



ACTUARIAL SOCIETY  
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香 港 精 算 學 會

Actuarial Society of Hong Kong's Newsletter

# Hong Kong Actuaries

APRIL 2021 | VOLUME 01

## Council & Committee Updates

- ASHK Strategy Day - 15 March 2021
- Engagement with Regulators and Industry Stakeholders
- Online Learning Initiatives for Members
- The 4th General Insurance Seminar

## Feature Articles

- Hong Kong's Research on COVID-19
- How Soon will We See the Benefits of the Vaccine Rollout?
- ASHK Examination – In-person Interview with our 2020 Alumni

## Call for Articles or Views for the next issue of Newsletter!

While all articles are welcome, we would especially like to receive articles for the Feature Articles and Knowledge Sharing sections. If you have written any inspiring articles or have read any interesting articles from other actuarial organisation(s), please feel free to let us know. We will try to reprint them in our newsletter. Welcome to email your articles or views at [info@actuaries.org.hk](mailto:info@actuaries.org.hk).

## Vaccine





# Editorial

Dear Readers,

Welcome to the first ASHK newsletter for 2021.

On behalf of the Membership and Communication Committee, it is with great pride and sincere privilege that I am writing this message to present the first issue of the 2021 ASHK Newsletter. Launching this new edition would not have been possible without the great and much appreciated contributions from our members.

In this issue, we are featuring the hottest topic of the moment - Vaccine. We are honored to have an interview with Prof. Benjamin Cowling, Professor and Head of the Division of Epidemiology and Biostatistics and Dr. Nancy Leung, Research Assistant Professor of the School of Public Health, HKU. They both shared their valuable insights and strategies on COVID-19 control and treatments. We also published two inspiring articles from the ASHK Actuarial Innovation Committee – “*An Introduction to Energy Markets and Some of the Actuaries Working within the Sector*” and “*Make Actuaries Generate Analytics: A Serial Twitter Analysis for the 2020 US Presidential Election by YDAWG Analytica*”.

In a world that is rapidly getting unpredictable and increasingly plugged in, the ASHK faces the constant challenge of staying relevant to the times and to our members. The use of digital technology such as virtual solutions are used to help us all keep abreast of the latest in trends. While we can't control much of what is happening around us, staying connected and positive may help us get through the tough times!

Finally, I also encourage you to attend the coming events: GI Seminar (9 and 16 Jul), JRS (Sep), IFRS Seminar (15-16 Sep), Actuarial Innovation Conference (Q3/Q4), Appointed Actuaries Symposium (Q4) and Health Seminar (Q4) – all our events are nicely summarized with the latest updates in the ASHK website. We intend to bring the experts to you so that you can benefit from their insights while fulfilling your CPD requirement whether virtually, hybrid or in-person as circumstances permit.

Happy reading!

Best Regards,  
Kevin Lee  
EDITOR



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**Council – Dicky Lam****ASHK Strategy Day - 15 March 2021**

The recent Council's annual strategy day was held successfully on 15 Mar 2021 at the China Life Centre with all Council members in attendance. This is a significant occasion for the Council to gather in a less formal setting to go over the strategic planning for ASHK's growth and development.

The strategy day was extremely productive with open discussions on various strategic issues such as the statutory path progress, actuaries' professional development, member and committee engagement as well as ASHK brand building. We strive for strengthening ASHK's values to our members as an influential body in the industry as well as to the public. A number of initiatives were discussed and are planned to be rolled out in the year of 2021!

**The International Actuarial Colloquium – New Dates in 2022!**

The International Actuarial Colloquium 2021 scheduled for 26-28 April in Hong Kong with the theme “Global Pandemic - Beyond the New Normal” will now be postponed to 2022. The new date will be announced soon. This flagship event is co-organized by the International Actuarial Association) Life Section (IAALS) and Pensions, Benefits and Social Security (PBSS) Sections and the Actuarial Society of Hong Kong (ASHK). We will assume the event will be virtual until circumstances permit us to hold an in-person event.

Despite the schedule change, we are looking forward to your support for promotion and submission of papers for this important international event about Life Insurance and Pensions fields. The deadline of submission will be further extended given the event postponement. All accepted full-length papers will be eligible for consideration for “Best Paper Awards”. The winner will be announced during the closing ceremony of International Actuarial Colloquium 2022.

In the meantime, we continue to seek your contribution to be our corporate sponsor. We look forward to your favorable response and participation at the International Actuarial Colloquium 2022!

**Council – Dicky Lam****Engagement with Regulators and Industry Stakeholders**

The ASHK/IA Working Group continued the conversation on the ASHK Statutory Path Project. Industry Consultations with HKFI and HKICPA have been held in the past few months. For compliance, a virtual ASHK member consultation was conducted on 15 December 2020 to enlist inputs from our valued members. Individual enquires and concerns were addressed during the member consultation session or by emails. We are glad to have the consent from ASHK members on this amendment. We plan to file the amendment incorporating FASHKPC with the Company Registry (CR) upon receiving the conditional approval from the IA. Another update meeting with IA was held in March 2021.

**Partnering with IFoA**

The ASHK is actively engaging with the IFoA Life Asia Sub-Committee in 2021 to look for opportunities where we can collaborate on the relevant industry discussions, events, research, and other initiatives. Initially there will be two joint events available this year for the ASHK and IFoA members.



Institute  
and Faculty  
of Actuaries

The first co-hosted webinar in May 2021 will cover specialist industry topics on “health products post covid-19”. We will source support from subject matter experts from Hong Kong and Mainland China to share their experiences and perspectives which can of interest to the ASHK members given the big bay area initiative and the significant Mainland China client base in the HK insurance market. This is going to be a great professional exchange on the two markets.

Another event is about the macro trends on insurance with topics on “future generation actuary /The evolution of the role of an actuary in this digital age” or “actuaries in non-traditional and wider fields”. It will be likely incorporated in our agenda of the 2021 Joint Regional Seminar in September.

## Curriculum Exam Taskforce & Professional Development Committee – Patrick Au

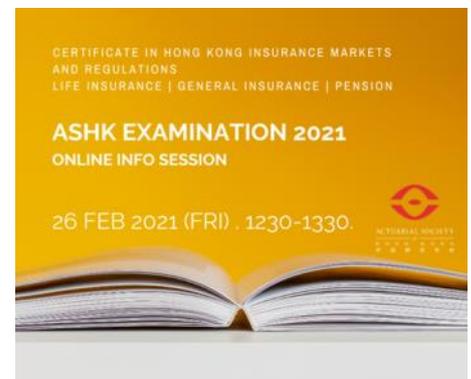
### ASHK Examination 2021 and Online Information Sessions

We believe continuous education is essential to career development. With a goal to strive to strengthen the professionalism of local actuaries, PDC had offered two free online info sessions on 26 Feb and 11 Mar respectively targeted at all ASHK members, employers, university students or anyone who is interested in our exam. Our goal is to help our candidates gain a better understanding on the examination/the qualification including:

- Values of the ASHK Examination
- Student Scholarship Opportunity
- Exam and preparation tips
- Meet and ask questions of the ASHK Council and Examination Task Force members as well as our passing candidates

We are glad that the sessions were well received by the participants. Over 40 delegates registered and attended.

Study materials are provided free-of-charge and the self-study mode will also be a definite advantage for you to take control over your own learning on your own time and at your own pace. Our Candidates report dedicating approximately 40-50 hours of study per exam on average. The individual has a flexibility to either take both papers (Core and Elective) or single paper at one time. 1.5 CPD hours can be accumulated by passing this examination. The "Certificate in Hong Kong Insurance Markets and Regulations (Life Insurance/General Insurance/Pension)" will be awarded upon completion of both papers.



To enhance your competitive advantage by equipping you with local knowledge in the actuarial regulatory environment, business practice and professional standards, we strongly encourage you to sign up for this additional qualification.

Early-bird registration deadline of the ASHK Examination 2021 is **20 April**.

### Online Learning Initiatives for Members



PDC is currently looking into the Actuview platform for ASHK members to view recordings of actuarial presentations from events around the globe at no cost.

Actuview covers various topics within insurance (life, pensions, health etc.), emerging topics (risk management, RBC type regulatory framework updates, actuarial data science). A number of these recordings are related to Asia, and there were some global events that had Asian actuaries presenting. Our members will be able to print a list of recordings they watch in a selected period of time as a CPD record. The list includes name of the presentation, when the member saw the video, and the duration of the video seen. The recording will only be listed if at least 90% of the video has been played.

