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## **Group 2 Case Study**

Guide: Mr. A V Ramanan

#### **Presented By:**

- 1. Mr. Hemant Chawla
- 2. Mr. SP Kishore Dasika
- 3. Ms. Anupam Bansal



#### <u>Agenda</u>



- Background
- Impact of COVID-19
- COVID-19 Data
- Sales Strategy During COVID-19
- Product Design Principles
- COVID-19 Specific Product

## Case Study

# Institute of Actuaries of India

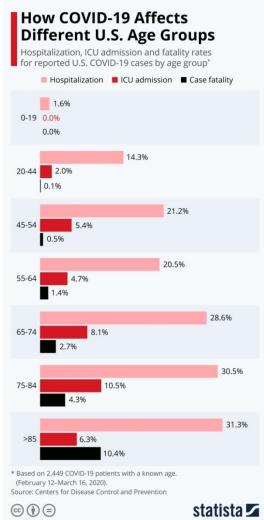
#### Background

- There is a pandemic COVID-19 which is an epidemic in India.
- There have been major lock downs that significantly changed the economic environment.
- There are regular publicly available statistics.
- There is also a variety of hospital cost information in the newspapers.
- As of 17<sup>th</sup> June 2020, there have been more than 8 million confirmed cases worldwide with more than 350,000 cases in India

#### **COVID-19 Direct Costs**

- There are several cost items associated with COVID-19:
  - Testing
  - Telemedicine
  - Quarantine Costs
  - Consumables such as PPE kits
  - Hospital Treatments
  - Intensive Care Treatments
  - End of Life Care
- These costs will be mainly affected by:
  - Age
  - Comorbidities (pre-existing conditions)
  - Region (R value, hospital beds per capita)
  - Level of benefits provided by insurance



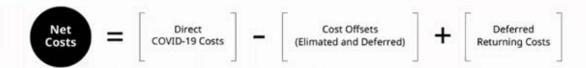




#### **Net Costs**

Key factors impacting the net costs of COVID-19 are:

- COVID-19 direct costs (see previous slide)
- <u>Cost Offsets</u>: Decreased utilization of medical services to avoid COVID-19 exposure
  - Minor Ailments
  - Elective Procedures
  - Reluctance to go to hospitals
- <u>Deferred Returning Costs:</u> Increase in demand for deferred medical services after restrictions are eased





#### Major Issues in Estimating Net Costs

Short Term	Medium Term
<ul> <li>COVID-19 Direct Costs</li> <li>Cost of testing and treatment         <ul> <li>Number of COVID-19 claims</li> <li>Severity of the claims</li> </ul> </li> <li>Cost Offsets         <ul> <li>Level of decreased utilization of medical services to avoid COVID-19 exposure</li> <li>Proportion of Eliminated and Deferred Costs</li> </ul> </li> <li>Deferred Returning Costs         <ul> <li>Pace and level of return of the deferred medical services after lockdown</li> </ul> </li> <li>Other Issues to Consider:         <ul> <li>Length of the current wave of COVID-19 outbreak</li> <li>New states which can become COVID-19 hotspots</li> <li>Capacity of hospitals to handle COVID-19 and other medical services after lockdown</li> <li>Increase in the cost of treating other ailments due to COVID-19</li> </ul> </li> </ul>	<ul> <li>Issues to Consider:</li> <li>Timing of infection peak in different states</li> <li>Identifying which non-COVID-19 claims are deferred claims from earlier</li> <li>Extent to which restrictions are eased e.g. borders opening with other countries may bring: <ul> <li>Imported Cases</li> <li>Another Community Spread</li> </ul> </li> <li>Likelihood and length of second wave of COVID-19 outbreak</li> <li>Possibility of another lockdown and its impact on Cost Offsets and Deferred Returning Costs</li> <li>Likelihood/Timing of vaccine availability and mass vaccination</li> </ul>

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#### Individual Mediclaim

<u>Scenario A:</u> COVID-19 vaccine will be available and delivered to the majority of Indians within 2 years

Aspect	Short Term (Next 12 months)	Long Term (Next 5 years)
Gross Written Premiums	<ul> <li>High Customer Awareness</li> <li>High Retention Rate</li> <li>Difficulty in acquiring new customers due to lockdown/restrictions</li> </ul>	<ul> <li>Increase in customer awareness</li> <li>Increase in cost of medical treatment year on year</li> </ul>
Loss Ratios	<ul> <li>COVID-19 costs on existing policies<sup>1</sup></li> <li>Some offsets due to deferred costs</li> </ul>	<ul> <li>Return to Pre COVID-19 loss ratios after vaccine</li> <li>Premiums revised based on experience</li> </ul>
Marketing Strategies	<ul> <li>Use of technology to the extent possible</li> <li>Social media marketing to reach younger age groups<sup>2</sup></li> </ul>	Greater recognition and use of digital marketing and sales
Premium Adequacy	<ul> <li>COVID-19 costs on existing policies<sup>1</sup></li> <li>Additional expenses due to social distancing measures</li> </ul>	<ul> <li>Return to Pre COVID-19 levels after vaccine</li> <li>Premiums revised based on experience</li> </ul>

