

# AVIATION SAFETY BULLETIN



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**ICVM**

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**WILD LIFE**

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**DEHYDRATION**

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# COVID-19

Marila

*'Promoting Effective Aviation Safety and Security in Fiji and the Region.'*



12

MANAGING WILD LIFE



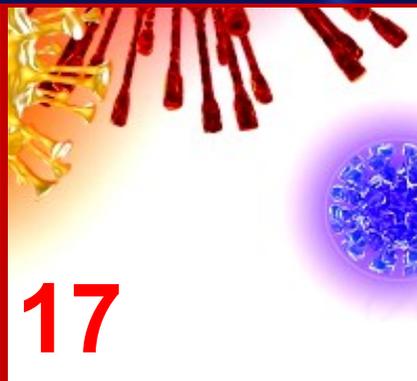
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COVID-19

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# AVIATION SAFETY BULLETIN

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Aviation Safety Bulletin (ASB) Committee  
Civil Aviation Authority of Fiji (CAAF)  
Private Mail Bag, NAP 0354,  
Nadi International Airport, Fiji.  
Tel: (679) 8923 155 | Fax: (679) 6721 500  
Email: info@caaf.org.fj

Editor - Roshni Deo

Committee - Alisi Namoro, Asif Khan and Waisale Sigawale

Design : ASB Committee

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Aviation Safety Bulletin Editor, CAA Fiji, Private Mail Bag  
NAP 0354, Nadi International Airport, Fiji or  
email: info@caaf.org.fj.

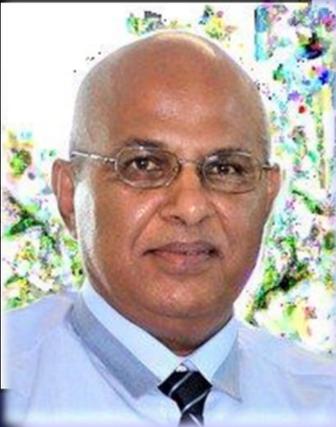
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### From the Acting Chief Executive

The first quarter of 2020 started on a high note when we were looking forward to number of activities and projects to improve our service delivery to the industry, however, as you now know, this optimism has now been affected by the spread of the Covid-19 virus affecting the aviation industry world-wide.

The substantial reduction in international flights as a result of global efforts to control the spread of COVID-19 is expected to continue to impact business and flying operations for some time. This is a challenging time for all.

The Authority's priority is to ensure that our organization remains a capable and effective partner in assuring the well-being of staff, the travelling public, and aviation personnel.

With respect to our own activities and capabilities, local conditions are evolving rapidly with respect to the capacities of our staff and personnel as we monitor and adhere to the latest local response guidelines.

The Authority has been directly affected by the temporary loss of 30% of its workforce who reside in Lautoka and cannot report to work.

The Authority is promoting social distancing which has now required all meetings and trainings to be postponed or cancelled, only

small and essential meetings will be conducted with external parties. Furthermore, restrictions have been placed on staff travel to operators or inviting operators to CAAF, therefore, it is possible that service delivery turnarounds may be affected.

The Authority urges you to use electronic means of communication as much as possible.

Should any operator find that they can no longer conduct operations in the way they normally do, they are advised to discuss their predicament with the Authority and seek approval for alternatives and/or alternative means of compliance where this is permitted under the Standards Documents.

For this reason I urge you to review your permissions, authorisations, authorised person details, approvals and certifications as soon as possible and reach out to the Authority to discuss any changes you may require. This will enable the Authority to anticipate and effectively manage those requirements.

The Authority will respond by seeking information on the safety impacts of the proposed changes and measures you have in mind to mitigate any risks.

The greater the advance notice that you give us of such matters the greater the likelihood of a satisfactory outcome.

The Authority will work as closely as possible with the operators to ensure aviation safety and security is maintained. ■

AJAI KUMAR  
ACTING CHIEF EXECUTIVE



ICAO



# ICAO USOAP CMA

## IN-COUNTRY VALIDATION MISSION

### GENERAL OVERVIEW

International Civil Aviation Organisation (ICAO's) Universal Safety Oversight Audit Programme (USOAP) was initially launched in January 1999, in response to widespread concerns about the adequacy of aviation safety oversight around the world. Initially, USOAP activities consisted in regular and mandatory audits of ICAO Member States' safety oversight systems.

USOAP audits focus on a State's capability in providing safety oversight by assessing whether the State has effectively and consistently implemented the critical elements (CEs) of a safety oversight system, which enable the State to ensure the implementation of ICAO's safety-related Standards and Recommended Practices (SARPs) and associated procedures and guidance material.

Fiji underwent its original ICAO USOAP Continuous Monitoring Approach (CMA) audit in 2006 and achieved an outcome of 61.36% EI. In 2017 and 2018, Fiji (CAAF) had 2 ICAO Combined Action Team (CAT) Missions to assist in preparing for the ICAO Coordinated Validation Mission ('ICVM') audit in 2019.