This is indeed a new benefit for the ASHK members and should be rolled out in the 2nd quarter of 2021!

In the meantime, PDC is exploring partnership with a well-established global consulting firm to develop a series of self-learning online courses on Digitalization that are accessible online. Actuaries can extend their knowledge to other areas within the insurance industry in a more structured and guided manner. This will also be a great way for self-learning which counts towards relevant CPD requirements at a reasonable cost.

## Pension & Employee Benefits Committee

– Gary Lee



ASHK Pension and Employee Benefits Committee conducted a survey in Hong Kong to understand the practice of actuaries in performing pricing analysis for group medical insurance in September 2019. Based on the results of the survey and then subsequent discussions in June 2020 with actuaries practicing in group medical insurance, the Committee has decided to issue this circular notice to actuaries on group medical pricing analysis to encourage best practice in the industry.

The Actuarial Circular Notice has been approved by ASHK Council in February 2021 and has become effective from 1st March 2021.

## General Insurance Committee

– Trinity Pong



### The 4th General Insurance Seminar

The 4th General Insurance Seminar 2021 will be a virtual event scheduled for 9 and 16 July which aims to provide an excellent platform for highlighting the most recent trends and transformations of the general insurance community. With COVID-19 continuing to impact significantly on the global economy and human behavior, the theme for this year will be “Preparing and Dealing with Change”.

Through this two half-day seminar, general insurance practitioners, actuaries, entrepreneurs, and all industry stakeholders are cordially invited to present and discuss the latest changes and technological advances in the general insurance fields.

The committee is seeking corporate sponsors to support our event, as well as expressions of interest from speakers and topics that fit the theme include accounting and regulatory changes, geopolitical, pandemic and social/demographic changes; or innovation and technology (Submission Deadline: 16 Apr 2021)

[Details for Presentation Submission](#)

## Professional Matters Committee

### – Rockson Leung

#### 2020 CPD Declaration

ASHK Fellow and Associate members were reminded to submit their 2020 CPD declaration by the deadline, 31 March 2021! The Professional Matters Committee (PMC) will conduct a review of the annual 2020 CPD declarations and CPD audit of all non-retired ASHK Fellow and Associate members in the next few months.

We also would like to take this chance to urge all eligible members to file the CPD records at their earliest convenience in order to comply with the CPS By-law. Please keep in mind that if the members no longer work in the actuarial field, they are still obliged to undertake CPD activities relevant to their current role in order to meet the CPD requirements.



## Life Committee

### – Foong Sai-cheong and Alexander Wong



In light of the ongoing volatility in global capital markets and continuation of the low interest rate environment, the Life Committee has recently reviewed the original sample approach on the determination of reinvestment yield in the [2008 Notice](#) (the “Sample Approach”) and has concluded the Sample Approach continues to remain appropriate notwithstanding the fact that it provides less stability than the Proposed Formula. This is because this Sample Approach has been widely adopted for over a decade. The ASHK believes the choice of parameters to be adopted remains to be the judgement of the Appointed Actuary based on the principles laid out in the 2008 Notice. Furthermore, the parameters should be applied consistently. Any modification should be supported by prudent assessment without

compromising the financial soundness of the insurer. If the Sample Approach has been consistently applied by the Appointed Actuary who considers it to remain appropriate, the Appointed Actuary is not required to adopt the Proposed Formula and may continue to apply the Sample Approach. For more details, please see the [Circular Notice](#) issued on 26 February 2021 to Appointed Actuaries.

## Health Committee – Sam Yeung

The Covid-19 outbreak has affected the insurance industry on many facets – from operational support under work-from-home arrangement to virtual client meetings. The Health Committee launched an online survey from October 23, 2020 to November 13, 2020 to learn about ASHK members’ concerns including but not limited to mortality and morbidity risk management and other risk management practices. Based on the feedback received, the committee is working on an article to discuss the impact of the covid-19 pandemic on insurance industry to be published later this year.

Meanwhile, a webinar was successfully organized on March 24, 2021 to educate ASHK members about the new critical illness definitions developed by the China Insurance Association that became effective on February 1, 2020. This new standard is applicable to all critical illness products sold in mainland China market. We are grateful to an expert panel from China Life and Gen Re, painstakingly assembled and skillfully moderated by Mr. Wolfgang Droste. This webinar was well attended by more than 80 members.

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## Financial Reporting Committee – Steve Cheung

### IFRS Seminar 2021

Due to the further outbreak of COVID-19, the IFRS Seminar 2020 has been postponed. The Financial Reporting Committee now confirmed the event to be held on 15 and 16 Sep 2021.

This two-day seminar is targeted at actuaries and accountants who need an understanding of IFRS 17, including the latest developments expected to be included in the final standard scheduled for publication later. Both basic and advanced topics will be covered. The Committee is working diligently on the event agenda, format and logistics. More information will be available in the coming month.



## Actuarial Innovation Committee

– Nora Li

The Committee is pleased to present 2 insightful articles below about the energy sectors and Machine Learning on US election . We hope you find them relevant and useful.



# An Introduction to Energy Markets and Some of the Actuaries Working within the Sector

by **PETER EBEN, AZHAR KHAN, MATTHEW LEGG and DANIEL TENG**

Original article was published on the [Actuaries Digital](https://www.actuaries.digital) by [Actuaries Institute Australia](https://www.actuaries.digital) on 11 March 2021, <https://www.actuaries.digital/2021/03/11/an-introduction-to-energy-markets-and-some-of-the-actuaries-working-within-the-sector/>

In the first of a series of articles on an actuarial perspective of the energy sector, Peter Eben, Azhar Khan, Matthew Legg and Daniel Teng introduce the National Electricity Market and its main participants.

Energy is an essential part of modern life that has recently been the focus of several political and ideological debates. Actuaries are well reputed as astute financial problem solvers where uncertainty and long timeframes exist. The energy industry presents both these key characteristics and is a fascinating example of where the traditional actuarial skill set can be applied to navigate new problems.

The energy industry attracts interest for various reasons:

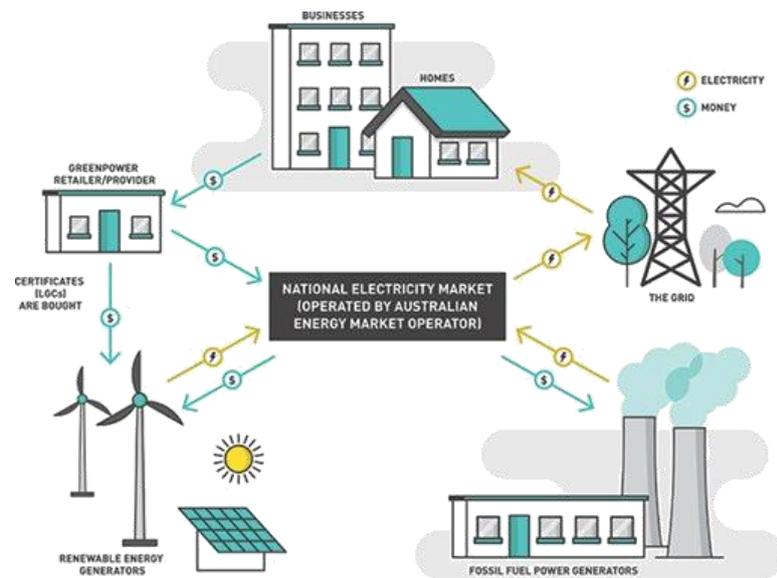
- it is an essential service;
- rapid technology advances mean there is significant transformation ahead;
- electricity and gas costs have been unpredictable and volatile over the past five years;
- the sector is a major contributor to greenhouse gas emissions and climate change is at the forefront of social and business decision making; and
- Australia's economic reliance on energy continues to grow from both exports like coal and gas, as well as the raw input cost to industries like manufacturing and smelting.

The industry is faced with several challenges. This includes an ageing fleet of coal power stations that need to be replaced over time, disruption and opportunities from new technologies like renewables, batteries and other assets which are competing in an outdated market structure not designed for these new technologies, intermittency, and political and regulatory uncertainty that inhibit investment and longer-term planning. As a recent example, average daytime electricity prices have [fallen considerably](#) over the past year due to increased grid and rooftop solar generation, in some cases [up to 70%](#), which puts immediate pressure on coal power providers.

