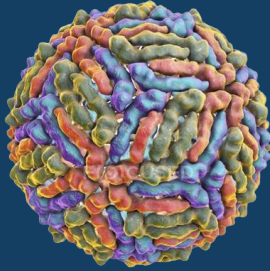




WEST NILE VIRUS PREDICTIONS

ABOUT: WEST NILE VIRUS



THE VIRUS

- first isolated in West Nile district



THE TRANSMITTER

- mosquitoes
- mostly Culex species



THE EFFECTS

- fever
- inflammation
- death

WNV: TREATMENT & CONTROL



DIAGNOSIS:
Lab test on spinal fluid

TREATMENT:
NO vaccine or medicine



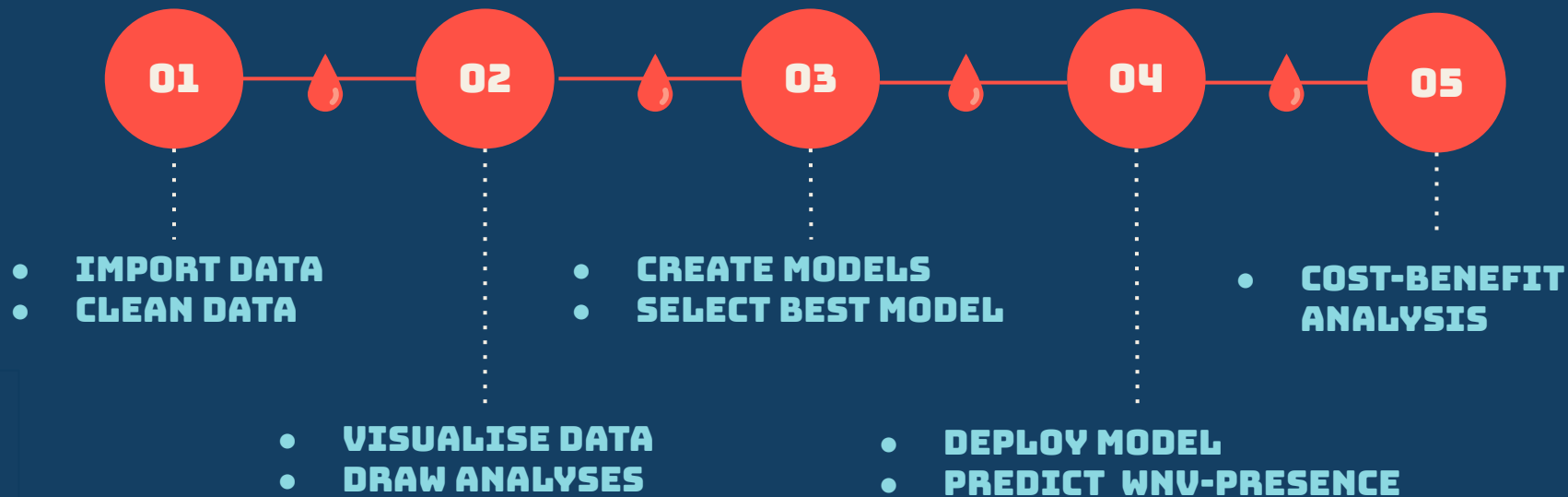
MOSQUITO CONTROL:
Adult mosquito control
Larval mosquito control



PROBLEM STATEMENT



PROJECT WORKFLOW



DATA IMPORT DATA CLEANING





DATASETS IMPORTED

DATASET NAME	YEAR COLLECTED						
	2007	2008	2009	2010	2011	2012	2013
MAIN (TRAIN)	May-Oct		May-Oct		May-Oct		May-Oct
SPRAY							
WEATHER					Aug-Sept		July-Sept