The ICVM audit was a follow up on-site activity to validate progress made by Fiji in resolving its safety oversight deficiencies that were identified in the 2006 International Civil Aviation Organization ('ICAO') audit of Fiji's civil aviation system. The ICVM was conducted in Fiji by a team of ICAO aviation experts from 27<sup>th</sup> August 2019 to 4<sup>th</sup> September 2019 and the final report on Fiji's ICVM was released on 13<sup>th</sup> January 2020.

The objective of an ICVM is to assess and validate the status of the corrective actions or mitigating measures taken by a State following an audit. The ICVM conducted in Fiji covered the following 7 out of 8 audit areas of Fiji safety oversight system:

- 1) **Primary Aviation Legislation and Specific Operating Regulations;**
- 2) **Civil Aviation Organisation;**

- 3) **Personnel Licensing and Training;**
- 4) **Aircraft Operations;**
- 5) **Airworthiness of Aircraft;**
- 6) **Air Navigation Services; and**
- 7) **Aerodromes and Ground Aids.**

Aircraft Accident and Incident Investigation (AIG) was not audited due to unavailability of the ICAO Specialist.

The ICVM team also visited various aviation service providers, operations and maintenance departments of operators and maintenance organisations, and aviation training institutes. The objective of the visits by the ICVM team from ICAO was to validate if the State had the capability to supervise the activities of these service providers, airlines and organisations.

Based on the visits and review conducted by the ICVM team, Fiji's Effective Implementation ('EI') scores for the eight critical elements of the State's safety oversight system increased from 61.36 per cent generated from an ICAO audit in 2006 to 78.72 per cent.

This was a remarkable achievement for Fiji as the overall EI safety score improved by 16.64 per cent and was testament to CAAFs commitment to enhance Fiji's compliance to ICAO Standards, offering safe and secure air transportation in Fiji to Fiji citizens, visitors and promoting Fiji as an aviation hub in the Pacific.

Major improvements were noted in the effective implementation areas of personnel licensing and training, aircraft operations, airworthiness of aircraft, air navigation services, and aerodromes and ground aid.

Fiji is now placed 11th in the Asia and Pacific Region consisting of 39 countries and third out of 14 countries in the Oceania region behind Australia and New Zealand. As per the current ranking Fiji is punching well above its weight in terms of its level of effective implementation of the ICAO safety standards.

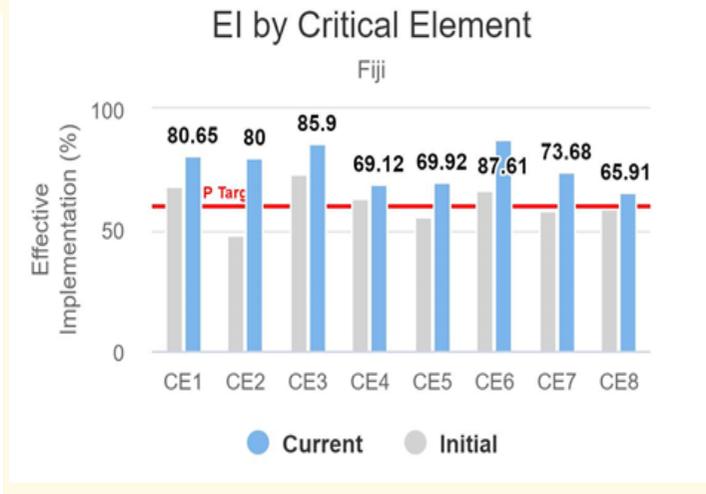
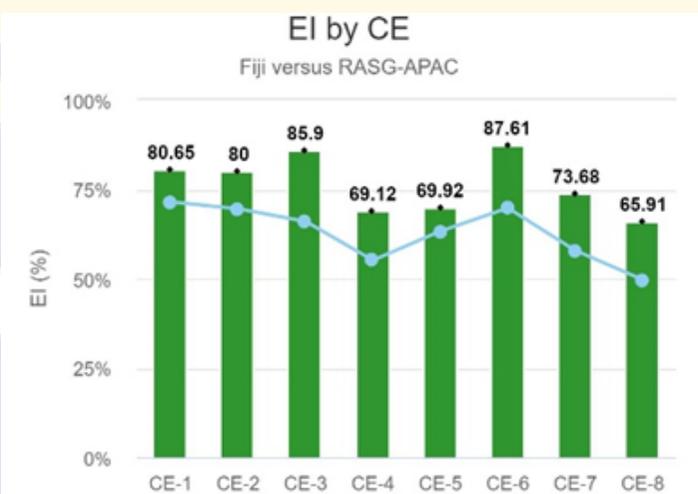
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Fiji’s overall EI is higher than some of the major countries of the Asia Pacific region such as India (72.93 per cent), Malaysia (74.97 per cent), Thailand (65.87 per cent), Philippines (70.52 per cent) and Papua New Guinea. PNG’s overall EI score is 63.32 per cent and Fiji is well ahead of Nauru (with an overall EI score of 22.08 per cent), Tonga (34.23 per cent), Solomon Islands (34.38 per cent), Samoa (47.80 per cent), Vanuatu (49.24 per cent) and other Pacific States which are below the 60 per cent EI threshold under the ICAO Global Aviation Safety Plan.