To give you an understanding of the ecosystem that the electricity market operates in, did you know:

- The National Electricity Market (NEM) spans six states and territories across the east and south coast of Australia
- The NEM is one of the longest interconnected electrical systems in the world, and incorporates over 40,000km of transmission lines and cables
- The NEM supplies approximately 10 million customers
- The NEM is a ‘gross pool’ market – generators offer production into the market at fixed prices and those offers are ordered from lowest to highest to form a ‘bid stack’. Spot prices are set by the marginal production required to meet system demand
- Wholesale spot prices in the NEM are set every half hour (moving to every five minutes from October 2021). These prices are highly volatile and can vary from \$-1,000/MWh (subject to discussion in an upcoming article) to \$15,000/MWh. Electricity retailers manage this price risk on behalf of customers and can charge a fixed price for electricity using physical and financial hedges
- The NEM is supplied approximately 60% by coal fired generation, 10% gas fired generation, and 30% renewables from hydro, solar and wind generation.

A typical household consumes 5-10 MWh of electricity a year<sup>1</sup> and spends, on average, \$2,000 on this consumption<sup>2</sup>. This bill is paid to the retailer which in turn covers a range of costs including wholesale costs for the value of the energy, the network charges associated with delivering the energy, renewable energy compliance costs and other charges levied by the electricity retailer.



#### Traditional electricity system participants include:

- Generators that produce electricity and sell electricity into the wholesale electricity spot market
- Transmission and distribution companies that transport electricity from generators through poles and wires to customers premises
- Retailers that buy electricity from the wholesale spot market, manage wholesale risk on behalf of customers and sell electricity to customers
- Customers that can range from residential homes to commercial buildings to industrial customers like manufacturers and smelters
- The Australian Energy Market Operator (AEMO) that operates the market, the Australian Energy Regulator (AER) that regulates the market and the Australian Energy Market Commission (AEMC) that guides policy design in the market

Actuaries are well-placed to work in the energy sector as we are adept at modelling uncertainty, contingent cashflows and long-term projections. There are several examples of actuaries tackling problems in the energy sector:

- Modelling demand, supply, and spot prices which is becoming increasingly challenging with growing intermittent renewable generation
- Valuing financial contracts (eg. a Power Purchase Agreement) which are based on unknown future spot prices and intermittent renewable generation
- Retail pricing of electricity contracts including the calculation of embedded risk premiums
- Reviewing market rules changes and reforms to predict unintended consequences.
- Energy portfolio optimisation across physical and financial assets
- Insurance pricing for generators and transmission providers who are susceptible to climate change risks.

Over the next few articles, the Energy Practice Working Group will be covering some of these topics. And for any other actuaries working in the sector, we encourage you to reach out for inclusion in the taskforce or even just to meet fellow actuaries working in the space. 📍

[1] – <https://www.energymadeeasy.gov.au/benchmark>

[2] – <https://www.energymadeeasy.gov.au/plan?id=ORI25194MRE&postcode=2000>



*Peter Eben*

Peter is a co-founder and Director of Seed Advisory a specialist commercial advisory firm for the energy sector. He has over 21 years practical and advisory experience across the energy value chain covering consumers, retailers, networks, wholesale participants, regulators, governments and investors. His expertise covers the gas, electricity, carbon and renewable energy markets. Peter is a member of ARENA's advisory panel. He is also the Chair of AusNet Services Customer Consultative Committee and an experienced presenter and facilitator at workshops.



*Azhar Khan*

Azhar works as an energy markets consultant at Energetics, a leading advisor to ASX200 companies on energy and climate risk. Azhar advises some of Australia's largest energy users on how to meet the mutual objectives of managing long-term electricity price risk and decarbonisation. He was the transaction manager for the largest corporate renewable offtake in Australia. Azhar also manages the price forecasting team and the modelling capabilities within the energy markets team.



*Matthew Legg*

Matthew works for SIMEC Energy Australia, part of the GFG Alliance including. He also has previously been part of the Trading team at Macquarie Generation. These roles have given him experience on the supply and demand sides of the energy markets including; retail pricing, utility scale battery revenue modelling, electricity demand modelling, rooftop solar modelling, analysis of electricity hedging strategies and gas trading. Outside of energy Matthew has experience in general insurance, health insurance and logistics.



*Daniel Teng*

Daniel is Head of Electricity Portfolio for Origin Energy, one of Australia's largest energy utilities. Daniel is responsible for Origin's wholesale electricity trading strategy and risk management including forward markets trading, optimising the operations of Origin's physical generation portfolio, and developing Origin's portfolio through investing in new assets and structured contracts. Daniel is a qualified Actuary and previously worked in the weather derivative industry.



# Make Actuaries Generate Analytics: A Serial Twitter Analysis for the 2020 US Presidential Election by YDAWG Analytica

by **JACKY POON**, **MEG YANG**, **KRITI KHULLAR**, **JIN CUI**, **EAN CHAN**, **HENRY MA** and **DAVID G THOMAS**

Original article was published on the [Actuaries Digital](https://www.actuaries.digital) by [Actuaries Institute Australia](https://www.actuaries.digital) on 30 October 2020, <https://www.actuaries.digital/2020/10/30/make-actuaries-generate-analytics-a-serial-twitter-analysis-for-the-2020-us-presidential-election-by-ydawg-analytica/>

With the 2020 US Presidential Election just around the corner, the Young Data Analytics Working Group (YDAWG) meandered on a data analytics adventure into the twittersphere to see what the candidates, parties and public have been saying and used a Machine Learning algorithm to mimic the candidates' tweets. This is a sequel to our 2019 Australian Federal Election Twitter analysis.

For better or worse, Twitter has become one of the most powerful media platforms used by news stations and politicians alike to share their messages, connect with constituents, and influence public debates. With the 2020 US Presidential Election on 3 November (4 November AEST), a few members of the YDAWG put their curious minds together to investigate what the candidates, parties and the public are saying about the election.

Without aiming to predict the results, this pre-election analysis aims to showcase analysis that can be undertaken on the Twitter coverage of the election in the three months leading up to the vote.

**What do the candidates and parties tweet most about?**

Analysing the most frequent keywords in the tweets gives us an overview of the candidates and the two parties main messages and agendas. It could also unveil their different campaign strategies, for example:

- What are the one or two issues that the candidates are pushing?
- Are they running positive or negative campaigns?
- How often do they directly call out each other?

To investigate this, historical tweets were sourced from the following accounts:

- @realDonaldTrump
- @JoeBiden
- @GOP
- @TheDemocrats

The July to October 2020 period was chosen given both candidates have been focusing on campaigning during this period. After some data cleansing and removing retweets, the clean tweets are ready to be explored.

The keywords for the four accounts are below:

@realDonaldTrump: There are 146,902 words in the combination of all tweets



@JoeBiden: There are 373,058 words in the combination of all tweets



The size of a keyword reflects the frequency of its usage. It can be seen that both candidates have frequently called out each other on Twitter (directly and via nickname), reflecting the heightened tension between the two sides. During this time of crisis, both candidates sought to inspire, lead, and promise a better future, which is evident from the frequent usage of keywords such as ‘great’, ‘people’, ‘unity’, etc. It would also appear, purely based on these limited number of tweets, that Biden had more explicit mentions of COVID and particular campaign issues, e.g. ‘healthcare’ and ‘job’.

Looking over to the two parties:

@GOP: There are 281,297 words in the combination of all tweets.