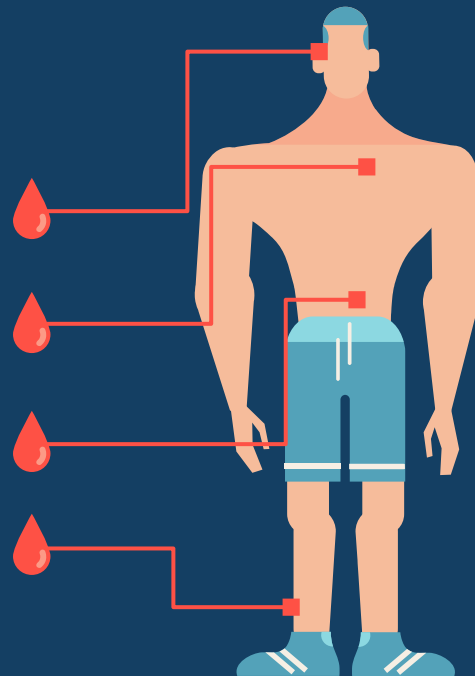
MAIN (TRAIN) DATASET

LOWERCASE COLUMN NAMES

CONVERT DATES TO DT FORMAT

DROP ROWS

COMBINE RECORDS FOR TRAPS
WITH >50 MOSQUITOES IN
SAME DAY



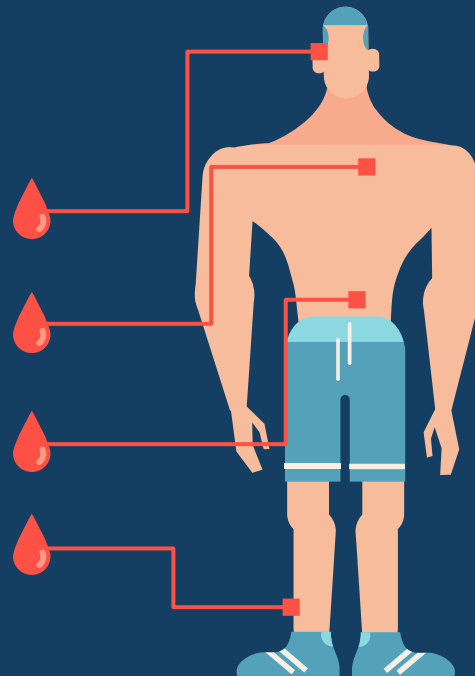
SPRAY DATASET

LOWERCASE COLUMN NAMES

CONVERT DATES TO DT FORMAT

DROP ROWS

COMBINE RECORDS FOR TRAPS
WITH >50 MOSQUITOES IN
SAME DAY



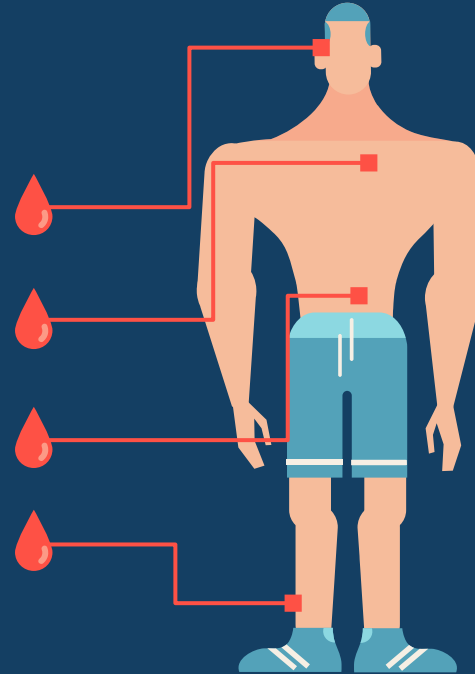
WEATHER DATASET

LOWERCASE COLUMN NAMES

CONVERT DATES TO DT FORMAT

DROP ROWS

COMBINE RECORDS FOR TRAPS
WITH >50 MOSQUITOES IN
SAME DAY



EXPLORATORY DATA ANALYSIS





HEATMAP





SCATTER PLOT





SPECIES MOST LIKELY TO CARRY WNV





(MONTH) HAS HIGHEST RATE OF WNV





WEATHER & WNV





TEMPERATURE & WNV





SPRAY & WNV





SPECIES & WNV





LOCATION & WNV



MODELLING & EVALUATION





FEATURE ENGINEERING





BASELINE MODEL





METRICS USED





MODEL EVALUATION



COST-BENEFIT **ANALYSIS**



CONCLUSION & RECOMMENDATIONS



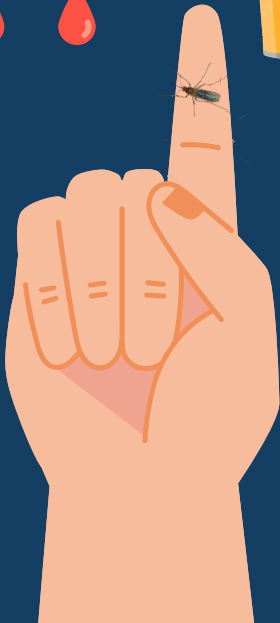
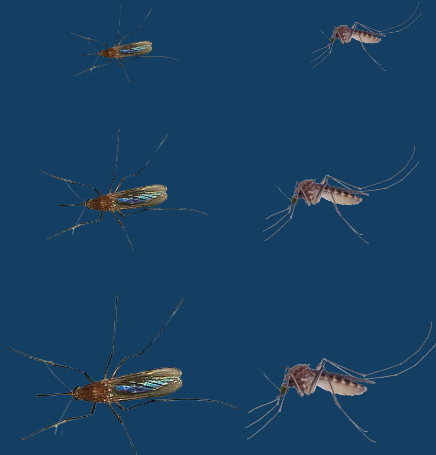


CITATIONS