Better compliance to ICAO standards ensures that the Civil Aviation Authority of Fiji is effectively able to carry out its oversight responsibilities to ensure that our airport operators, air navigation service providers and airline operators maintains a high level of aviation safety and security.

**ANALYSIS**

The following is a breakdown of Fijis Effective Implementation (EI) (Which resulted in the average of 78.72%) by Critical Element. The blue line is the mean by APAC region. As you can note, by audit area – Fiji is above the region average in all Critical Elements but is on relatively lower side (lowest to highest) in the areas of CE8, CE3, CE4 and CE7. With the current oversight system implemented – the order of critical element areas that attention needs to be given to for improvement (lowest to highest) is as follows: CE8, CE3, CE4, CE7, CE2, CE1, CE3 and CE6.



The EI Graph on the right highlights the evolution and improvements made from the original audit to the ICVM audit conducted last year. As you can note, improvements to all Critical Elements were achieved with the most noteworthy improvements made in the areas of CE2, CE5, CE6, CE7 and CE8 where the improvements raised the critical elements above the regional GASP Target

**ICAO EIGHT (8) AUDIT AREAS**

USOAP audits focus on validating a State’s capability of performing safety oversight of its industry. The eight audit areas above are assessed individually to ensure whether the State has effectively and consistently implemented the critical elements of a safety oversight system. They also determine if the States comply with ICAO’s safety-related Standards and Recommended Practices (SARPs) and associated procedures and guidance material. The eight audit areas of a member state’s aviation system that the programme monitors are:

- 1) **Primary Aviation Legislation and Civil Aviation Regulations (LEG);**
- 2) **Civil Aviation Organization (ORG);**
- 3) **Personnel Licensing and Training (PEL);**
- 4) **Aircraft Operations (OPS);**
- 5) **Airworthiness of Aircraft (AIR);**
- 6) **Aircraft Accident and Incident Investigation (AIG);**
- 7) **Air Navigation Services (ANS); and**
- 8) **Aerodromes and Ground Aids (AGA).**

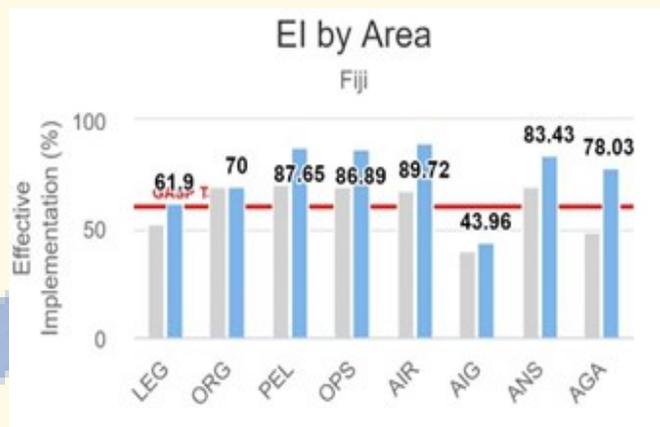
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# ICAO USOAP CMA