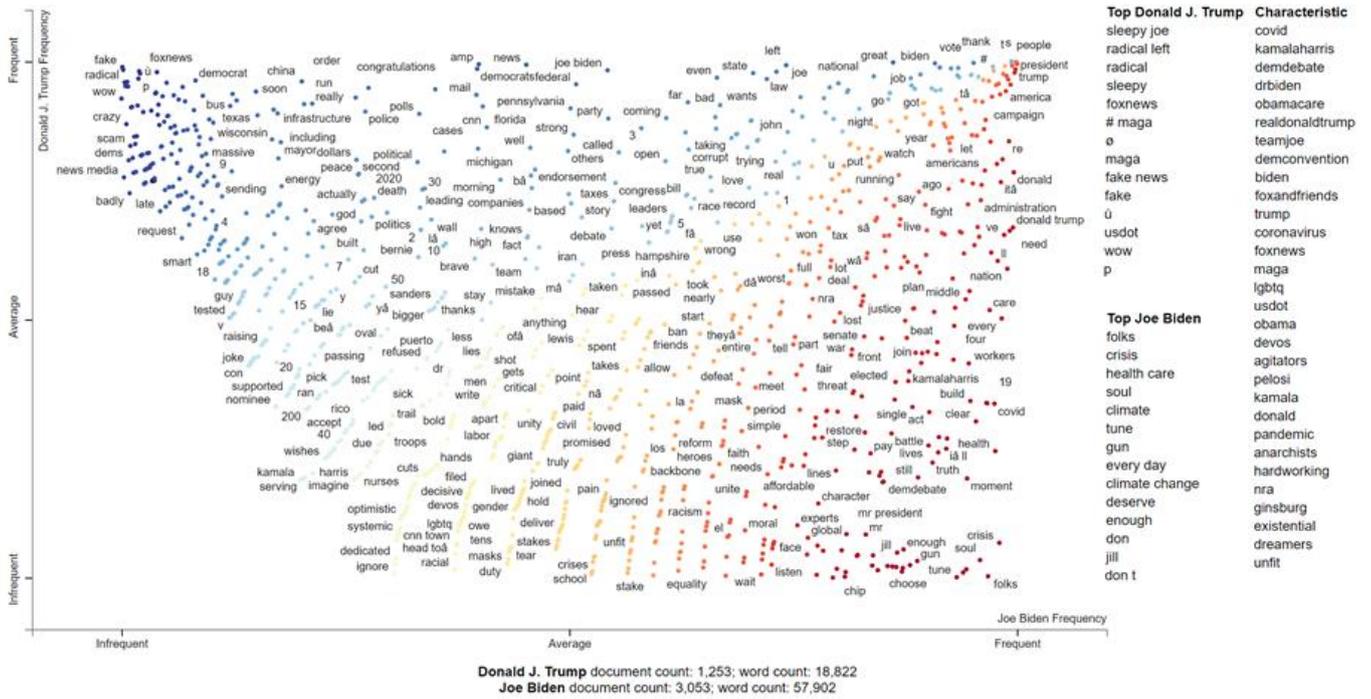
@TheDemocrats: There are 301,014 words in the combination of all tweets



We can see that the two parties’ messagings are clearly aligned to that of their respective candidates. In addition to the name calling, the GOP’s law and order theme is visible from the use of words such as ‘police’ while the Democrats echoing themes such as ‘healthcare’.

*Investigate frequency of key topics using Scattertext*

Using a python package called Scattertext, we can visualise the tweets and search (in the html format) for words which will then receive the frequency of the searched word by the two candidates. In addition, hovering around the words in the texts gives some info/location.



Search for term

[Link for full page view](#)

Words or phrases which appear close to the upper-left and lower-right corners differentiate the parties in terms of policy divisions. For example, terms such as ‘MAGA’, ‘crazy’, ‘Fake News’ are frequently used by Trump but almost never used by Biden. Likewise, terms such as ‘folks’, ‘crisis’, ‘soul’ are frequently used by Biden but almost never used by Trump. Terms that are frequently used in the total sample tweets are displayed on the far-right of the visualisation.

**Are the campaigns really that negative?**

The 2020 presidential campaign has been criticised for being overly negative filled with attacks and rhetoric, as opposed to being issue-led and offering substance. We categorised the tweets into Positive and Negative sentiments using TextBlob, which contains several sentiment lexicons in the sentiments dataset.

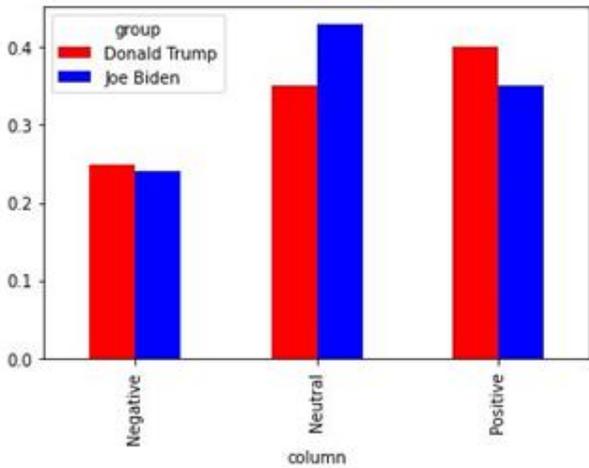
	Positive	Neutral	Negative
@realDonaldTrump	35.87%	43.70%	20.44%
@JoeBiden	41.67%	42.66%	15.67%
@GOP	47.47%	40.22%	12.31%
@TheDemocrats	42.57%	42.57%	14.86%

Interestingly, all four accounts show similar breakdowns among positive, negative, and neutral sentiments. Trump and the GOP do show slightly higher negativity but the difference is not too material. Overall, all four accounts show a high degree of positivity in their tweets and the percentage for tweets with positive sentiment generally doubles that with negative sentiment!

Clearly, the above results should be taken with a grain of salt. The TextBlob package uses lexicon-based techniques to conduct sentiment analysis – these techniques are computationally efficient and scalable, but do not work well with complex linguistic rules.

**What is the public sentiment towards the candidates?**

We can use similar a technique as the above to understand the public’s sentiment by analysing a set of tweets that contain keywords related to the two candidates and parties. Whilst our analysis is simple and high level, the insights it has generated can be quite useful to campaign staff, strategists, and political pundits looking for an audience. We analysed below circa 1000 tweets for each side.



Donald Trump and GOP – keywords: ‘Donald Trump’, ‘Republican’

Joe Biden and Democrat – keywords: ‘Joe Biden’, ‘Biden’, ‘Democrat’

Interestingly, out of the sample tweets, Donald Trump appears to have more polarised public sentiment, having higher percentages for both positive sentiment and negative sentiment compared to Biden. The public’s sentiment towards Joe Biden is more neutral. Given the significant portion of neutral sentiment, perhaps many people are still somewhat undecided. Could this be foreshadowing a tight race that will be too close to call?

### Impersonating the candidates

And now we’re armed with some deep knowledge of the candidates’ twitter accounts, why don’t we try to have a go at creating some tweets in their likeness? In order not to create too damaging of a force against democracy, let’s keep it really simple and use a basic Markov chain model.

*A Markov chain is a mathematical system that experiences transitions from one state to another according to certain probabilistic rules .*

In our case, each state will be a word and so the Markov chain will be used to predict the probability of any given word coming up next as based on the current word. These probabilities are calculated by looking at the frequency with which each word follows another in the training set. We can train our Markov chain model on the tweets we have gathered from each candidate and now we have ourselves a fake news bot that churns out 2,000 tweets a second:



And while we're at it, let's prepare to flood the rest of the political twitterverse:



[Link to the script](#)

**Extra colab**

Just to round everything out, yDAWG Analytica has also had a go at giving our fake tweets a fake voice, with our tongue firmly planted in our cheek. And who better than the man who coined the term 'Fake News' himself, Donald Trump:

[Link to the audio](#)

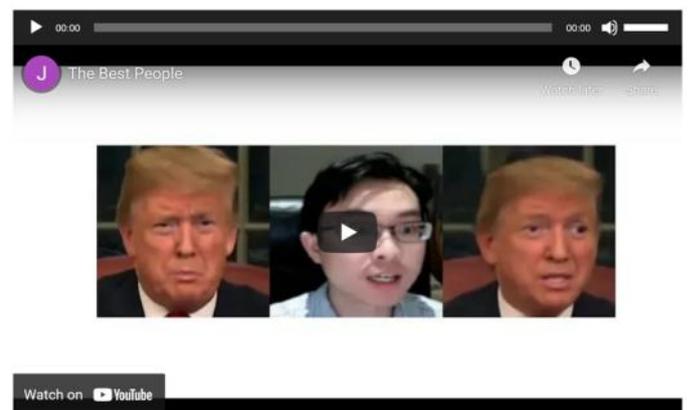
This sound byte was generated using a modified WaveRNN (single-layer recurrent neural net) trained on eight hours of Trump audio and accompanying transcript. The trained model is able to link every typed character/word to a sound byte and subsequently figures out how to generate these sounds itself. It also determines its own rules for combining groups of letters and pieces of audio in a way that best suits the given training data. This allows us to type in **anything we want** and have a poor Trump impersonator vocalise it.

While no human would be fooled by the clips produced by this particular model, this is a very basic setup that requires limited expertise to set up and little computing power to run (the laptop we are using can produce five seconds of audio every second). With some more sophisticated models, you can reach a much higher level of realism, including the digitally created lip syncing from existing still pictures. An example below of President Trump.



