



Virtual Event 15-18 June 2020

# 2020 Asia-Pacific Statistics Week

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## Harnessing Social Media Data to Measuring Mental Health Statistics

Action Area D. Modernizing statistical business processes (SD3)

### **Modernisation is a must - six reason why?**

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# Introduction

Mental Health is “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community”. (WHO)

## PROBLEM

**“The mental health statistics in Indonesia using surveys is not up to date and costly”**

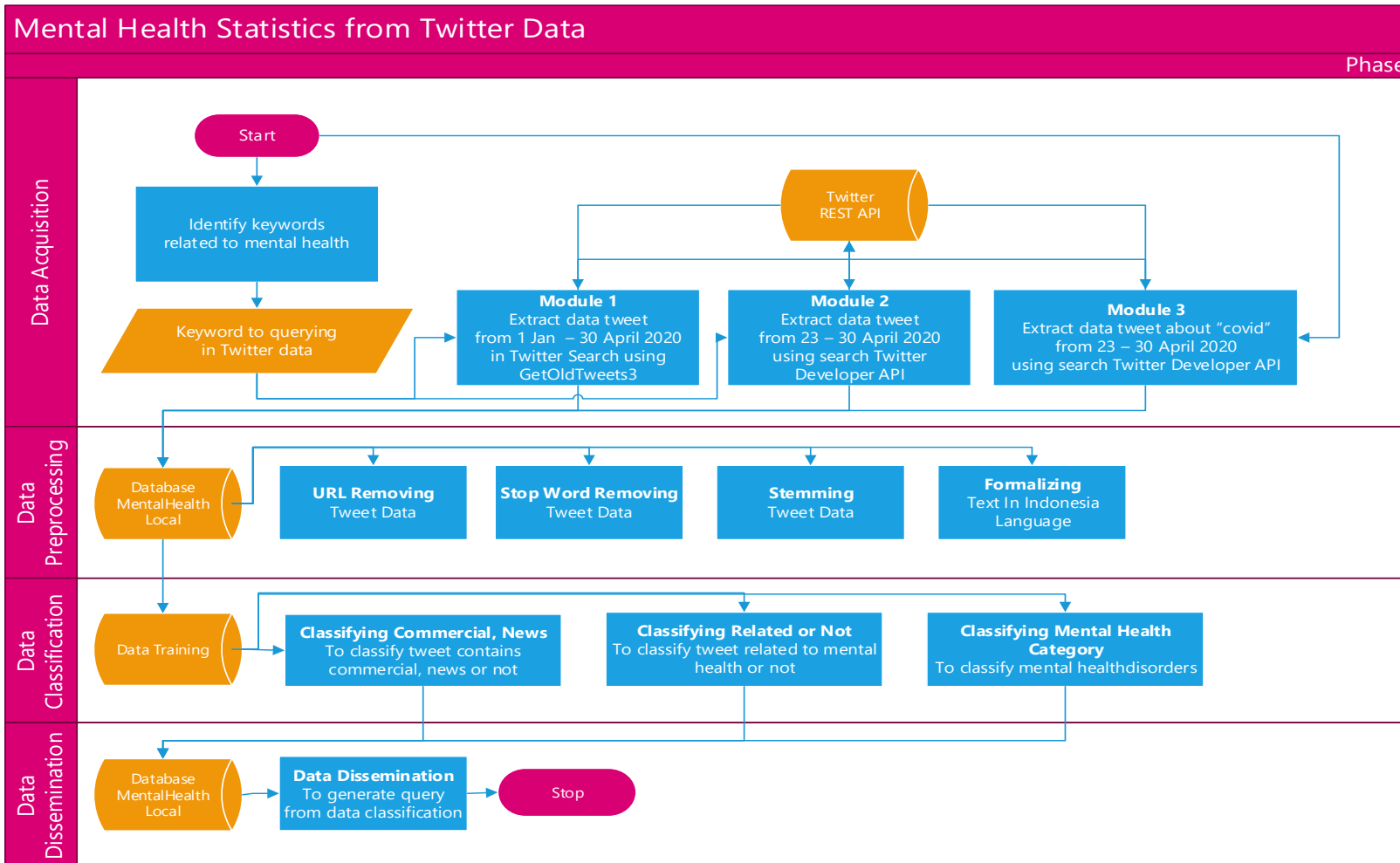
In this time, mental health statistics in Indonesia already count in Ministry of Health and Statistics Indonesia. But some source of the data are from international agency like Mini International Neuropsychiatric Interview (MINI). And beside that, domestic agency also do interview with Self Reporting Questionnaire-20 (SRQ-20) that shared in their website and do survey that called SUSENAS to get some indicators to disaggregate the total cases of mental health.