## ICVM Cont....

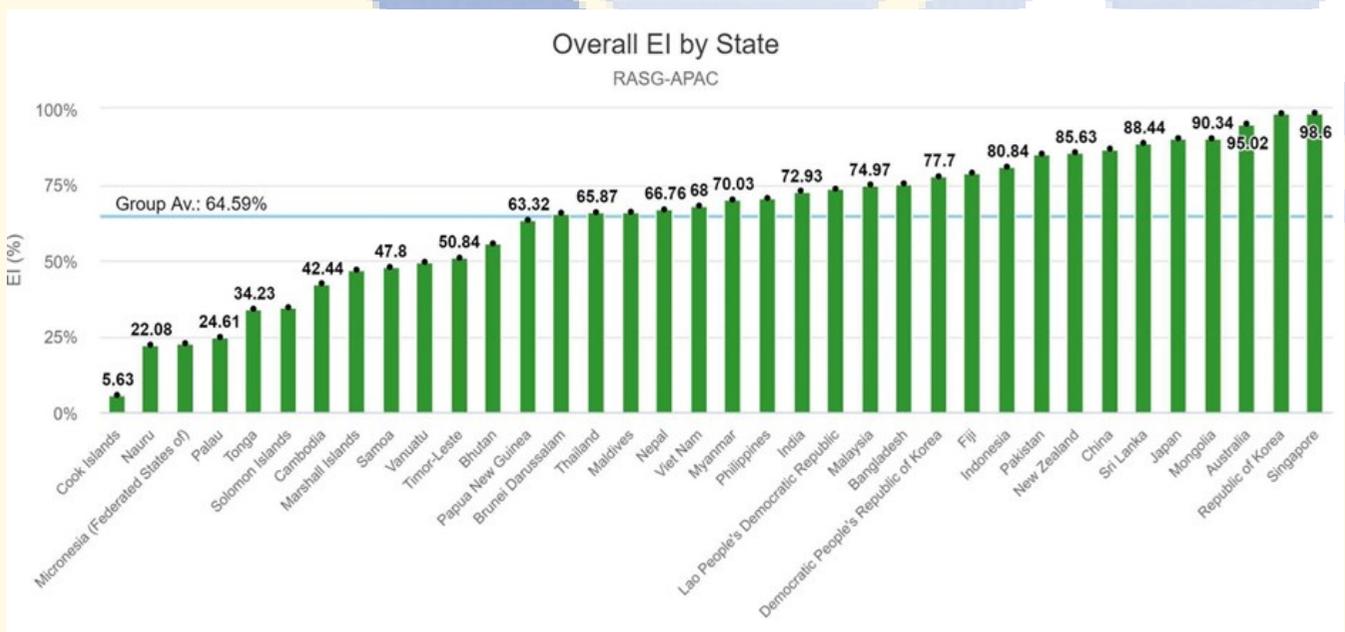
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The following is a breakdown of Fijis Effective Implementation (EI) (Which resulted in the average of 78.72%) by Audit Area. The blue line again is the mean by APAC region. As you can note, by audit area – Fiji is behind the region mean in the areas of LEG and AIG. AIG was not audited in 2019 and the 43.96% EI for that audit area had an impact on the overall EI for Fiji. With the current oversight system implemented – the order of audit areas that attention needs to be given to for improvement (lowest to highest) is as follows: AIG, LEG, ORG, AGA, ANS, OPS, PEL and AIR.



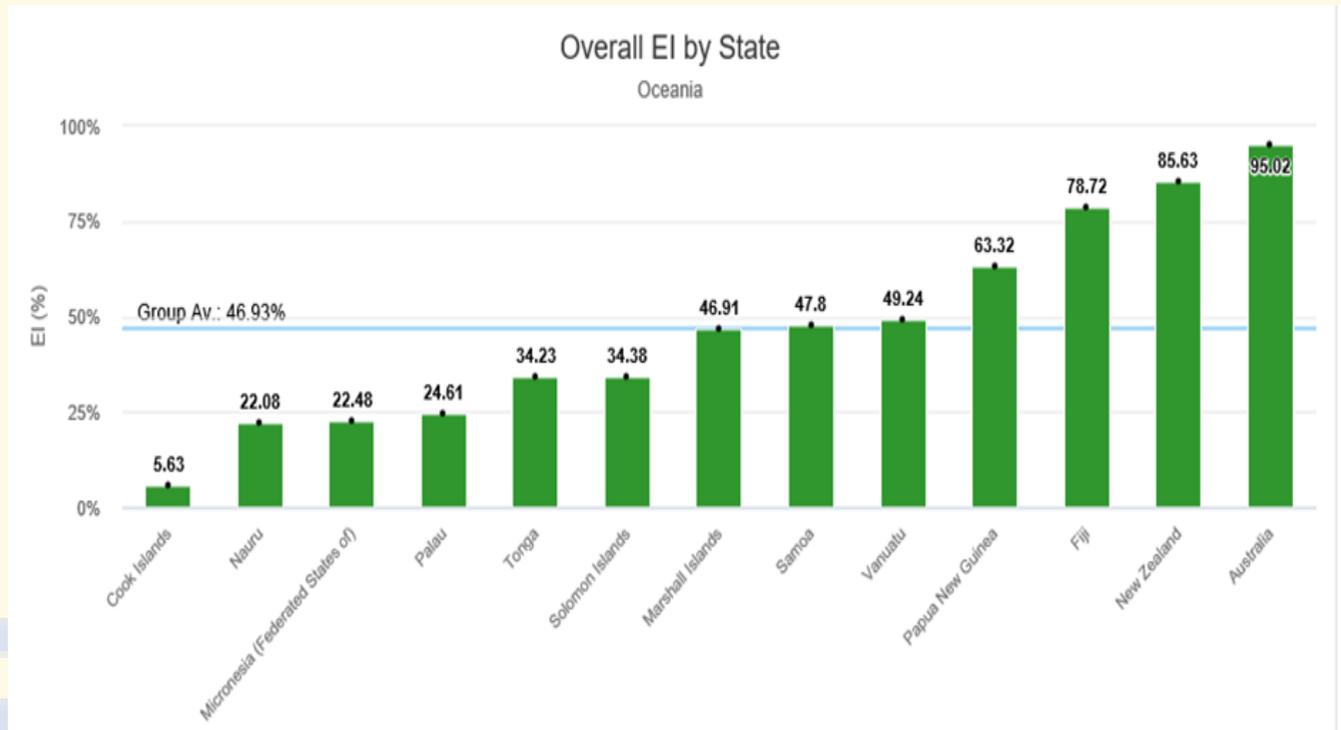
The EI Graph above highlights the evolution and improvements made from the original audit to the ICVM audit conducted last year. As you can note, improvements to most Audit Areas were achieved with the most noteworthy improvements made in the areas of LEG and AGA where the improvements raised the audit areas to and above the regional GASP Target respectively. Significant improvements were achieved in the areas of AGA, AIR, OPS, ANS, and PEL.

