Rate

Key Trends



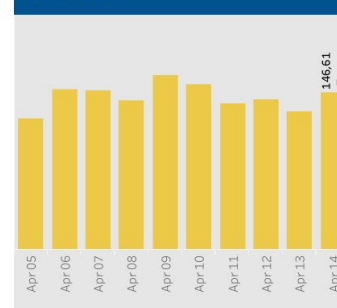
New Test Positive Rate



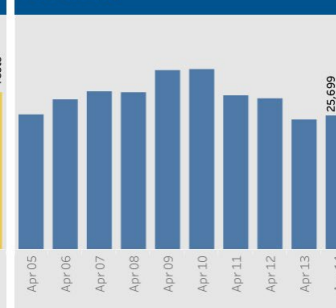
Daily Update

In the past day, there have been **146,614** new tests, **25,699 (18%)** new cases, and **2,299** new deaths.

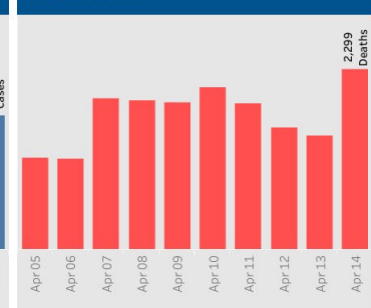
New Tests



New Cases



New Deaths

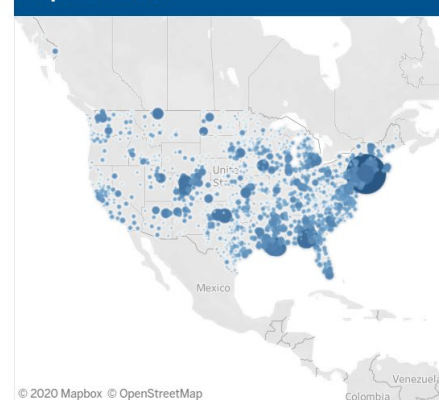


A Closer Look at Counties

Use the drop downs menus on the right to filter for a specific county and select a metric to display on the map and bar graph. Clicking the circles on the map will also filter the table.