**“Advances in information technology and data storage that made social media data is an incredibly rich data source in both volume and variety.”**





# Methodology



DETAILS

DETAILS

RESULTS



**1. Sedih (Sad) : 38.710 tweets**

**2. Capek (Tired) : 14.632 tweets**

**3. Pusing (Headache) : 10.682 tweets**

**4. Gila (Crazy) : 9.935 tweets**

**5. Marah (Angry) : 9.222 tweets**

# Methodology

## Data Acquisition

**TOP 5 KEYWORDS  
RELATED TO MENTAL HEALTH  
INDICATORS  
THAT USED BY PEOPLE**

**BACK**



## 1. Classifying Commercial, News



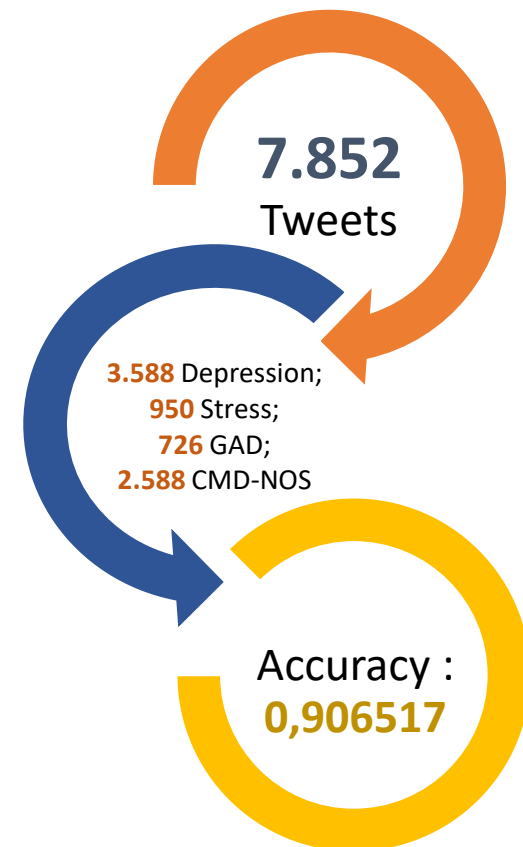
## 2. Classifying Related or Not Related



# Methodology

## Data Classification

## 3. Classifying Mental Health Category



BACK



## Modul 1

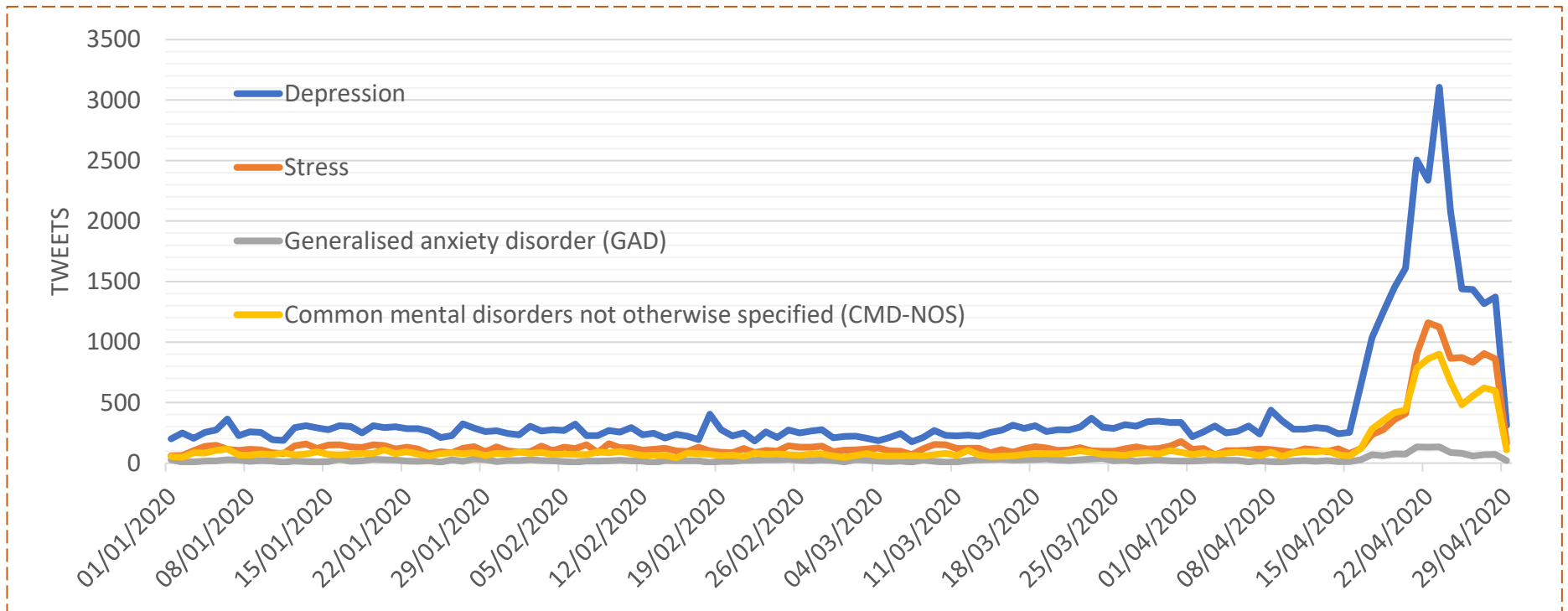
In period 1 January – 30 April 2020 we managed to collect tweet in mental health indicators.