### EI TABLE FOR RASG-APAC FOR COMPARISON



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## EI TABLE FOR OCEANIA FOR COMPARISON



**Fiji**, a little country in the middle of the South Pacific in comparison to the rest of the world in terms of ICAO Contracting States (All 193 of them / 185 audited) is sitting above the world average. This also puts some context into the efforts and contributions the dedicated professionals of Civil Aviation Authority of Fiji as well as other stakeholders in Industry especially Fiji Airways and Fiji Airports made. IN COMPARISON TO THE WORLD – Fiji is 75<sup>th</sup> Overall. The table below lists all ICAO countries status of effective implementation. CAAF is currently working on its ICVM findings CAP to improve its EI rating even further.

STATE	YEAR	OVERALL
1. United Arab Emirates	2015	98.91
2. Singapore	2010	98.6
3. Republic of Korea	2008	98.48
4. France	2017	96
5. Brazil	2018	95.14
6. Canada	2005	95.1
7. Ireland	2016	95.06
8. Australia	2017	95.02
9. Chile	2017	94.65
10. Nicaragua	2017	94.55
11. United Kingdom of Great Britain and Northern Ireland	2018	94.27
12. Venezuela (Bolivarian Republic of)	2013	93.51
13. Austria	2019	93.35
14. Finland	2018	93.34
15. Serbia	2019	93.3
16. Cuba	2019	92.64
17. Romania	2017	92.21

STATE	YEAR	OVERALL
18. United States of America	2007	92.17
19. Dominican Republic	2017	91.32
20. Qatar	2018	91.04
21. Switzerland	2015	90.97
22. Norway	2018	90.82
23. Mongolia	2017	90.34
24. Sweden	2016	90.34
25. Japan	2010	90.26
26. Ecuador	2015	90.25
27. Honduras	2019	90.01
28. Ghana	2019	89.89
29. El Salvador	2019	89.64
30. Saudi Arabia	2014	89.61
31. Peru	2018	89.57
32. Spain	2018	89.47
33. Costa Rica	2017	89.26
34. Italy	2017	89.19
35. Sri Lanka	2018	88.44

# ICAO USOAP CMA

## ICVM Cont....

STATE	YEAR	OVERALL
36. Montenegro	2019	87.99
37. Netherlands	2008	87.8
38. Georgia	2018	87.69
39. Germany	2017	87.62
40. South Africa	2017	87.41
41. Guatemala	2018	87.34
42. Belgium	2016	87.06
43. Czech Republic	2005	87.05
44. Portugal	2019	86.9
45. Latvia	2015	86.85
46. China	2007	86.78
47. Argentina	2013	86.57
48. Israel	2016	86.22
49. Mexico	2012	86.14
50. Togo	2016	85.64
51. New Zealand	2016	85.63
52. Denmark	2018	85.28
53. Pakistan	2011	85.13
54. Turkey	2019	84.55
55. Armenia	2015	84.49
56. Egypt	2016	84.38
57. Bahrain	2018	84.18
58. Poland	2018	84.13
59. Belize	2014	83.81
60. Iran (Islamic Republic of)	2018	83.73
61. Bolivia (Plurinational State of)	2018	83.04
62. Cabo Verde	2018	82.89
63. Iceland	2010	82.66
64. Jamaica	2016	82.59
65. Cyprus	2019	82.57
66. Rwanda	2019	82.39

STATE	YEAR	OVERALL
67. Slovenia	2019	81.87
68. Jordan	2017	81.59
69. Mauritania	2018	81.49
70. Trinidad and Tobago	2017	81.2
71. San Marino	2015	81.12
72. Indonesia	2017	80.84
73. Uruguay	2019	80.83
74. The Republic of North Macedonia	2016	79.92
75. Fiji	2019	78.72
76. Kuwait	2017	78.7
77. Madagascar	2018	78.44
78. Kenya	2018	78.05
79. Democratic People's Republic of Korea	2008	77.7
80. Croatia	2010	76.15
81. Colombia	2017	75.69
82. Bosnia and Herzegovina	2019	75.66
83. Bangladesh	2017	75.34
84. Slovakia	2009	75.33
85. Sudan	2014	75.24
86. Malaysia	2016	74.97
87. Malta	2018	74.34
88. Kazakhstan	2016	74.18
89. Mali	2015	74.13
90. Gambia	2018	73.87
91. Tunisia	2009	73.67
92. Lao People's Democratic Republic	2015	73.59
93. Burkina Faso	2017	73.51
94. Lithuania	2018	73.41
95. Ethiopia	2018	73.2