ICONS FOR WNV PROJECT





WORLD DIABETES DAY INFOGRAPHICS

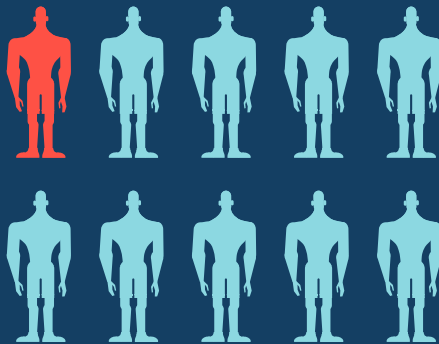


DIABETES IN THE WORLD

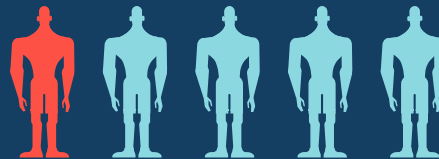
+

37
MILLION

people have diabetes



1 out of 10



+

1 out of 5 doesn't know





WORLD DIABETES DAY INFOGRAPHICS +

DIABETES MEDICINE IN THE US

\$327 BILLION

Mercury is the closest planet to the Sun and the smallest of them all



WITH

\$\$\$

Jupiter is the biggest planet of them all



WITHOUT

\$

Mars is actually a very cold place





WORLD DIABETES DAY INFOGRAPHICS

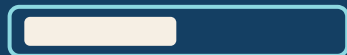


SYMPTOMS OF DIABETES



MERCURY

Mercury is quite a small planet

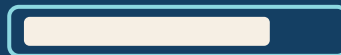


50%



JUPITER

Jupiter is the biggest planet of them all



80%



SATURN

Saturn is a gas giant and has rings



30%



MARS

Mars is actually a very cold place



10%





WORLD DIABETES DAY INFOGRAPHICS

USUAL INSULIN DOSAGE

TYPE 2 DIABETES



Mercury is the closest planet to the Sun and the smallest one in the Solar System—it's only a bit larger than the Moon