<sup>1. &</sup>quot;Guidelines on handling of claims reported under Corona Virus, Ref. No: IRDAI/HLT/REG/CIR/054/03/2020"

<sup>. &</sup>quot;Rise of Social Media Marketing: A Perspective on Health Insurance", https://ieeexplore.ieee.org/document/8728510

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#### Individual Mediclaim

Scenario B: COVID-19 vaccine will not become available

For scenario B, short term (next 12 months) outlook remains the same as scenario A\*.

Aspect	Long Term (Next 5 years)
Gross Written Premiums	<ul> <li>Higher demand due to risk of future COVID-19 outbreaks</li> <li>More awareness of benefits of health insurance especially in younger age group</li> </ul>
Loss Ratios	Return to Pre CoVID-19 level in longer term with improved data and modeling
Marketing Strategies	<ul> <li>Increased use of digital marketing and sales</li> <li>Future outbreaks / lockdowns will disrupt non-digital channels</li> </ul>
Premium Adequacy	<ul> <li>Investment costs of digital channels</li> <li>Premiums revised based on experience</li> <li>Offset by benefit of reduced customer acquisition costs through digital channels</li> </ul>

<sup>\*</sup>Assumes no impact of vaccine over next 12 months as mass vaccination will take time even if safe and efficient vaccine is available in next 6 months (which in itself is unlikely).



#### Travel Insurance

<u>Scenario A:</u> COVID-19 vaccine will be available and delivered to the majority of Indians within 2 years

Aspect	Short Term (Next 12 months)	Long Term (Next 5 years)
Gross Written Premiums	<ul> <li>Reduced demand due to ban on international travel.</li> <li>Focus on age groups with lower COVID-19 risk will reduce premiums</li> </ul>	Higher customer awareness leading to higher sum insured / level of coverage
Loss Ratios	<ul> <li>Hospitalization COVID-19 costs on existing policies<sup>1</sup></li> <li>No offsets as date change allowed in case of no travel<sup>2</sup></li> </ul>	<ul> <li>Return to Pre COVID-19 loss ratios after vaccine</li> <li>Premiums revised based on experience</li> </ul>
Marketing Strategies	<ul> <li>Use of technology to the extent possible</li> <li>Focus on domestic travel and lower risk age groups</li> </ul>	Greater recognition and use of digital marketing and sales
Premium Adequacy	<ul> <li>Hospitalization COVID-19 costs on existing policies<sup>1</sup></li> <li>Additional expenses due to social distancing measures</li> </ul>	<ul> <li>Return to Pre COVID-19 levels after vaccine</li> <li>Premiums revised based on experience</li> </ul>

<sup>1. &</sup>quot;Guidelines on handling of claims reported under Corona Virus, Ref: IRDAI/HLT/REG/CIR/054/03/2020"

2. "Covid-19 related instructions", Ref: IRDAI/INSP/CIR/MISC/077/03/2020



#### Travel Insurance

Scenario B: COVID-19 vaccine will not become available

For scenario B, short term (next 12 months) outlook remains the same as scenario A\*.

Aspect	Long Term (Next 5 years)
Gross Written Premiums	<ul> <li>Low demand for international travel due to risk of future COVID-19 outbreaks</li> <li>Focus on age groups with lower COVID-19 risk will reduce premiums</li> <li>Lower sales if COVID-19 is excluded as a "known event"<sup>1</sup></li> </ul>
Loss Ratios	<ul> <li>Tighter policy terms and conditions (e.g. COVID-19 exclusions)</li> <li>Premiums revised based on experience</li> </ul>
Marketing Strategies	<ul> <li>Increased use of digital marketing and sales</li> <li>Future outbreaks / lockdowns will disrupt non-digital channels</li> <li>Focus on lower COVID-19 risk age groups</li> </ul>
Premium Adequacy	<ul> <li>Investment costs of digital channels</li> <li>Premiums revised based on experience</li> <li>Offset by benefit of reduced customer acquisition costs through digital channels</li> </ul>

<sup>\*</sup>Assumes no impact of vaccine over next 12 months as mass vaccination will take time even if safe and efficient vaccine is available in next 6 months (which in itself is unlikely).