	Jan	Feb	Mar	Apr
Total Tweets	78.236	66.377	75.265	249.243
Non Comercial/News Tweets	29.358	25.377	27.636	95.354
Having Relation with Mental Health	14.802	13.315	14.833	46.456



## Modul 1

In period 1 January – 30 April 2020 we managed to collect tweet in mental health indicators.

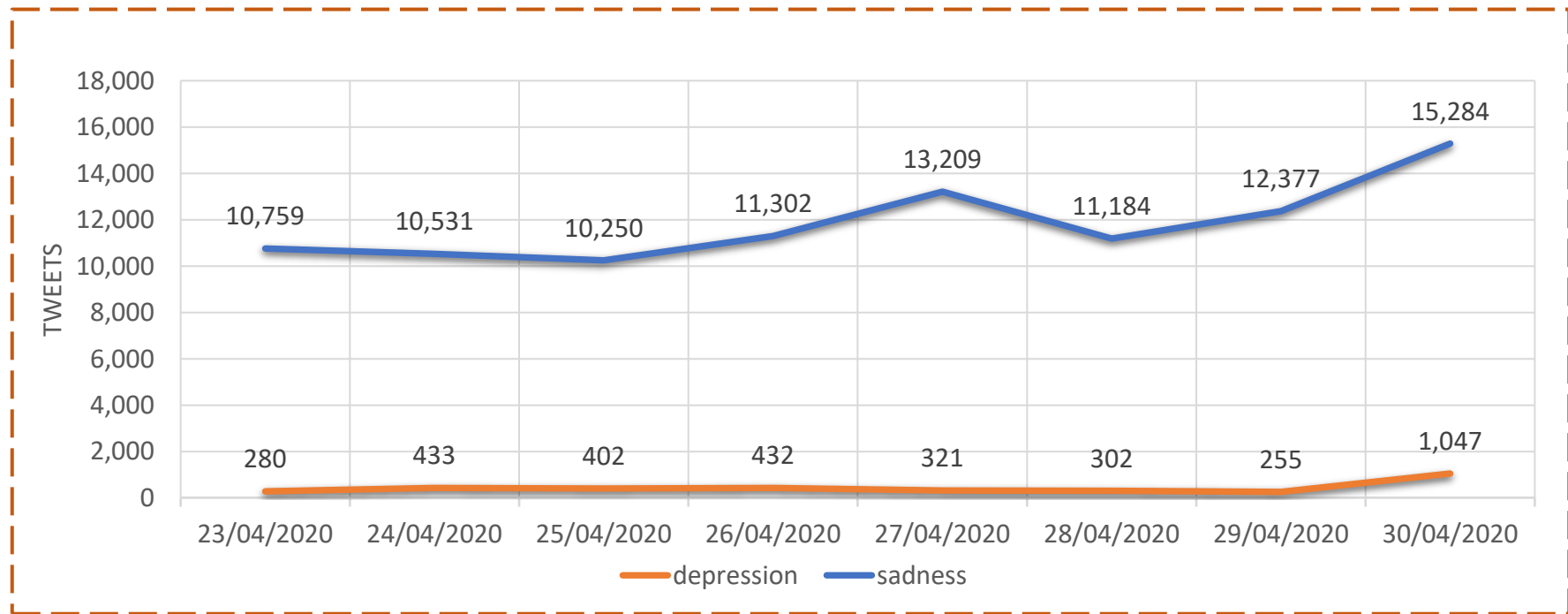




# Result (2)

## Modul 2

In period 23 - 30 April 2020 we managed to collect 386.695 tweet in mental health indicators by using Twitter API.







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# Result (3)

## Modul 3:

In period 23 – 30 April 2020, we collected tweet that contains keyword “COVID or COVID-19”.

**102.000**

Total Tweets

**100.851**

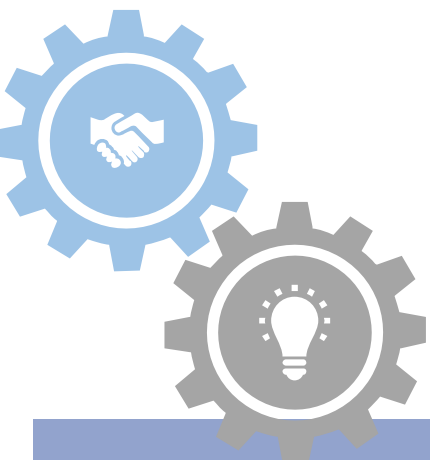
Commercial/News Tweets

**149**

Non Commercial/News Tweets

**63**

Contain Mental Health  
Indicators





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# Discussion, Conclusion and Recommendations

## • Findings :

1. We developed tools and method to identify potentially relevant content in mental health indicators.
2. To increase the accuracy of the data training that code by human manually, we needs automated methods that will replicate human coded examples.
3. Third, the results of the Twitter analysis shows the nature of the human conversation about mental health disorders.

## • Recommendations :

1. Explore other social media platform more deeply in order to measuring indicator of mental health statistics.
2. Examining the characteristics and sentiment of the classified text data.
3. Developing a robust search strategy in social media to get relevant data about mental health.



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# THANK YOU



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