

Hepatitis A in Hillsborough County

```
def calculate_statistics():

    # Given data

    cases_2022 = 80

    population = 1780000 # 1.78 million people

    new_cases_2023 = 19

    deaths_2023 = 2

    death_ages = [64, 74]

    average_life_expectancy = 77


    # User input for each statistic

    cases_2022_input = int(input("Enter the number of cases in 2022 (Default is 80): ") or cases_2022)

    population_input = int(input("Enter the population (Default is 1.78 million): ") or population)

    new_cases_2023_input = int(input("Enter the number of new cases from Jan 1 to May 1, 2023 (Default is 19): ") or new_cases_2023)

    deaths_2023_input = int(input("Enter the number of deaths from Jan 1 to May 1, 2023 (Default is 2): ") or deaths_2023)


    # Calculating Prevalence

    prevalence = (cases_2022_input / population_input) * 100000

    print(f"Prevalence: {prevalence:.2f} per 100,000 people")


    # Calculating Incidence

    incidence = (new_cases_2023_input / population_input) * 100000

    print(f"Incidence: {incidence:.2f} per 100,000 people")


    # Calculating Mortality Rate

    mortality_rate = (deaths_2023_input / population_input) * 100000

    print(f"Mortality Rate: {mortality_rate:.2f} per 100,000 people")
```

```

# Calculating YPLL

ypll = sum([average_life_expectancy - age for age in death_ages])

print(f"Years of Potential Life Lost: {ypll}")

if __name__ == "__main__":
    calculate_statistics()

```

Salmonella in Miami-Dade

```

def calculate_salmonella_statistics():

    # Given data
    cases_2022 = 1211
    population = 2660000 # 2.66 million people
    new_cases_2023 = 248
    deaths_2023 = 1

    # User input for each statistic

    cases_2022_input = int(input("Enter the number of Salmonella cases in 2022 (Default is 1,211): ") or cases_2022)

    population_input = int(input("Enter the Miami-Dade population (Default is 2.66 million): ") or population)

    new_cases_2023_input = int(input("Enter the number of new Salmonella cases from Jan 1 to May 1, 2023 (Default is 248): ") or new_cases_2023)

    deaths_2023_input = int(input("Enter the number of Salmonella deaths from Jan 1 to May 1, 2023 (Default is 1): ") or deaths_2023)

    # Calculating Prevalence

    prevalence = (cases_2022_input / population_input) * 100000
    print(f"Salmonella Prevalence in Miami-Dade: {prevalence:.2f} per 100,000 people")

    # Calculating Incidence

    incidence = (new_cases_2023_input / population_input) * 100000

```

```
print(f"Salmonella Incidence in Miami-Dade: {incidence:.2f} per 100,000 people")
```

```
# Calculating Mortality Rate
```

```
mortality_rate = (deaths_2023_input / population_input) * 100000
```

```
print(f"Salmonella Mortality Rate in Miami-Dade: {mortality_rate:.2f} per 100,000 people")
```

```
if __name__ == "__main__":
```

```
    calculate_salmonella_statistics()
```

Influenza during the start of the 2021 flu season

```
def calculate_influenza_statistics():
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```
    # Given data
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```
    initial_cases = 500
```

```
    new_cases = 2500
```

```
    total_cases = initial_cases + new_cases
```

```
    population = 100000
```

```
    deaths = 40
```

```
# Calculating Prevalence
```

```
prevalence = (total_cases / population) * 100000
```

```
print(f"Influenza Prevalence: {prevalence:.2f} per 100,000 people")
```

```
# Calculating Incidence
```

```
incidence = (new_cases / population) * 100000
```

```
print(f"Influenza Incidence: {incidence:.2f} per 100,000 people")
```

```
# Calculating Mortality Rate
```

```
mortality_rate = (deaths / population) * 100000
```

```
print(f"Influenza Mortality Rate: {mortality_rate:.2f} per 100,000 people")
```

```
if __name__ == "__main__":  
    calculate_influenza_statistics()
```

Chlamydia in Hillsborough County

```
def calculate_chlamydia_statistics():  
    # Given data  
    cases_before_august = 12000  
    new_cases = 3000  
    population = 1780000 # 1.78 million people  
    deaths = 5  
    death_ages = [32, 45, 28, 37, 52]  
    average_life_expectancy = 77  
  
    # Calculating Prevalence  
    prevalence = ((cases_before_august + new_cases) / population) * 100000  
    print(f"Chlamydia Prevalence in Hillsborough County: {prevalence:.2f} per 100,000 people")  
  
    # Calculating Incidence  
    incidence = (new_cases / population) * 100000  
    print(f"Chlamydia Incidence in Hillsborough County: {incidence:.2f} per 100,000 people")  
  
    # Calculating Mortality Rate  
    mortality_rate = (deaths / population) * 100000  
    print(f"Chlamydia Mortality Rate in Hillsborough County: {mortality_rate:.2f} per 100,000 people")  
  
    # Calculating YPLL  
    ypll = sum([average_life_expectancy - age for age in death_ages])
```

```
print(f"Years of Potential Life Lost due to Chlamydia in Hillsborough County: {ypll}")
```

```
if __name__ == "__main__":
```

```
    calculate_chlamydia_statistics()
```