<sup>1.</sup> https://www.independent.ie/business/personal-finance/travel-insurers-to-halt-covid-19-cover-in-another-major-blow-for-global-tourism-39189940.html



#### Employee Health Scheme

<u>Scenario A:</u> COVID-19 vaccine will be available and delivered to the majority of Indians within 2 years

Aspect	Short Term (Next 12 months)	Long Term (Next 5 years)
Gross Written Premiums	<ul> <li>High demand due to compulsory coverage<sup>1</sup></li> <li>High Retention Rate</li> </ul>	<ul> <li>Increased employer's duty of care</li> <li>Increase in cost of medical treatment year on year</li> </ul>
Loss Ratios	<ul> <li>COVID-19 costs on existing policies<sup>2</sup></li> <li>Some offsets due to deferred costs</li> </ul>	<ul> <li>Return to Pre COVID-19 loss ratios after vaccine</li> <li>Premiums revised based on experience</li> </ul>
Marketing Strategies	<ul> <li>Use of technology to the extent possible</li> <li>Focus on occupations with lower COVID-19 risk</li> </ul>	Greater recognition and use of digital marketing and sales
Premium Adequacy	<ul> <li>COVID-19 costs on existing policies<sup>2</sup></li> <li>Coverage for old age dependants</li> <li>Additional expenses due to social distancing measures</li> </ul>	<ul> <li>Return to Pre COVID-19 levels after vaccine</li> <li>Premiums revised based on experience</li> </ul>

<sup>1. &</sup>quot;Providing mandatory medical insurance coverage to workers as part of the National Directives of MHA, GOI, Ref: IRDAI/HLT/CIR/MISC/093/04/2020"

"Guidelines on handling of claims reported under Corona Virus, Ref: IRDAI/HLT/REG/CIR/054/03/2020"



#### Employee Health Scheme

Scenario B: COVID-19 vaccine will not become available

For scenario B, short term (next 12 months) outlook remains the same as scenario A\*.

Aspect	Long Term (Next 5 years)
Gross Written Premiums	<ul> <li>Higher demand due to risk of future COVID-19 outbreaks</li> <li>Increased employer's duty of care</li> <li>Increase in cost of medical treatment year on year</li> </ul>
Loss Ratios	Return to Pre CoVID-19 level in longer term with improved data and modeling
Marketing Strategies	<ul> <li>Increased use of digital marketing and sales</li> <li>Future outbreaks / lockdowns will disrupt non-digital channels</li> <li>Focus on occupations with lower exposure to COVID-19</li> </ul>
Premium Adequacy	<ul> <li>Investment costs of digital channels</li> <li>Premiums revised based on experience</li> <li>Offset by benefit of reduced customer acquisition costs through digital channels</li> </ul>

<sup>\*</sup>Assumes no impact of vaccine over next 12 months as mass vaccination will take time even if safe and efficient vaccine is available in next 6 months (which in itself is unlikely).



#### Post Retirement Scheme

<u>Scenario A:</u> COVID-19 vaccine will be available and delivered to the majority of Indians within 2 years

Aspect	Short Term (Next 12 months)	Long Term (Next 5 years)
Gross Written Premiums	<ul> <li>Heightened awareness of COVID-19 risk</li> <li>Attractive to retired employees due to lower premium than retail</li> </ul>	<ul> <li>Attractive to retired employees due to lower premium than retail</li> <li>Increase in cost of medical treatment year on year</li> </ul>
Loss Ratios	<ul> <li>COVID-19 costs on existing policies<sup>1</sup></li> <li>Minimal offsets due to deferred costs for old age group</li> </ul>	<ul> <li>Return to Pre COVID-19 loss ratios after vaccine</li> <li>Premiums revised based on experience</li> </ul>
Marketing Strategies	Use of technology to the extent possible	Greater recognition and use of digital marketing and sales
Premium Adequacy	<ul> <li>COVID-19 costs on existing policies<sup>1</sup></li> <li>Anti-selection</li> <li>Additional expenses due to social distancing measures</li> </ul>	<ul> <li>Return to Pre COVID-19 levels after vaccine</li> <li>Premiums revised based on experience</li> </ul>

<sup>1. &</sup>quot;Guidelines on handling of claims reported under Corona Virus, Ref: IRDAI/HLT/REG/CIR/054/03/2020"



#### Post Retirement Scheme

Scenario B: COVID-19 vaccine will not become available

For scenario B, short term (next 12 months) outlook remains the same as scenario A\*.