50ML/DAY

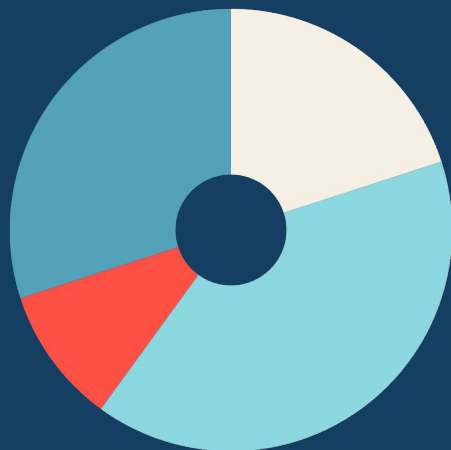




WORLD DIABETES DAY INFOGRAPHICS



MOST USED MEDICINES FOR DIABETICS



30% MERCURY

Mercury is quite a small planet

40% JUPITER

Jupiter is the biggest planet of them all

10% SATURN

Saturn is a gas giant and has rings

20% MARS


Mars is actually a very cold place

Follow the link in the graph to modify its data and then paste the new one here. **For more info, click here**



WORLD DIABETES DAY INFOGRAPHICS

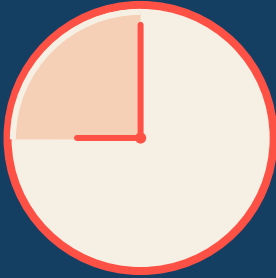
MANDATORY DIET

	WEEK 1				
	MON	TUE	WED	THU	FRI
BREAKFAST	Mercury	Venus	Mars	Neptune	Saturn
LUNCH	Earth	Jupiter	Sun	Moon	Stars
DINNER	Ceres	Pluto	Galaxy	Uranus	Mercury



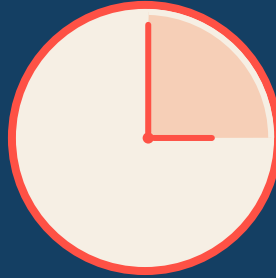
WORLD DIABETES DAY INFOGRAPHICS

DAILY INJECTIONS



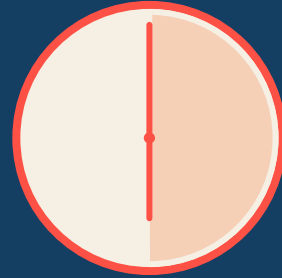
1ST DOSE

Saturn is a gas giant
and has rings



2ND DOSE

Mercury is quite a
small planet



3RD DOSE

Jupiter is the biggest
planet of them all





WORLD DIABETES DAY INFOGRAPHICS +

HOW TO PREVENT DIABETES



50%

DIET

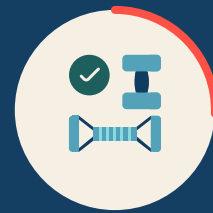
Saturn is a gas giant
and has rings



25%

WEIGHT

Mercury is quite a
small planet



25%

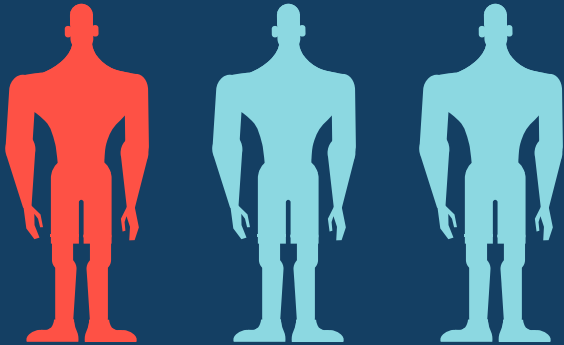
EXERCISE

Jupiter is the biggest
planet of them all



WORLD DIABETES DAY INFOGRAPHICS

WHO IS AT RISK?