[Watch the video](#)

So we gave that a go too, using 'First Order Motion Model for Image Animation' to get a static image of President Trump to match our movements, with the audio generated by WaveRNN... leading to this 'animated' result:



[Watch the video](#)

For more cool analysis on the US Presidential Election, we would like to point you to [FiveFiftyEight.com](https://www.fivefiftyeight.com) which has built a forecasting model to predict state primaries results.

## Conclusion

With the vast amount of data available to be utilised, Twitter has proven to be a gold mine for extracting powerful insights to understand the dynamics of political campaigns and public sentiment. Indeed, the fun exercise we went through only scratches the surface and much more can be done to take the analysis to another level, e.g. using machine learning models to study public sentiment based on tweets to predict election outcome. Fortunately with the election just around the corner, we will have a large volume of data ready to be analysed. 🍷



### *Jacky Poon*

Jacky Poon is Head of Actuarial and Analytics at nib Travel, and a member of the Institute's Young Data Analytics Working Group. He is passionate about the use of data analytics and machine learning techniques to complement the traditional actuarial skillset in insurance.



### *Ean Chan*

Ean Chan is a manager in the Life Insurance Team at Ernst & Young. He has previously been involved with the Life Insurance and Data Analytics Working Group and has a keen interest in data analytics and new analytical techniques.



### *Meg Yang*

Meg is the Pricing Lead in Motor Insurance at Allianz Australia. She uses machine learning techniques in her daily work to estimate claim cost for various commercial insurance products and help enhance pricing algorithms for the business. Meg also has experience in retirement benefit consulting and data analytics in Superannuation previously. She was the convenor of the Young Actuaries Program in Melbourne for 2018 and is one of the few YDAWG members based in Melbourne.



### *Henry Ma*

Henry is the Secretary for the Young Data Analytics Working Group and a consultant at Deloitte's actuarial practice with experience in market risk, analytics, and insurance. He is passionate about applying analytical skills in banking and financial services industry, and combining the power of data analytics with the actuarial discipline to add value in business strategy, risk intelligence, and capital management.



### *Kriti Khullar*

Kriti is an Operational Risk Manager in Systems and Reporting at AIA Australia with experience in provisioning, stress testing, credit risk portfolio reporting, risk data and infrastructure and applications. She is an Associate Actuary who has danced in Line 2 Risk Management for over 8 years and may or may not find a new line dancing partner in the future. She has a keen interest in data science and machine learning.



### *David G Thomas*

David is a Senior Analyst in the Commercial Insurance Technical Pricing team at IAG. He uses data analytics and machine learning to build predictive claim cost models and design tools and dashboards to provide insights to the wider business. David is one of the newest members of YDAWG where he hopes to share his passion for data analytics and contribute to exciting pieces of work.



### *Jin Cui*

Jin is the Actuarial Manager at ClearView Wealth Limited. Jin's current role spans traditional actuarial work such as Pricing, Valuation, Actuarial Systems, Embedded Value and Profit Reporting, to the more recently non-traditional work such as application of data analytics and machine learning in life insurance. Jin is passionate about 'unlocking' the potential of increased access to data for areas such as claims management, retention initiatives and sales.

# CALL FOR ARTICLES

We welcome members' contribution to the "Hong Kong Actuaries" Newsletter, especially, the Feature Articles and Knowledge Sharing sections. If you have written any inspiring articles or have read any interesting articles from other actuarial organisation(s), please feel free to let us know. We will try to reprint the article(s) in our newsletter to share with our members.

For the above issues, please e-mail your articles or views to Kevin Lee by email at [kevin.lee@live.hk](mailto:kevin.lee@live.hk) or ASHK Office by email at [info@actuaries.org.hk](mailto:info@actuaries.org.hk). Publication of contributions will be at editor's discretion.



# Hong Kong's Research on COVID-19

ASHK recently interviewed Prof. Benjamin Cowling, Professor and Head of the Division of Epidemiology and Biostatistics, and Dr. Nancy Leung, Research Assistant Professor of the School of Public Health, The University of Hong Kong (HKU). Prof Cowling was an “actuary-to-be” who has later turned himself into a well-known Professor of Epidemiology.

In the discussion, Prof. Cowling and Dr. Leung shared their knowledge related to COVID-19 prevention, control and treatments, Hong Kong's latest research developments, and some common statistical models they use in these investigations.



## Interviewees:

### **Prof. Benjamin Cowling,**

*Professor and Head of the Division of Epidemiology and Biostatistics, The University of Hong Kong (HKU)*

### **Dr. Nancy Leung,**

*Research Assistant Professor of the School of Public Health, The University of Hong Kong (HKU)*

## Interviewers:

### **Sally Shing,**

*Regional Pricing Actuary, RGA*

### **Florence Li,**

*Associate Director, KPMG Advisory Hong Kong*

## Prevention and Control:

**Is it a surprise to you that it takes a substantial period of time for people in the world to realise the importance of wearing masks during the pandemic?**

- It's not too surprising. In Hong Kong we have learnt from the SARS experience in 2003 and are used to wearing face masks. In other parts of the world, health authorities initially discouraged mask use in the general population perhaps fearing limited supplies for healthcare workers. Other national health authorities and the World Health Organization eventually recommended universal masking, with one major justification being the recognition that COVID-19 transmission can occur before symptoms appear. Masks were then recommended as a means of source control, that is pre-emptively preventing infected person from transmitting the disease to others even before infection became apparent.

**We understand that there are several types of COVID-19 vaccines. Which type of vaccine is the most effective and suitable for the general population in your opinion?**

- At the individual level, for all the available COVID-19 vaccines in general there is some level of protection and only rare reports of severe adverse reactions, therefore receiving any COVID-19 vaccination is highly encouraged. At the population level, at the moment, social distancing measures are suppressing COVID-19 transmission in the community. Without those public health measures, we might expect millions of infections and tens of thousands of COVID-19 deaths locally, within the space of a year or less.

Herd immunity through vaccination would be an alternative to the social distancing measures, allowing us the possibility of relaxing the social distancing measures without fearing a large epidemic. However, achieving herd immunity through vaccination will not be easy, requiring high vaccination coverage with a highly effective vaccine.

**How often do you think Covid-19 vaccines need to be taken to maintain its effectiveness? Why are some vaccines like influenza vaccines needed to be taken repeatedly, while some like hepatitis B vaccines are usually only taken once in a lifetime?**

- Based on our current understanding of immunity following infections with other coronaviruses that cause common colds, it is unlikely that COVID-19 vaccines will provide life-long immunity as reinfection of common cold coronaviruses are frequently observed. These reinfections may be due to weakening immunity over time, for example due to a continuous decrease in antibody level over time after vaccination. Mutation of the virus over time, as is observed for COVID-19 and influenza, may also allow the virus to escape from immunity that is generated from vaccination that targeted an older version of the virus. Therefore, it is more likely that the current design of COVID-19 vaccines will provide protection for a few years and then we will need a booster dose either with the same vaccine, or perhaps with a second-generation vaccine (not yet developed) that could then provide stronger long-term or broader immunity.



## Treatments:

**The spotlight has been on vaccines R&D. How about R&D on Covid-19 treatments – for example, is there a single drug that is shown to be effective or cocktail treatment is needed?**

- It is disappointing that very few treatments have been shown to work for COVID-19. The only types of drugs that have been proven effective in clinical trials are steroids which help to prevent the immune system from overreacting to infection. Steroids have been shown to reduce the risk of death in severe COVID-19 patients. For high-risk adults and pediatric patients with mild-to-moderate COVID-19, the US Food and Drug Administration has granted emergency use approval for two monoclonal antibody treatments (bamlanivimab, or a cocktail of casirvimab and imdevimab) to reduce their risk of worsening of the disease requiring hospitalization, but are not recommended in patients who are already hospitalized due to COVID-19.

## Hong Kong's Research Efforts:

**What are the COVID-19-related research topics that research groups in Hong Kong doing currently? How does the research from Hong Kong stand internationally?**

- In a recent summary by the journal Nature of [some of the most important research in the first year of the pandemic](#), 4 of the 17 cited articles were published by HKU, and 3 of those 4 were published by Prof Cowling and colleagues at HKU School of Public Health. Hong Kong is recognised as having one of the strongest concentrations of infectious disease researchers in the world, in a range of disciplines including laboratory research, clinical research, and public health research. HKU School of Public Health scientists published some of the earliest key findings on the transmissibility and severity of COVID-19, pre-symptomatic transmission, the importance of face masks, and the superspreading phenomenon.