Select County: (All) | Select Metric: Cases Per 1 Million

Map of Counties



© 2020 Mapbox © OpenStreetMap

US Counties: Cases Per 1 Million

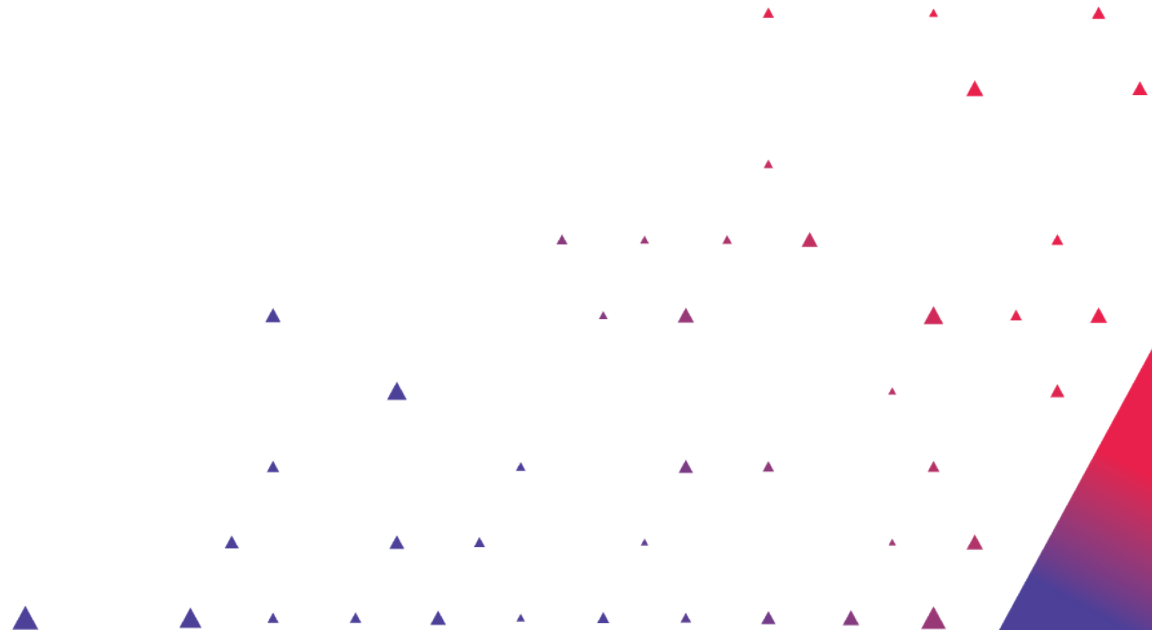
County & State	Total Population	Cases	Deaths	Cases Per 1 Million
New York, New York	1,634,989	106,763	7,154	65,299
Rockland, New York	322,642	7,963	203	24,681
Blaine, Idaho	21,427	456	5	21,282
Westchester, New York	969,229	19,776	610	20,404
Nassau, New York	1,356,801	24,357	1,109	17,952
Randolph, Georgia	7,224	122	7	16,888
Orleans, Louisiana	382,922	5,646	244	14,745
Suffolk, New York	1,498,130	21,642	580	14,446
Orange, New York	376,242	5,181	134	13,770
Dougherty, Georgia	92,326	1,239	78	13,420
Terrell, Georgia	9,132	116	10	12,703
St. John the Baptist, Louisi..	43,888	555	40	12,646
Union, New Jersey	550,436	6,635	217	12,054
Early, Georgia	10,480	126	6	12,023
Hudson, New Jersey	668,526	7,878	236	11,784
Passaic, New Jersey	507,204	5,949	136	11,729
Jefferson, Louisiana	435,204	5,087	186	11,689
Bergen, New Jersey	930,310	10,091	482	10,847

Designed by: Benjamin Du | Source: COVID-19 Data Set Curated by Starschema via Snowflake Data Exchange | Data Source: <https://starschema.com/covid-19-data-set>

What Has Data's Role Been?



- **Data was largely ignored or downplayed at first**
- **People took notice when data became relevant to them**
- **Data sharing (good and bad) increases**
- **Data vocabulary increases**
- **Data eventually drove governmental, economic and social decisions**





Show Me the Industry Examples



Healthcare Client Examples



- **NATIONALIZED HEALTHCARE SYSTEMS**

- Have robust analytics frameworks already
- Distribution of tests, cases, deaths, staffing and resources
- Need to consolidate disparate data sources
- Need timely and accurate data
- Lots of predictive analytics

- **HOSPITAL NETWORKS**

- Analytics frameworks are variable, which can require modernization
- Distribution of cases, deaths, staffing resources (specifically PPE)
- Need to incorporate many new users at a rapid pace

- **PHARMACEUTICAL COMPANIES**

- Production and distribution of tests in conjunction with governments/hospitals



Coronavirus (COVID-19) in the UK

Last updated 14 Apr 2020, 3:44 pm GMT



Total number of lab-confirmed UK cases

93,873

Latest daily number of lab-confirmed UK cases

5,252

Total number of COVID-19 associated UK deaths in hospital

12,107

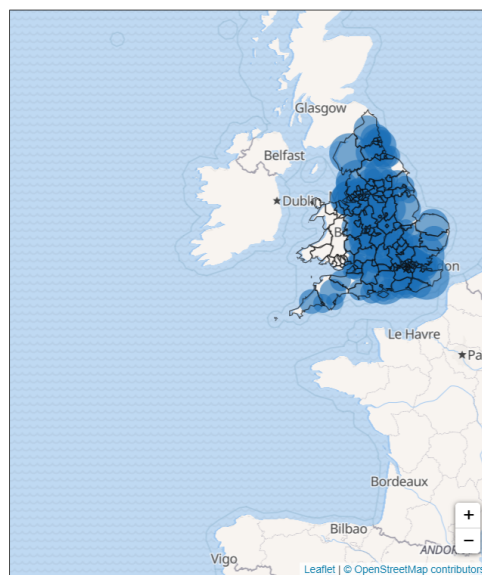
Latest daily number of COVID-19 associated UK deaths in hospital