STATE	YEAR	OVERALL
96. India	2018	72.93
97. Gabon	2019	72.91
98. Kyrgyzstan	2019	72.41
99. Republic of Moldova	2014	71.69
100. Russian Federation	2015	71.66
101. Paraguay	2016	71.33
102. Hungary	2018	70.77
103. Luxembourg	2011	70.57
104. Philippines	2017	70.52
105. Mauritius	2015	70.19
106. Myanmar	2018	70.03
107. Greece	2018	69.47
108. Oman	2013	68.46
109. Bulgaria	2018	68.32
110. Morocco	2016	68.03
111. Viet Nam	2016	68
112. Nigeria	2016	67.72
113. Senegal	2019	67
114. Congo	2019	66.99
115. Nepal	2017	66.76
116. Azerbaijan	2018	66.33
117. Maldives	2014	66.22
118. Mozambique	2018	66.07
119. Thailand	2019	65.87
120. Brunei Darussalam	2007	65.64
121. Niger	2015	65.27
122. Guyana	2016	65.22
123. Estonia	2018	65.14
124. Cote d'Ivoire	2014	64.8
125. United Republic of Tanzania	2017	64.59
126. Botswana	2018	64.15
127. Turkmenistan	2019	63.51
128. Papua New Guinea	2018	63.32
129. Equatorial Guinea	2017	63.06

STATE	YEAR	OVERALL
130. Uzbekistan	2017	62.9
131. Zambia	2016	62.71
132. Panama	2017	62.42
133. Uganda	2014	61.87
134. Benin	2019	61.83
135. Namibia	2016	61.01
136. Cameroon	2015	60.23
137. Suriname	2012	60.03
138. Ukraine	2019	59.98
139. Algeria	2011	59.51
140. Belarus	2015	58.65
141. Tajikistan	2016	57.89
142. Lebanon	2017	57.81
143. Bhutan	2018	55.57
144. Albania	2014	55.09
145. Antigua and Barbuda	2013	55.03
146. Grenada	2013	55.03
147. Saint Kitts and Nevis	2013	55.03
148. Saint Lucia	2013	55.03
149. Saint Vincent and the Grenadines	2013	55.03
150. Syrian Arab Republic	2008	54.98
151. Zimbabwe	2019	54.29
152. Barbados	2013	54.2
153. Monaco	2007	53.77
154. Democratic Republic of the Congo	2018	51.45
155. Timor-Leste	2010	50.84
156. Vanuatu	2016	49.24
157. Angola	2017	49.16
158. Samoa	2010	47.8
159. Marshall Islands	2010	46.91
160. Burundi	2019	46.1
161. Chad	2017	45.13
162. Cambodia	2018	42.44
163. Seychelles	2018	40.91

Continued to next page...

# ICAO USOAP CMA

## ICVM Cont....

STATE	YEAR	OVERALL
164. Malawi	2018	40.59
165. Solomon Islands	2014	34.38
166. Tonga	2010	34.23
167. Bahamas	2017	32.17
168. Eswatini	2015	31.47
169. Libya	2007	29.32
170. Andorra	2007	25.52
171. Palau	2010	24.61
172. Guinea	2016	22.76
173. Micronesia (Federated States of)	2010	22.48
174. Lesotho	2007	22.14

STATE	YEAR	OVERALL
175. Nauru	2008	22.08
176. Eritrea	2010	21.04
177. Comoros	2008	20.51
178. Sao Tome and Principe	2014	18.47
179. Liberia	2016	18.39
180. Sierra Leone	2015	18.36
181. Guinea-Bissau	2013	11.47
182. Central African Republic	2007	7.41
183. Haiti	2019	5.92
184. Cook Islands	2013	5.63
185. Djibouti	2017	4.29

### FREQUENTLY ASKED QUESTIONS ABOUT USOAP

#### What is the Universal Safety Oversight Audit Programme (USOAP)?

ICAO has performed safety oversight audits within the framework of the Universal Safety Oversight Audit Programme (USOAP) for well over a decade. The results of these audits allow ICAO to assess Member States’ safety oversight capabilities and to generate a more comprehensive analysis of aviation safety, including in terms of its effectiveness and its development.

#### Have all countries been audited by ICAO?

As of Dec 2017, ICAO has audited 185 Member States, from both the Comprehensive Approach (CSA) and the Continuous Monitoring Approach (CMA) cycles. This represents 96% of all Member States having the safety oversight responsibility for 99% of all international air

traffic..