**What is the research team at HKU School of Public Health working on currently related to COVID-19? What are some other areas of interest of the School?**

- Right now our focus is on vaccination. We are planning to monitor the effectiveness of COVID-19 vaccines in the coming year, and the impact of vaccination on population immunity.

**Is HKU School of Public Health conducting any R&D related to vaccines development/testing? Or will HKU School of Public Health partner with pharmaceutical companies to develop vaccines?**

- We are conducting studies to monitor the short-term and long-term effectiveness COVID-19 vaccines, and we have been studying influenza vaccine effectiveness for many years already. One of our major research areas is identifying optimal vaccination strategies in terms of types of vaccine and timing of vaccination.



## Statistics:

### **With the vaccines being administered around the world, how long before we can see COVID-19 under control in the world do you expect?**

- Some parts of the world have already likely reached herd immunity through large numbers of natural infections, and would not expect any further major impact of COVID-19. That would include some parts of Africa, perhaps India, and it won't be long before Israel is the first country to reach herd immunity through vaccination, followed in a few months time by some European countries and the United States. While COVID-19 won't exactly be "under control", it would no longer pose a serious threat to public health and healthcare systems after there is a high level of immunity in a particular population. Countries that reach herd immunity should be able to go back to "normal" with confidence. Other locations may take longer before being able to return to normal

### **In the initial stage of COVID-19 development, we read in some articles commented that herd immunity is achieved when 60% - 70% of the population acquires resistance against the coronavirus but the figure slowly shifted up to 80% - 90%. What are some general principles and models that researchers use to derive these estimates of herd immunity threshold?**

- A rough estimate of the herd immunity threshold is given by the formula  $1-1/R_0$ , where  $R_0$  is the reproductive number. For an infection as transmissible as COVID-19, with a basic reproductive number of around 3 or 4 in Hong Kong, we would need around 2/3 to 3/4 of the population to be immune to reach "herd immunity". This could be achieved by a vaccination coverage of perhaps 80% with a vaccine that is 95% effective, giving immunity to 76% of the population ( $=0.8 \times 0.95$ ), but cannot be achieved with a vaccine that is less than 67% effective no matter how high the coverage. Note that there is not yet any COVID-19 vaccine approved for children, who comprise around 13% of the population in Hong Kong. One other issue is the emergence of variants such as B.1.1.7 first detected in the UK, which has higher

transmissibility, meaning the herd immunity threshold would be higher.

In terms of more advanced methodology used to estimate the herd immunity threshold, non-linear models can be constructed with equations representing transmission dynamics. The models can then be run to simulate epidemic trajectories, with different assumptions. Data can also be used to calibrate the models, often using Markov Chain Monte Carlo to avoid having to compute the full likelihood in these complex non-linear models.

### **We know Prof. Cowling studied statistics in university and subsequently put your focus on biostatistics. How can actuaries, who are also trained in statistics, utilize their skill set and experience to contribute to the medical related field?**

- Yes in fact my first degree was "MORSE" (Mathematics, Operational Research, Statistics and Economics) at Warwick and when choosing my degree I was planning a career as an actuary. Many of my classmates are now senior actuaries. I went on to study a PhD in medical statistics, and recently my research has focused on the application of statistics in the field of epidemiology, studying how infectious diseases spread in populations and the best ways to limit the spread. There are so many opportunities in medical research to use statistical skills of collecting, analysing and interpreting data, and a great need for these skills.

### **Is there any collaboration between your team and the insurance industry? In your opinion, has the Hong Kong insurance industry done enough to utilise Hong Kong's researchers' resources?**

- So far no opportunities for collaboration, but there should be a lot of potential for risk assessment and also for transferring back knowledge on epidemiology. 



# How Soon will We See the Benefits of the Vaccine Rollout?

**Written by John Roberts**

**John Roberts is an actuary and contributor to the Covid-19 Actuaries Response Group.**

How soon might we see the vaccine effect? With the programme in full swing, and over 2.5 million people with their first jab, the hope is that the prioritisation of the most vulnerable groups means that we will soon see a meaningful reduction in the number of cases, hospitalisations and deaths. But how soon? For some time now, my colleagues at the Covid-19 Actuaries Response Group have been looking at various figures.

We are familiar with modelling showing how Covid-19 deaths may rise if the rise of the virus were to continue unchecked. But what follows is modelling for a different scenario: how the Covid-19 figures would fall if things go broadly to plan.

As with all models, all depends on the assumptions. The following are used:-

- The vaccine is 70 per cent effective at preventing infection (as per the view of the four countries' Chief Medical Officers).
- But that the vaccine is 100 per cent effective in preventing illness serious enough to prevent hospitalisation and death (there was only one serious illness reported across both the Pfizer and Oxford AstraZeneca trials).

- For take-up, it's likely that the most vulnerable groups will be very keen to be protected, and similarly for those working in health and care settings. The full take-up assumed will obviously include an element of overstatement, but still indicates the potential benefit that we could see.

- That protection kicks in 14 days after the vaccine.

- It takes 3 days for a case to show up, 10 days for hospitalisation and 17 days from infection to death. With another two or three days to then show up in the figures.

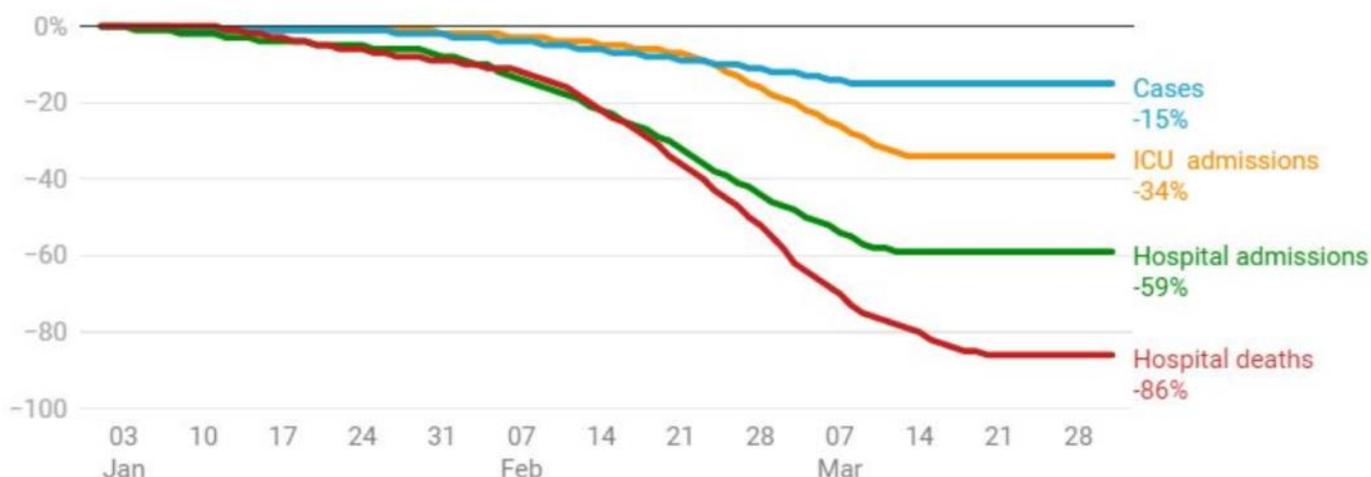
- The official target – to vaccinate 14 million by mid-February – is hit.

- So by mid-Feb, the first four priority groups (accounting for 90 per cent of deaths) are covered. With protection kicking in by early March.

Given the above, how would the Covid statistics change by March?

## Modelling the UK vaccine effect

Modelling by the Covid-19 Actuaries Response Group. Assumes that UK rollout target is met and vaccine efficacy holds up. Updated 15 Jan.



NB: 86% change means 86% lower than they would otherwise be: no assumption is made about the baseline (ie, general direction of UK Covid cases). Full assumptions are set out at [spectator.co.uk/article/how-soon-will-we-see-the-benefits-of-the-vaccine-roll-out](https://www.spectator.co.uk/article/how-soon-will-we-see-the-benefits-of-the-vaccine-roll-out)

Chart: The Spectator • Source: John Roberts / Covid-19 Actuaries Response Group • Get the data • Created with Datawrapper

1. **Covid-19 cases: a 15 per cent reduction by early March.** The first four priority groups (who together make up a fifth of the population) are due to be vaccinated by mid-February: allowing for 70 per cent vaccine effectiveness, this could mean a reduction of around 15 per cent of Covid cases by early March. But more important are the implications for hospital capacity, particularly intensive care demand.