Aspect	Long Term (Next 5 years)
Gross Written Premiums	<ul> <li>Higher demand due to risk of future COVID-19 outbreaks</li> <li>Attractive to retired employees due to lower premium than retail</li> <li>Increase in cost of medical treatment year on year</li> </ul>
Loss Ratios	Return to Pre CoVID-19 level in longer term with improved data and modeling
Marketing Strategies	<ul> <li>Increased use of digital marketing and sales</li> <li>Future outbreaks / lockdowns will disrupt non-digital channels</li> </ul>
Premium Adequacy	<ul> <li>Investment cost of digital channels</li> <li>Premiums revised based on experience</li> <li>Offset by benefit of reduced customer acquisition costs through digital channels</li> </ul>

<sup>\*</sup>Assumes no impact of vaccine over next 12 months as mass vaccination will take time even if safe and efficient vaccine is available in next 6 months (which in itself is unlikely).



#### **Government Health Schemes**

<u>Scenario A:</u> COVID-19 vaccine will be available and delivered to the majority of Indians within 2 years

Aspect	Short Term (Next 12 months)	Long Term (Next 5 years)		
Gross Written Premiums	<ul> <li>Premiums may remain same in short term</li> <li>Entitlement based on deprivation and occupational categories</li> </ul>	<ul> <li>Sum insured / coverage may be increased by government</li> <li>Change in implementation mode from trust to insurance/mixed will increase premiums</li> </ul>		
Loss Ratios	<ul> <li>COVID-19 costs on existing policies¹</li> <li>In emergent situations, policy can be extended by government²</li> <li>Cost offsets due to deferred costs</li> </ul>	<ul> <li>Return to Pre COVID-19 loss ratios after vaccine</li> <li>Premiums can be revised based on experience / time of re-tender</li> </ul>		
Marketing Strategies	Open tendering process used for sales			
Premium Adequacy	<ul> <li>COVID-19 costs on existing policies<sup>1</sup></li> <li>Cover for pre-existing conditions</li> <li>Additional expenses due to social distancing measures</li> </ul>	<ul> <li>Return to Pre COVID-19 levels after vaccine</li> <li>Premiums can be revised based on experience / time of re-tender</li> </ul>		

<sup>1. &</sup>quot;Guidelines on handling of claims reported under Corona Virus, Ref: IRDAI/HLT/REG/CIR/054/03/2020"

<sup>. &</sup>quot;Page 68 of Tender Document" https://pmjay.gov.in/sites/default/files/2020-01/SBDABPM-JAY.pdf



#### Government Health Schemes

Scenario B: COVID-19 vaccine will not become available

For scenario B, short term (next 12 months) outlook remains the same as scenario A\*.

Aspect	Long Term (Next 5 years)	
Gross Written Premiums		<ul> <li>Increase in sum insured / coverage by government</li> <li>Change in implementation mode from trust to insurance/mixed will increase premiums</li> </ul>
Loss Ratios		<ul> <li>Return to Pre CoVID-19 level in longer term with improved data and modeling</li> <li>Premiums revised based on experience</li> </ul>
Marketing Strategies		Open tendering process used for sales
Premium Adequacy		<ul> <li>Premiums can be revised based on experience / time of retender</li> </ul>

<sup>\*</sup>Assumes no impact of vaccine over next 12 months as mass vaccination will take time even if safe and efficient vaccine is available in next 6 months (which in itself is unlikely).

## Uses of Publicly available data



#### The Data can be used in

- Pricing
- Reserving
- Experience analysis
- Capital requirements
- Solvency reporting
- ♦ To supplement the projections based on already existing data
- ♦ To see impact of COVID-19 on the portfolio
- ♦ To do simulations of different scenarios to ensure solvency
- ♦ To decide on suitable business strategies
- ♦ To see the impact of deferred claims and reserving to cover those in future

## Data- Limitations in medium term

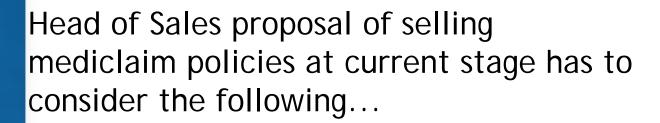


- Scarce data & Low credibility initially but expected to improve over medium term
- Errors/Corrections & Reliability of data source
- Testing rates Regional differences in claims may not be reliable in medium term impacting risk factors in pricing, business strategies
- The following impact completeness of data leading to misestimation of infection rates, this impacts pricing/reserving
  - ♦ Asymptomatic cases
  - ♦If hospitals can't accommodate all infected patients
- Granularity of data related to comorbidities, travel history and other factors impacting net cost is not mentioned, this makes it difficult to identify key risk factors in experience analysis, pricing etc.