1 OUT OF 3

AT HIGH RISK

Mercury is the closest planet to the Sun
and the smallest of them all



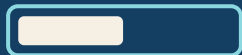
WORLD DIABETES DAY INFOGRAPHICS

DIABETICS CAN ALSO DEVELOP:



SATURN

Saturn is a gas giant
and has rings



50%

MARS

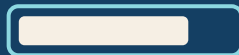
Mars is actually a
very cold place



30%

MERCURY

Mercury is quite a
small planet



80%

JUPITER

It's the biggest
planet of them all



10%





WORLD DIABETES DAY INFOGRAPHICS +

TYPE 2 DIABETES



90% - 95%

OF ALL DIAGNOSED CASES

Mercury is the closest planet to the Sun
and the smallest of them all



\$13,700

AVERAGE SPENT BY PATIENT

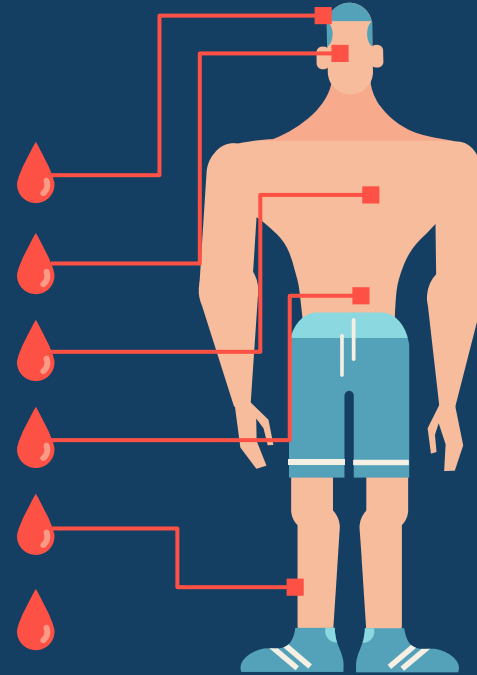
Venus has a beautiful name and is the
second planet from the Sun



WORLD DIABETES DAY INFOGRAPHICS

HEALTH RISKS

STROKE
BLINDNESS
HEART DISEASE
KIDNEY FAILURE
LOSS OF LEGS
& MORE...





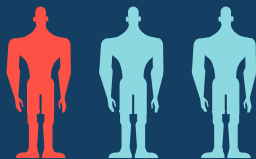
WORLD DIABETES DAY INFOGRAPHICS

PREDIABETES

96



MILLION



have prediabetes



MORE THAN 8 IN 10

don't know they have it





WORLD DIABETES DAY INFOGRAPHICS



IMPORTANT FACTS



OVER 700M

people living with diabetes by 2045



HALF OF ALL

people living with diabetes are undiagnosed



1 IN 2 PEOPLE

who need insulin can't access or afford it





WORLD DIABETES DAY INFOGRAPHICS



COMMON TYPES OF DIABETES

TYPE 1	BODY DOESN'T PRODUCE ENOUGH INSULIN		
AGE	PREVENTION	IN ADULTS	IN YOUTH
Any age	No	5-10%	18,000
TYPE 2	BODY CAN'T USE INSULIN PROPERLY		
AGE	PREVENTION	IN ADULTS	IN YOUTH
Any age	Most cases	90-95%	6,000



WORLD DIABETES DAY INFOGRAPHICS

RISK FACTORS FOR TYPE 2 DIABETES

01

OVERWEIGHT

02

FAMILY HISTORY

03

INACTIVITY

04

OLDER THAN 45

1.4
MILLION

diagnosed with type 2
diabetes in 20XX



WORLD DIABETES DAY INFOGRAPHICS

PREVENTING OR MANAGING DIABETES



PREVENT OR DELAY TYPE 2 DIABETES	
✓	Eat healthy
✓	Be more active
✓	Lose weight

OR



WAYS TO MANAGE YOUR DIABETES	
✓	Work with professionals
✓	Eat healthy
✓	Stay active





WORLD DIABETES DAY INFOGRAPHICS +

DEATH RATES



3.7M

deaths due to high blood glucose

1.5M

deaths caused by diabetes



THAT IS **1** PERSON IN 11



WORLD DIABETES DAY INFOGRAPHICS

TYPE 2 DIABETES IN YOUTH



1 IN 5

aged 12-18



1 IN 4

aged 19-34

HOW TO PREVENT IT?