14

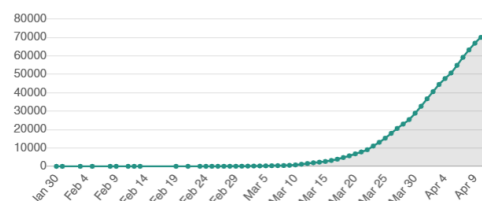
View data as:

Chart Table

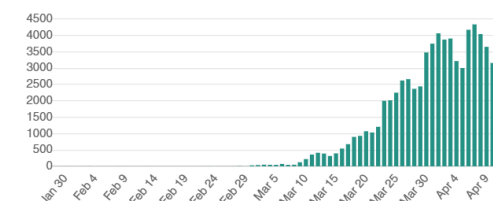
UTLA	Total cases
Barking and Dagenham	328
Barnet	961
Barnsley	372
Bath and North East Somerset	131
Bedford	239
Bexley	431
Birmingham	1,884
Blackburn with Darwen	164
Blackpool	162
Bolton	400
Bournemouth, Christchurch and Poole	228



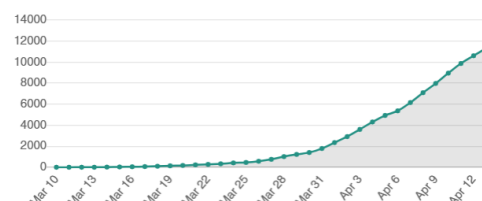
Total number of lab-confirmed England cases



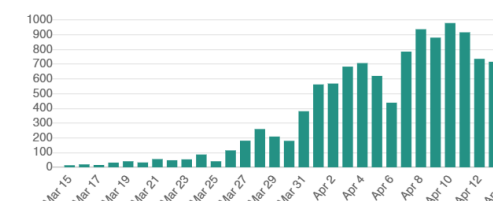
Daily number of lab-confirmed England cases



Total number of COVID-19 associated UK deaths in hospital



Daily number of COVID-19 associated UK deaths in hospital



Case counts for England are provided by Public Health England. Death counts and data for Devolved Administrations are provided by the Department of Health and Social Care. Maps include Ordnance Survey data © Crown copyright and database right 2020 and Office for National Statistics data © Crown copyright and database right 2020. England and Scotland case counts are as of 09:00 14/04/2020. Wales case count is as of 07:00 14/04/2020, Northern Ireland case count is as of 09:30 14/04/2020. Death counts are as of 13/04/2020 (see About the data for times). UK total includes cases detected through "Pillar 2" testing (tests carried out by commercial partners) and therefore does not equate to the sum of the four countries' counts, which only include "Pillar 1" (tests carried out by NHS/PHE/devolved administration labs). Time series data will be available to download from 15/04/2020.