#### What is Continuous Monitoring Approach (CMA)?

CMA enables information regarding the level of safety oversight provided by ICAO Member States to be collected more regularly. This information is provided primarily by States. Safety information is also gathered from relevant external stakeholders, as well as through audits and other USOAP-CMA activities.

Under this new approach, cyclical audits are supplemented with an ongoing process of gathering safety information. This allow stakeholders in international civil aviation to base their decisions on the latest information available. In short, the CMA aims to provide a continuous report of a State’s effective implementation of Standards.

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## What is a USOAP Audit?

Audits are carried out by ICAO to determine Member States' safety capabilities and the status of States' implementation of all safety-relevant ICAO Standards and Recommended Practices (found in 17 of the 19 ICAO Annexes), associated procedures, guidance material, and best safety practices.

Audits are tailored to the level of complexity of aviation activities in the State to be audited. Timing, duration of audits, and size and composition of the audit teams, are determined through a review of the information submitted by the State.

## What do USOAP audits focus on?

USOAP audits focus on validating a State's capability of performing safety oversight of its industry. The eight audit areas are assessed individually to ensure whether the State has effectively and consistently implemented the critical elements of a safety oversight system. They also determine if the States comply with ICAO's safety-related Standards and Recommended Practices (SARPs) and associated procedures and guidance material. The eight audit areas of a member state's aviation system that the programme monitors are:

1. Primary Aviation Legislation and associated civil aviation regulations;
2. Civil Aviation Organizational structure;
3. Personnel Licensing activities;
4. Aircraft Operations;
5. Airworthiness of civil aircraft;
6. Aerodromes;
7. Air Navigation Services;
8. Accident and Serious incident investigations.

## What is an ICAO Coordinated Validation Mission (ICVM)?

ICAO will perform an ICVM to ascertain whether previously identified safety deficiencies have been satisfactorily resolved by assessing the status of corrective actions or mitigating measures taken by Member States to address proto-

col findings, including Significant Safety Concerns (SSCs). Simply put, an ICVM is not an audit, but rather a follow up on-site activity to validate progress made by member States in resolving safety oversight deficiencies identified during a previous audit.

## What is a Significant Safety Concern?

During the course of an audit, ICAO may identify what is referred to as a 'Significant Safety Concern' with respect to the ability of the audited State to properly oversee its airlines (air operators); airports; aircraft; and/or air navigation services provider under its jurisdiction. This does not necessarily indicate a particular safety deficiency but, rather, indicates that the State is not providing sufficient safety oversight to ensure the effective implementation of all applicable ICAO Standards. Full technical details of the ICAO findings are made available to the State's Civil Aviation Authority to guide rectification, as well as to all ICAO Member States to facilitate any actions that they may consider necessary to ensure safety. The audited State also undertakes to regularly report to ICAO progress on the correction of the safety concern.

## If ICAO identifies a Significant Safety Concern during the course of an audit, does it mean that it is unsafe to fly to that country? Or to fly with an airline from that State?

As indicated above, the identification of a Significant Safety Concern does not necessarily indicate a particular safety deficiency but, rather, indicates that the State is not providing sufficient oversight to ensure the effective implementation of all applicable ICAO Standards. It is important to emphasize that ICAO does not directly audit the aviation industry or aviation service providers. ICAO audits focus on the safety oversight capability of the designated governmental authority responsible for civil aviation. For more specific information on the safety of the various components of the State's aviation system (ie the airlines, airports, aircraft or air navigation service providers), the public should refer to applicable travel advisories as may be issued by national or regional authorities. ■

*(Report by CAAF Controller Air Safety/National Continuous Monitoring Coordinator)*

CAA Fiji is keen to hear from you regarding our levels of service. If you believe you have constructive ideas on how we can improve our services, or would like to report instances where we have failed to meet your expectations, please send your feedback to CAAF, preferably using the QA 108 form that can be accessed from our website. This can be sent to CAAF by faxing it to the Executive Office on 672 1500, or dropping it in the feedback box in the foyer of CAAF HQ, or emailing to :

[info@caaf.fj](mailto:info@caaf.fj)

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# MANAGING WILD LIFE HELPS IN THE REDUCTION OF CARBON EMISSION

**A**ir travel has been identified as the safest mode of transportation globally and the demand for this type of travel has continued to grow.

Forbes reported on its website in August 2019 that “for the first time ever the number of airline passengers worldwide topped the 50% mark of the world’s entire population.” The International Air Transport Association recently reported that 4.4 billion passengers took flight on commercial airlines in 2018. That’s a bit more than half of the global population.

With this increasing demand in air travel, the impact of carbon emissions by the world airlines and the entire aviation industry will also increase.

As a global initiative, aircraft manufacturers and designers have come up with innovative aircraft designs and systems and developers of Air Traffic Management Systems have also been hard at work designing systems that would enable closer spacing by aircraft, making the achievement of optimum flight levels and flight paths more achievable thus resulting in shortened flight times.