- Venus has a beautiful name and is the second planet from the Sun
- Mercury is the closest planet to the Sun and the smallest one in the Solar System

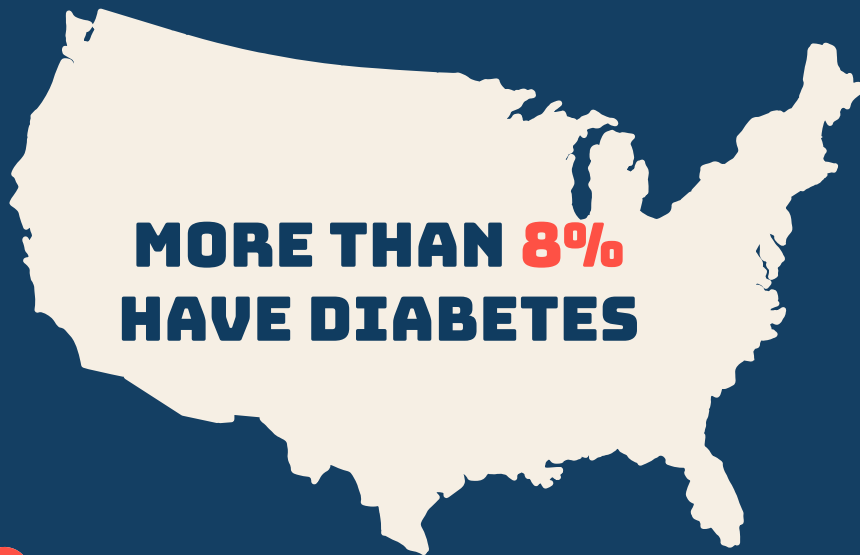


PREDIABETES IS HIGHER IN MALES



WORLD DIABETES DAY INFOGRAPHICS

DIABETES IN THE US



TOTAL	25.8M
DIAGNOSED	18.8M
UNDIAGNOSED	7M
PREDIABETES	79M
NEW CASES	1.9M





WORLD DIABETES DAY INFOGRAPHICS +

IDENTIFY YOUR SYMPTOMS

YES	ALWAYS TIRED	NO	FREQUENT URINATION
NO	ALWAYS HUNGRY	NO	SYSTEMIC WEIGHT LOSS
YES	SEXUAL PROBLEMS	NO	WOUNDS THAT WON'T HEAL
NO	ALWAYS THIRSTY	YES	BLURRY VISION
YES	NUMBNESS OF HANDS & FEET	YES	VAGINAL INFECTIONS





WORLD DIABETES DAY INFOGRAPHICS



BLOOD TESTS



	A1C TEST	FASTING BLOOD SUGAR TEST	GLUCOSE TOLERANCE TEST
DIABETES	6.5% or above	126 mg/dl or above	200 mg/dl or above
PREDIABETES	5.7-6.4%	100-125 mg/dl	140-199 mg/dl
NORMAL	Below 5.7%	99 mg/dl or below	139 mg/dl or below



WORLD DIABETES DAY INFOGRAPHICS

KEY ACTIONS



FOR EVERYONE

Eat healthy

Be active

Check blood glucose

Follow medical advice



FOR GOVERNMENTS

TO ENSURE:

Healthy environments

Better diagnosis & treatment

Better Data



WORLD DIABETES DAY INFOGRAPHICS

RISK FACTORS FOR TYPE 2 DIABETES



75%

BAD DIET

Mercury is the smallest planet of them all



60%

OBESITY

Jupiter is the biggest planet of them all



50%

INACTIVITY

Saturn is a gas giant and has several rings



25%

OVERWEIGHT

Despite being red, Mars is a cold planet





WORLD DIABETES DAY INFOGRAPHICS



TYPE 1 DIABETES

Non-preventable

CASES

5-10%



RISK FACTORS

Unknown

TYPE 2 DIABETES

Preventable

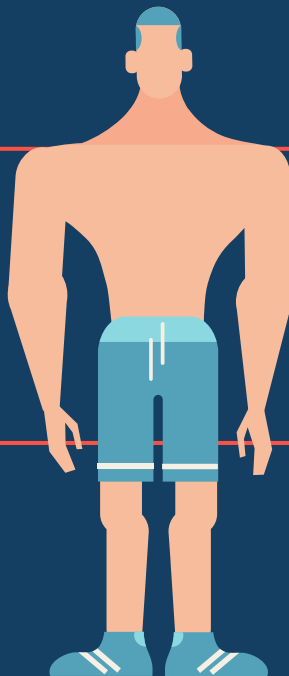
CASES

90-95%



RISK FACTORS

Obesity, overweight, lack of physical activity, family history, smoking





WORLD DIABETES DAY INFOGRAPHICS



PREVENT TYPE 2 DIABETES

PHYSICALLY ACTIVE

Mercury is the smallest planet of them all

GET PLENTY OF FIBER

Saturn is a gas giant and has several rings



HEALTHIER DIET

Jupiter is the biggest planet of them all

QUIT SMOKING

Despite being red, Mars is a very cold place

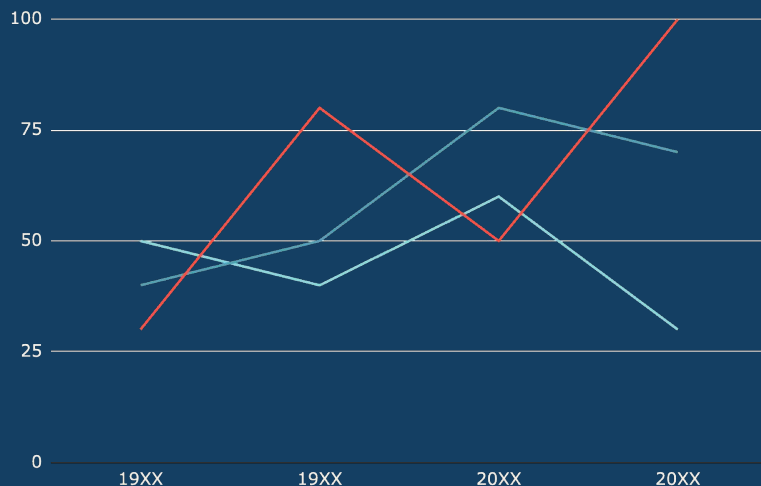




WORLD DIABETES DAY INFOGRAPHICS



PEOPLE WITH DIABETES



PREDIABETES

Mercury is quite small

TYPE 1

Saturn is a gas giant

TYPE 2

Mars is actually cold



Follow the link in the graph to modify its data and then paste the new one here. **For more info, click here**





WORLD DIABETES DAY INFOGRAPHICS +

DIABETES TODAY



537M

Saturn is a gas giant with rings



643M

Mercury is quite a small planet



1 IN 2

Mars is actually a cold place



4 IN 5

Neptune is far away from us



6.7M

Earth is a planet that has life



\$966B

Venus has a beautiful name



WORLD DIABETES DAY INFOGRAPHICS

DIABETES TREATMENT AND PREVENTION

PREVENTION

 **ANALYSIS**



 **EXERCISE**



 **GOOD DIET**



TREATMENT

TEST A 



TEST B 



MEDICINE 