Source: <https://coronavirus.data.gov.uk/#local-authorities>



Financial Services Client Examples

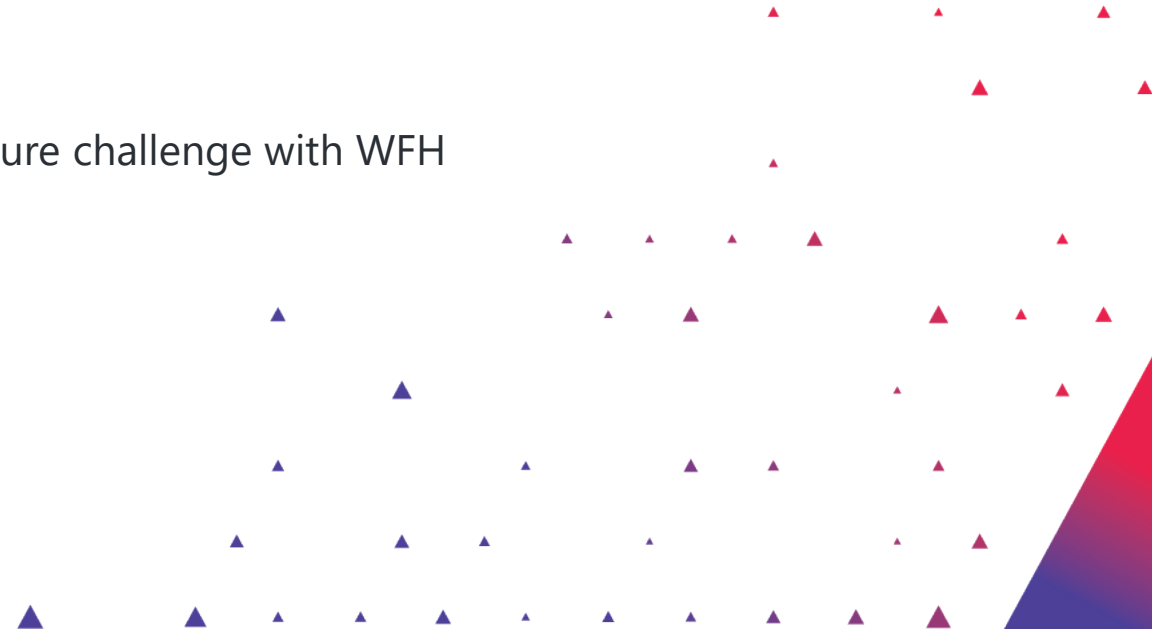


- **INVESTMENT FIRMS**

- Have robust analytics practices
- Volatility analysis
- Faster decisions on portfolio management changes
- Better snapshots and KPIs for executives

- **BANKS**

- Variable analytics practices
- Cashflow, new loans, etc.
- Local IT clients dealing with unprecedented infrastructure challenge with WFH