2. **Hospital admissions: a 60 per cent reduction by mid-March.** With the burden of disease much greater on the older population, the benefits of the vaccination strategy become apparent in terms of hospital admissions, with an 60 per cent reduction envisaged by mid-March.

3. **Intensive care: only a third reduction.** However, the impact on intensive care units is noticeably less, because the oldest and most vulnerable are less likely to be admitted to ICU (based on clinical assessment of the benefit of the treatment). So here we only expect a reduction of around one third, which is likely to leave these units very stretched.

4. **Covid-19 deaths: down by 88 per cent.** The good news is that we expect vaccinations of these first four groups to reduce deaths by up to 88 per cent (slightly fewer in hospitals). This should all have fed through by late March, a full year from the

first wave peak, although reporting in ONS data will take a little longer to emerge.

Hopefully there will be an additional benefit, with those vaccinated being less likely to transmit the virus, reducing the rate of spread. With only 20 per cent vaccinated in this first phase, and no conclusive evidence yet of reduced transmission, we've not modelled any benefit from such an effect.

So deaths should be much lower from April onwards. But this is, of course, just one part of Covid. We must not forget that those yet to be vaccinated will remain at risk of serious illness in the short term, as well as the unknown long-term consequences of infection. Our modelling only looks at the over-70s (Groups 1-4), as that is the government's immediate focus. But continued vaccine rollout, at pace, is needed to get the country back to as close to normal as is possible at the earliest opportunity. With recent progress encouraging, there's a possibility that the first milestone will not only be met but exceeded. We all must hope for that. 🍀

Originally published by The Covid-19 Actuaries Response Group, Jan 2021: <https://www.covid-arg.com/post/how-soon-will-we-see-the-benefits-of-the-vaccine-rollout>

# ASHK Examination – In-person Interview with our 2020 Alumni

## Certificate in Hong Kong Insurance Market and Regulations

We believe continuous education is essential to career development and the ASHK Examination could be a great choice for all Hong Kong actuaries to be equipped with adequate knowledge in the local insurance market landscape. Since 2019, the Actuarial Society of Hong Kong (ASHK) has launched three exams successfully and we are delighted to see the exam gain traction as more and more members are committed to sign up for the exam.



### Our 2020 Alumni

From left to right: Janet Yang, Carl Wan and Wendy Lai

# G

## et to Know our Alumni....

The ASHK is honored to meet with three alumni who have passed the ASHK Examination in 2020. Janet Yang is currently with Guy Carpenter as a VP Actuary who has 14 years' experience in General Insurance industry in North America and returned to Hong Kong last June. Janet also is actively engaged in the society and recently joined the ASHK Examination and Curriculum Taskforce.

*"I arrived Hong Kong in June 2020 and my background is North America oriented. It's important for me to learn more about the local landscape insurance practice in GI. Additionally, insurance regulations are unique in Hong Kong. Some of the topics covered in the exam curriculum such as reinsurance and captive are very useful for my current career. The curriculum enables me to better prepare for my upcoming projects".* Janet believes the exam is extremely useful to her practice.

*"The exam helps me be a better GI actuary in Hong Kong. Frankly, I would still refer to the exam syllabus to look for the information I need for my projects even though I have passed the exam. I don't need to explore outside as the syllabus is well structured and covers a lot of useful reference*

*information of eg, government bodies and regulators."*

Also on-hand are Carl Wan and Wendy Lai, the ASHK Examination 2020 Student Scholarship recipients who took this opportunity to share their valuable views from an undergraduate perspective. Carl is a 2020 graduate of HKU in Actuarial Science major and just commenced his actuarial career at HSBC. He has completed both Core and Life Insurance paper under the ASHK Examination Student Scholarship. Wendy Chan is also from HKU and studying in Actuarial Science. Her strategy is different from Carl. She passed the Core paper in 2020 and has set a goal in 2021 to participate in the Life Insurance exam. Wendy and Carl both have a clear goal to become an actuary. Carl started to develop his actuarial career and to take the SOA professional exams with Wendy following the same route.

Interestingly, both Carl and Wendy found that the exam syllabus is not covered under their university studies. Wendy highly recognized the value of the ASHK Examination. She said, *"My motivation to take up the challenge from a personal level is to do with the exam syllabus. It's completely new knowledge to me. Local regulations never appeared in any of my undergraduate programme syllabus. Of course, it's a good preparation for my future job hunting."* Carl echoed, *"In my opinion, the university covered more on calculations while the ASHK Examination is more like a story of HK insurance market."*



***"Some of the topics covered in the exam curriculum such as reinsurance and captive are very useful for my current career. The curriculum enables me to better prepare for my upcoming projects." — Janet Yang***

# Challenging Moments....

Obtaining an additional qualification is not always an easy task to our candidates. Every candidate should have encountered a tough subject. Our ASHK Examination alumni shared their most challenging moments faced in terms of exam preparation. Let's see what their coping strategies are:

**Carl:** *"The exam curriculum contains lots of information which is far more than I expected. To face the huge amount of content, I attempted to extract the main ideas from each topic and section."*

**Wendy:** *"Same as me. I mastered the exam topics by converting them into my own points or notes."*

**Janet:** *"As you know, I have a full-time job. Balancing and managing the time to study and work should be the hardest part in my journey. I did spend some time on the ASHK Examination curriculum every day."*

We understand that our passing candidates had put so much effort by devoting their personal time into the exam preparation. Janet studied one hour every day during weekdays and four hours during weekend. Carl spent only several weeks on exam preparation as he regarded the study guide as a story book. For Wendy, she had taken 40-50 hours in total. She started studying in June right after her university exam and devoted three hours every day and converted the notes into bullet points. She later

went for the approach of studying 20 minutes each day when she worked as a full-time intern and this helped refresh her memories.

In terms of candidate support, the ASHK is striving to add resources to our candidates based on their needs. Janet, Carl and Wendy concurred the self-study mode suits them best. Our alumni also had a couple of suggestions to the ASHK on candidate support. *"A mock exam which is a practice exam would be a good way to help candidates prepare for the actual exam."* said Janet. Wendy supplemented, *"I believe the study materials are sufficient for me. It might be super helpful if ASHK can provide an online ASHK examination in the future."* Carl also shared similar thoughts, *"Overall the exam curriculum is very comprehensive. I recommend the ASHK to offer the online practice exam, say 30 questions each paper, for candidates to access anytime and gauge their performance. That helps candidates with tracking the progress of study and refreshing their memories."* Those are indeed sound suggestions and genuine feedback from our candidates that are worthwhile for the ASHK to explore.



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## Study Plan

### Any tips or strategies to prepare for the ASHK Examination?

**Wendy:** “I took the Core paper this round. In my preparation, I believe understanding your own appropriate learning style is critical. As mentioned, I converted the information to my own notes. Secondly, it’s an open book test. I created some sticky notes to get to the answers easily under a critical time frame. I don’t treat it as exam, but a learning process so that the stress level can be eased.”



**Carl:** “I sat for both the Core and Life Insurance paper last year. The exam materials are brand new to me. To begin with, I would glance through the summary of the study guide to get a brief understanding on the key concepts. From there, we can plan and estimate how many hours should be allocated to study each topic. Given that we have to deal with tons of exam materials, we are like a librarians, in the sense that we don’t have to memorise all the details, but need to know where to find ‘the right book’ when being asked.

For the Life Insurance paper, knowing how to sort the materials is very important. It’s a good way to group the materials from the Insurance Authority according the given guideline number, which also helps to remove duplicates in the Core and Life Insurance paper. Besides, I would say the coverage of the Core paper is more like a story of the overall structure of the Hong Kong Insurance market, while the Life Insurance paper is more practical and specific on the current regulations that the practicing actuaries would be more familiar with and aware of. Therefore undergraduate students may find it a bit challenging. Again, the introductions and conclusions of the guidelines would be very helpful to candidates in extracting the key points of the materials.”