## Data- Limitations in medium term



- Available claims data may not be completely relevant to use in reserving by our company because...
  - ♦The benefits provided for these claims may be different
  - ♦The level of underwriting
  - ♦Target market, age/occupation profile may be different
- News papers data may not be reliable as the authenticity and sources of information can not be verified
- Data related to un-insured population may also be useful to supplement the insured data but there could be limitations to quality and availability of this data.
- Simulation of solvency and capital projections based on this data may be invalid due to the uncertainty about future spread of COVID-19





Pros	Cons
<ul> <li>Benefit due to low non-COVID-19 claims currently</li> <li>Making best use of increased awareness and demand for mediclaim induced by COVID-19</li> <li>Take advantage of faster claim settlements that gets highlighted in the market in current situation</li> <li>Opportunity for long-term value creation when competitors are following wait and watch policy</li> <li>Pitching appropriate product with careful pricing to take advantage of current market</li> </ul>	<ul> <li>Claims for elective surgeries during last couple of months are low, this could increase in future thereby increasing claims cost</li> <li>COVID-19 claims may be higher than expected as COVID-19 situation in India is still developing</li> <li>Uncertainties may require more capital to support this new business</li> <li>Risk of higher claim costs now due to COVID-19 precautions(PPE kits etc.)</li> <li>Claim costs may go up if more people infected and demand increases for hospitals</li> </ul>

## Product Design Principles of Health Insurance Product



- Marketability and Profitability
- Coverage and Terms and Conditions
- Deductibles, exclusions and Waiting Period
- Capital Requirements
  - Availability and Credibility of Data
  - New Business Volumes
  - Claim Costs
  - Expenses
  - Reinsurance
- Competition already existing products of company and market
- Company Strategy
- Underwriting Strategy for the product
- Product Substitution
- Administration and IT systems
- Regulatory Requirements



- > Type of Benefit Cover which may be offered:
  - Fixed Benefits Based
  - Indemnity Based
- Marketability:
  - Highly Marketable
  - Simple Terms and Conditions only covering COVID-19.
  - May be cheaper than existing products.

Fixed Benefits Based	Indemnity Based
Partial/ Full Payment of Fixed SA on happening of insured event.	Indemnify for all COVID-19 related costs including PPE, ambulance charges etc.
Meeting the upfront finance requirements of the people. Maybe More expensive than indemnity.	Indemnifies insured only when treatment is undertaken. It may be cheaper than fixed benefits product and other comprehensive indemnity products.



- ➤ Deductibles, Exclusions and Waiting Period: Institute of Actuaries of India
  - A waiting period of minimum 15 days may be introduced under both the products to avoid anti-selection.
  - Risk factors which may be considered for underwriting:
    - Occupation essential services may be considered high risk
    - Gender
    - Age
    - Location of the policyholder zone wise
    - Floater/Individual
  - Underwriting Controls may be placed basing below factors:
    - Longer Waiting Period/ Declined Risks Travel history in past 30 days/ close contact
    - Loading on premium Co-morbidities



#### Capital Requirements:

- Size of the company will affect the product offering
- Claim Costs
  - Higher than expected.
  - Treatment costs may reduce in long term:
    - More supply of PPEs and number of hospitals beds, availability of vaccine.
    - caps on treatment costs imposed by government
- Higher reserves:
  - to meet guarantees under fixed benefits product
  - Unavailability of data higher margins.
- Higher than expected New Business.
- Reinsurance -
  - Availability and readiness to cover Covid-19 business.
  - Higher rates due to unavailability of data.
- Expenses:
  - Lack of Renewability may increase expense loading.
  - Higher administration expenses, IT development costs, training of agents.
  - Higher marketing costs



#### > Competition:

- May charge lower price given the future projection of business.
- If standard terms and conditions set by regulator, then only premiums will be a differentiating factor - loss leader
- Synergy with Existing Products of the company:
  - May conflict with existing Mediclaim policy covering COVID-19.
  - May cover epidemic as add-on to ensure renewability.

#### > Risks:

- Volume of new business
- Data Claim rates and costs
- Vaccine Availability will affect demands.
- Concentration of Risk



#### > Conclusion:

- Compliance with Regulatory Requirement:
  - Both the options will cover the regulatory requirement of offering a COVID-19 specific Product.
  - May want to offer as a pandemic add-on cover to enhance renewability.
- Challenges in Pricing and Design -
  - May not be able to modify the product in a short term as per product filing guidelines of IRDAI.
  - Data Challenges
  - New Business Volumes
  - Lack of Renewability
- Capital requirements for the product may be high.



#### Questions?