Restaurant & Retail Client Examples

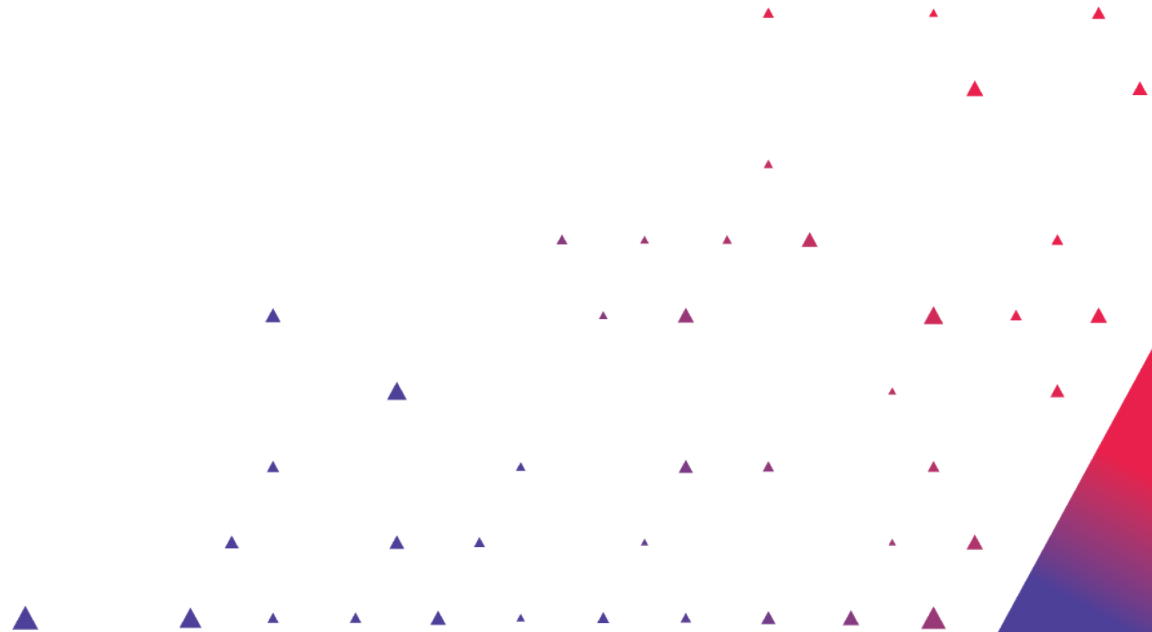


- **RESTAURANTS**

- Big chains have robust analytics frameworks, yet still difficult to get accurate data when heavily franchised
- Sales, staffing, food distribution, individual store performance
- Drive thru vs. in-store

- **RETAIL**

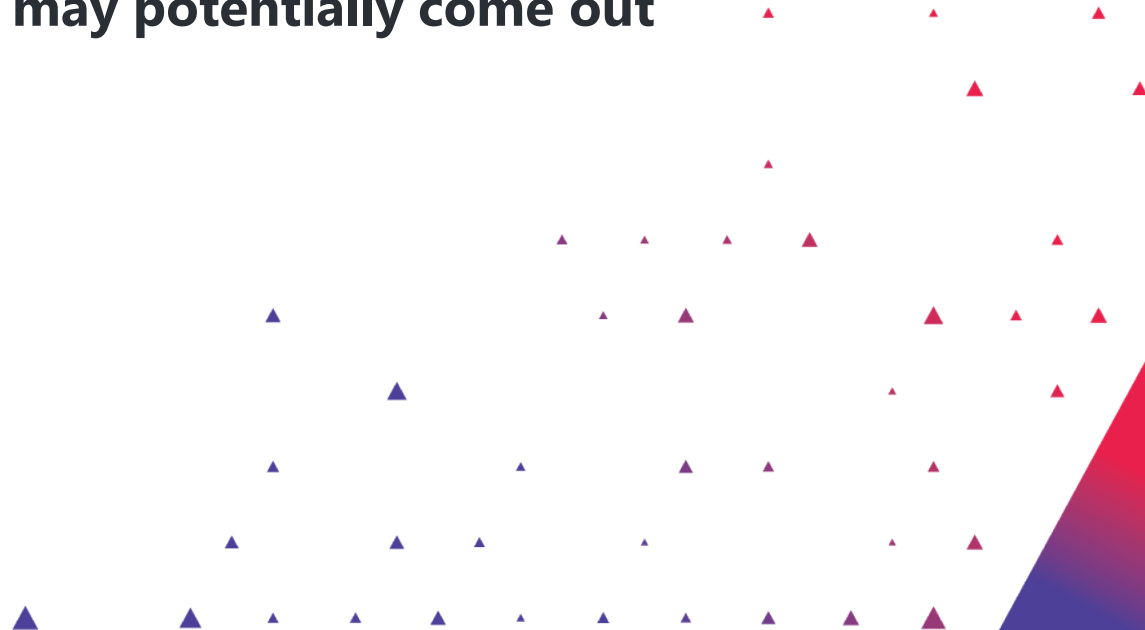
- Sales, staffing, individual store performance
- Big emphasis on online sales analytics



One Standout Example



- **A well-known, national chicken chain**
- **Saw what most restaurants saw, step decline of in-store sales**
- **Thanks to robust analytics, they noticed drive-thru was up 100%**
- **Also noticed average order size was larger**
- **This enabled them to quickly adjust staffing and drive thru policies**
- **Result is that they have mitigated losses and may potentially come out of this crisis with a bump in profits**