**Janet:** “I have three tactics to share as I took the GI paper. First of all, we should look at the syllabus as it set very clear objectives and learning outcomes. We at least should know what the exam is about so I know which part of the reading I need to pay more attention to. Secondly, for GI, I always like to link the exam materials to my work projects. It becomes easier for us to understand. I even can discuss further with my coworkers and get an inspiration from them. Thirdly, we should make our own notes by using own words and means. It would be definitely easier to understand the details. Well, different people have different learning styles. It’s an open book exam. Memorizing is not workable. We are better off locating the right materials from our own notes.”

# Value of the ASHK Examination?

Janet, Carl and Wendy strongly recommend the ASHK Examination to all members working in the actuarial profession. *“I highly recommend it if you wish to become a professional GI actuary in Hong Kong. Those study materials in the curriculum are very helpful. I already understand a lot of differences between HK and US regulations. As you know, regulations are extremely essential in the insurance industry.”* Janet’s voice was determined when sharing her actual experience.

Wendy would like to recommend this to her university schoolmates. *“It’s never too early to get involved. Don’t be too stressed out on the exam and just treat it as the required knowledge for our future actuarial career.”*

Carl expressed the same view, *“During the recruitment interviews, one of the common questions that the potential employers would ask is how much we know about the on-going development of the local insurance market. Having*

*said that, for students who don’t have solid work experience, the exam certificate is indeed a good indicator to show the potential employers that we have certain knowledge of the local practice. The exam materials can also be useful tools for students’ reference in developing in-depth knowledge about the industry. Interestingly, most employers are curious about what the ASHK Examination is about, which could be a relaxing topic to chat with during job interviews.”* We expect there to be a wide adoption of the exam in the industry. Some of the well-established insurers in Hong Kong such as AIA, AXA and Manulife have revised their exam policy to encourage their actuaries to take the ASHK examination. Munich Re and the Hong Kong Insurance Authority (IA) have started listing “FASHK/the ASHK Examination Preferred” in their job ads of actuarial related vacancies. 

## Post-interview Summary

The ASHK appreciates the valuable sharing of Janet, Carl and Wendy. Their commitment and hard work to the exam have paid off. We wish them best of luck in their studies and career progression in the profession and hope this interview can be beneficial to those interested in applying for the upcoming ASHK Examination.

With a goal in striving to strengthen the professionalism of local actuaries, we strongly recommend you to view highly and take part in the ASHK Examination. Study materials are provided free-of-charge and the self-study mode will also be a definite advantage for you to take control over your own learning on your own time and at your

own pace. Candidates report dedicating 30-40 hours of study per exam on average. Candidates can take both papers or either paper at one time. You can claim 1.5 CPD hours by passing this examination. An Examination/Fellowship Certificate will be awarded to you upon completion of both papers.

Are you ready to accomplish something you can be proud of this year? It’s time to take the next step and submit your exam registration and maximize your chance of passing with the above tips to study faster and smarter. Check out the ASHK Examination!

# MARKET UPDATES

## MPFA

### Revised Mandatory Provident Fund (MPF) Guidelines

The Mandatory Provident Fund Schemes Authority (the Authority) has recently approved the revised Guidelines on Election for Transfer of Accrued Benefits (Guidelines IV.3).

The Appendix to Annex C to Guidelines IV.3 contains a list of approved trustees and MPF schemes (the List) for scheme members to elect for the purpose of consolidation of MPF personal accounts. As a result of the change of trustee of Fidelity Retirement Master Trust from HSBC Institutional Trust Services (Asia) Limited to HSBC Provident Fund Trustee (Hong Kong) Limited, the List and paragraph 7 of Guidelines IV.3 have been amended to reflect the relevant change and the effective date of the revised Guidelines (i.e. 1 January 2021).

Copies of the revised Guidelines can be downloaded from the Authority's website at [www.mpfa.org.hk](http://www.mpfa.org.hk). If you would like to have hard copies of the revised Guidelines, please contact Ms Teresa Lee on 2292 1286.



# EVENTS HIGHLIGHTS

11 March 2021

## ASHK Examination 2021 - Online Info Session (University Students)



15 March 2021

## ASHK Strategy Day



24 March 2021

## ASHK Health Virtual Talk



# UPCOMING EVENTS

**23 April 2021**

**ASHK Actuarial Innovation Webinar:  
Blockchain - an Actuarial Perspective**

[See More](#)

**20 August 2021**

**ASHK Examination**

[See More](#)

**25 May 2021**

**ASHK Professionalism Seminar  
(Virtual)**

**15 - 16 September 2021**

**ASHK IFRS Seminar 2021 (2 days)**

**9 & 16 July 2021 (Fri morning)**

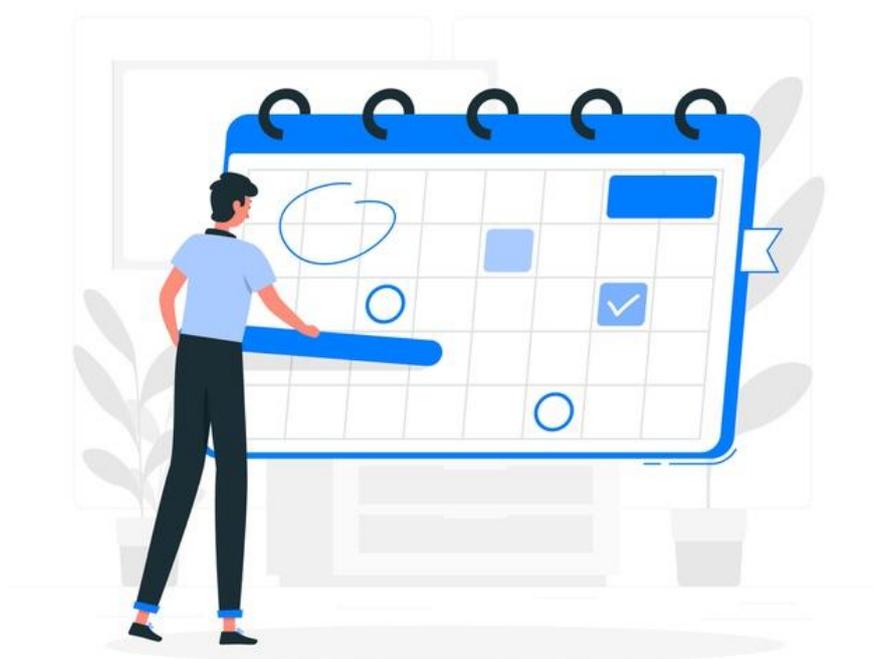
**ASHK 4<sup>th</sup> General Insurance  
Virtual Seminar**

[Call for Papers](#)

**Postponed to 2022**

**International Actuarial Colloquium  
2021 —“Global Pandemic - Beyond  
the New Normal”**

[See More](#)



# MEMBERSHIP UPDATE

## New Members

### Associate

Stephen Mburu Kimani	HSBC Global Services HK Limited	Associate [FSA (2019)]
Zhaoyu Zhong	Swiss Re Asia Ltd	Associate [FIAA (2017)]

### Student

Chi Lok Max Chan	-	University Student (The University of Hong Kong)
Pak Hop Chan	-	University Student (The University of Hong Kong)
Shue Kwan Stephen Cheung	-	University Student (The University of Hong Kong)
Sin Yi Chon	-	University Student (The University of Hong Kong)
Hiu Tung Athena Lau	-	University Student (The University of Hong Kong)
Cheuk Kin Brian Lee	Milliman Limited	Ordinary Student [SOA Student]
Yi Tung Ma	-	University Student (The University of Hong Kong)

## Reinstated Members

### Associate

Geoffrey Ho Cheung Cheng	AXA Asia	Associate [FSA (2007)]
Timothy James Yip	HSZ (Hong Kong) Limited	Associate [FSA (2012)]

# We welcome corporate advertisements



The ASHK will accept corporate advertisements in the ASHK Newsletter provided that the advertisements do not detract from the actuarial profession. Acceptance and positioning of advertisement will be at the editor's discretion.

## File Formats

Advertisers have to supply the artworks which should be created in MS Word/PowerPoint/JPEG/PDF formats.

## Advertising Rate

	One Off	Whole Year
Full page (A4-size)	HK\$6,000	HK\$5,000 each

To advertise, please contact ASHK Office by

Tel: (852) 2147 9168 or e-mail: [info@actuaries.org.hk](mailto:info@actuaries.org.hk)

## Communication Committee

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ACTUARIAL SOCIETY OF HONG KONG'S  
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