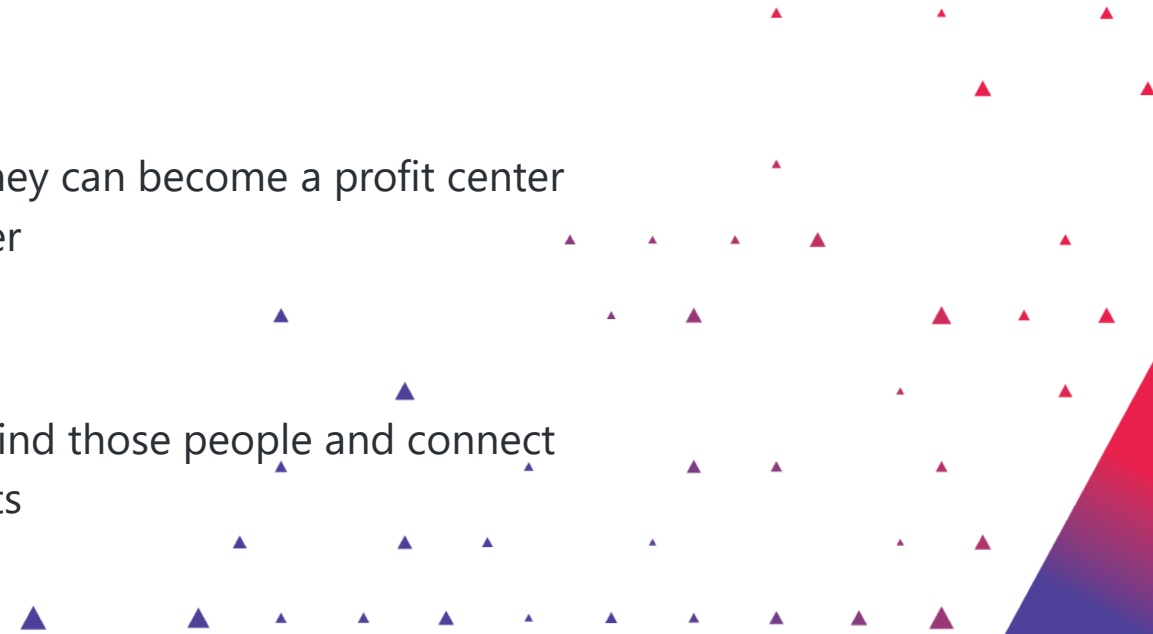
Chapter 3: Lessons & Application



The Big Takeaways



- **PEOPLE CARE WHEN DATA IS RELEVANT**
 - Always consider your audience's attitudes
 - Don't make people burn too many calories in consuming data
- **PREPARATION IS KEY, KNOWLEDGE IS POWER**
 - Nobody needs data ... until they need it
 - Good preparation saves lives, resources, etc.
- **ANALYTICS ARE AN ASSET**
 - Common narrative is analytics are a cost center, but they can become a profit center
 - The ability to act quickly on insights is a game-changer
- **YOU'RE NOT ALONE**
 - Many organizations have the same exact challenges, find those people and connect
 - Unexpected collaborations often yield impactful results



How You Can Data Better



- **START SMALL**

- Start by considering which data matters most to you
- Pick a small project, measure results, do it again

- **LEVEL UP YOUR SKILLS**

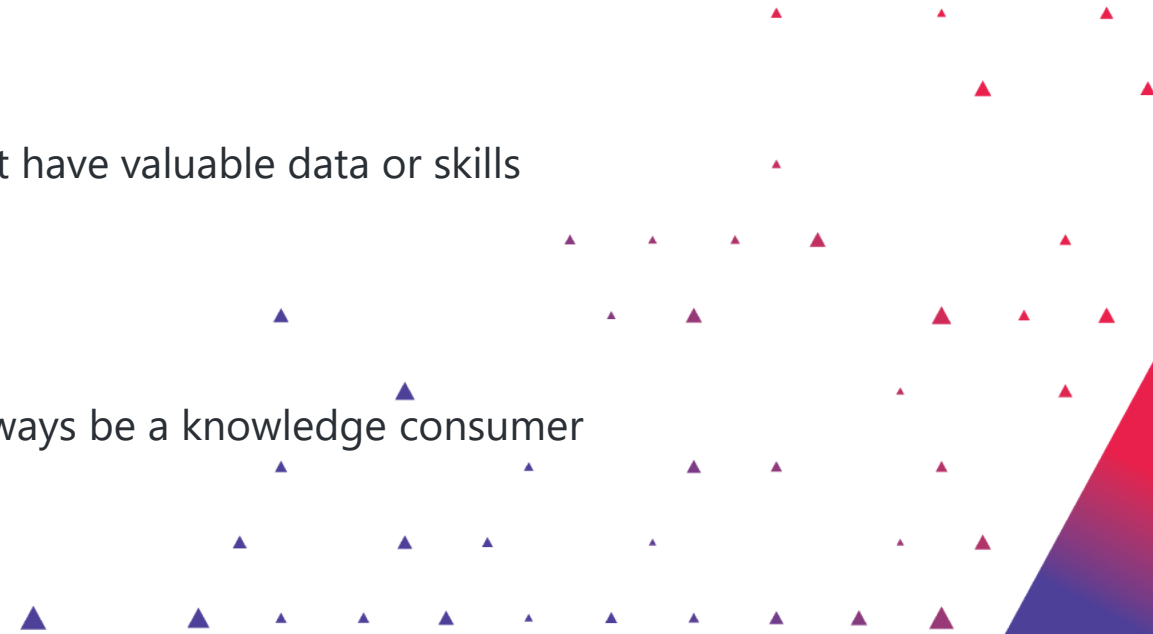
- Even if your organization doesn't have the tools you want, you can improve
- Don't feel limited by your role

- **ASK FOR HELP**

- Start by asking internally – you never know who might have valuable data or skills
- Seeking expert help can accelerate your progress

- **STAY INSPIRED**

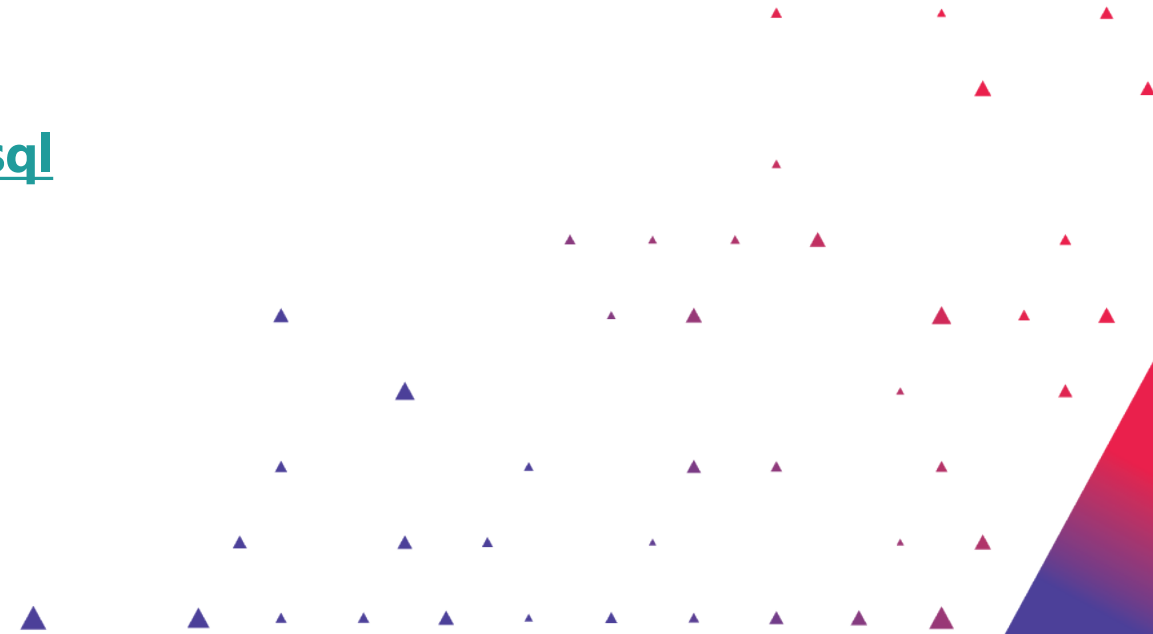
- There are incredible analytics resources out there – always be a knowledge consumer
- Look outside your industry for unexpected inspiration
- Don't share memes blindly



Resources to Help You Level Up



- **Tableau Software's COVID-19 Data Hub**
<https://www.tableau.com/covid-19-coronavirus-data-resources>
- **Free Tableau Training Videos**
<https://www.tableau.com/learn/training/20201>
- **SQL Resources & Community**
<https://www.pass.org/>
<https://www.codecademy.com/learn/learn-sql>
- **General Inspiration**
<https://fivethirtyeight.com/>



Keep Learning. Stay Connected.

The best way to keep growing is to keep learning. Check our useful resources below, and be sure to keep in touch on social media.

Our Resources

interworks.com/blog/

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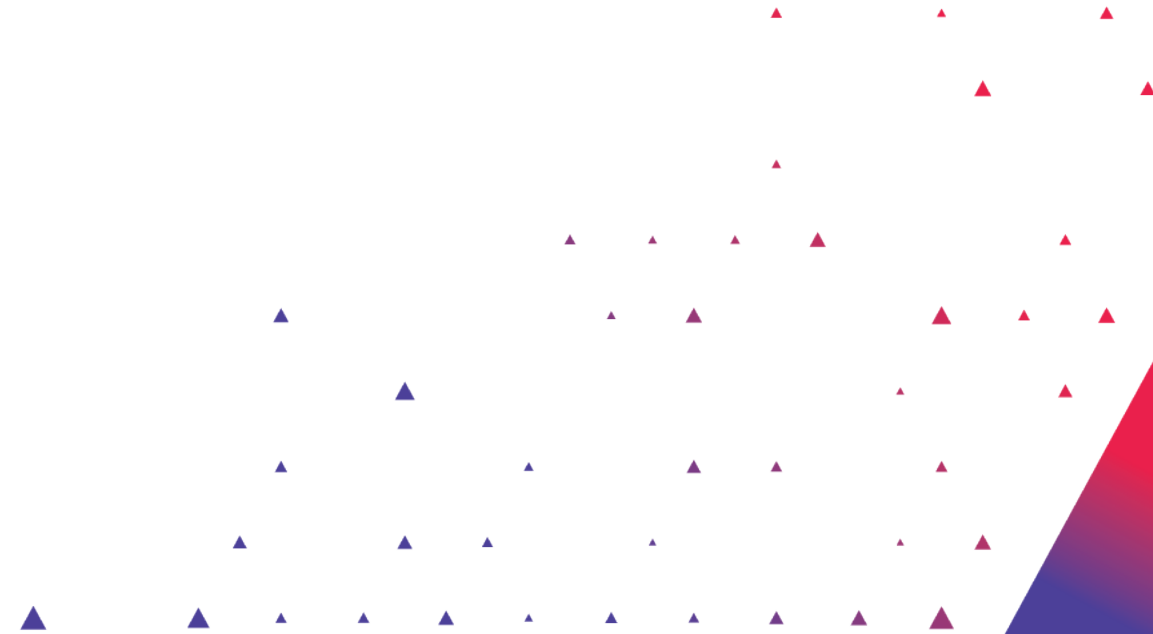
Simply search for @interworks on Facebook, Twitter, LinkedIn or Instagram.



Reach Out!



- **Email:**
garrett.sauls@interworks.com
- **LinkedIn:**
<https://www.linkedin.com/in/garrettsauls>





Thanks for Attending!