Airport operators are also implementing initiatives and procedures to help reduce its carbon footprint; switching to eco-efficient lighting such as LED, economical use of air conditioners and lighting, building designs to take advantage of natural lighting, recycling paper/plastic and so forth. Nadi International Airport has been one such airport, and in March 2019, as a result of its carbon emission reduction efforts, it was granted Level 2 Airport Carbon Accreditation by the Airports Council International.

As the aviation industry continues to explore new ways to reduce its carbon emissions, the wildlife scenario has entered the picture. This article looks at the relationship between wildlife and carbon emissions, and how a dog on a runway or a flock of birds in the vicinity of an airport increase carbon emissions.

Besides being a major threat to the aviation safety, wildlife on airside also contributes to increased carbon emission.

From engine start at ports of departure to engine shutdown at ports of arrival, an aircraft burns thousands of liters of fuel. The longer the engine running time, the more fuel an aircraft burns. The more fuel an aircraft burns, the more the carbon emission.

Wildlife on the airside can cause delays to a departing aircraft. An aircraft holding on taxiways or runways due to a dog or a flock of birds in the vicinity of the runway increases aircraft engine running time, thus increasing carbon emissions.

For an arriving aircraft, a flock of bird or a dog on the runway can cause aircraft to carry out missed approaches or go arounds. These maneuvers require considerable amounts of fuel to be burnt thus increases the amount of carbon emission.

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As a requirement by CAA Fiji, international airport operators must establish an airport wildlife management committee to conduct wildlife risk management and develop preventative measures to control or prevent wildlife intrusion of the airside.

Although the underlining role of this committee is the assurance of safety to aviation, it also plays a vital role in the reduction of carbon emission, which is often unseen or realized.

No matter what measures an airport operator may take to prevent wildlife presence on the airside, it is inevitable that from time to time there will still be birds, dogs and other wildlife present at an airfield.

Feeding and breeding places in and around the airfield needs to be continuously identified, assessed and destroyed. Proper and frequent airport fencing maintenance should be a must. Animals that may be carried in cargos need to be well secured to avoid being loose onto the airside during loading or unloading.

The public who frequent the vicinity of airports should be aware that rubbish left behind can attract wildlife, thus increasing the risk of airside wildlife intrusion. Therefore, the prevention of wildlife entering the airside should be everyone's concern.

To conclude, with innovative designs to modern aircrafts to reduce fuel burn and the continued development of modern ATM systems to decrease flight times in an effort to reduce carbon emissions, it might simply come down to the flock of noisy mynah birds or a lazy dog to be the tipping point.

Therefore, a robust wildlife programme not only ensures safety to aviation, it also ensures positive contribution to the reduction of carbon emission. ■

*Source: vox.com; forbes.com and The Fiji Sun on-line.*





# AVOIDING THE DANGERS OF DEHYDRATION PILOT SAFETY

**D**ehydration is a condition that can occur when the loss of body fluids, mostly water, exceeds the amount that is taken in. With **dehydration**, more water is moving out of individual cells and then out of the body than the amount of water that is taken in through drinking.

Contrary to popular belief, the feeling of thirst is not the best indicator of dehydration. Health experts say that by the time you feel thirsty, you might already be in the throes of dehydration. **Left untreated, dehydration can cause headaches, fatigue, dizziness, muscle cramps, nausea, and disorientation.** Each of these symptoms can significantly impede one's mental and physical performance. For pilots, this can lead to poor decision-making, putting them at an increased risk of dangerous incidents or accidents.

## How dehydration happens

Flying presents unique factors that can allow dehydration to set in much sooner—high altitudes, ultra-low humidity and dry cabins, but the main factor is ambient heat generated by getting into a hot cockpit on a sunny day.

We're mostly made up of water—about 70 per cent. The water is used for virtually every function the human body performs—regulating temperature, eliminating waste, digestion, transporting nutrients—and it also has a role in neurological and cognitive functions. You know what goes in must come out later.

In mild conditions, you need a minimum of 1500 ml each day to achieve fluid balance. This is roughly divided into 500 ml lost through sweat, 500 ml in breath and 500 ml in urine. You may lose between 500 ml to one litre of fluid a day, but in hot environments, you can lose as much as eight litres a day.

Normally, the body loses 2 to 2.5 litres of water in 24 hours—approximately two to three per cent of total body weight. Sweating, brisk exercise, and illness due to vomiting or diarrhoea can also contribute to increasing loss of water and dehydration.

Most people become thirsty after they lose about 1.5 litres of fluid. This level of dehydration activates a 'thirst mechanism' and signals a need to drink at least 600–900 ml of water straight away.

However, the thirst mechanism can be switched off quite easily and just a small amount of fluid in the mouth turns it off, delaying the replacement of much-needed fluid.

Water loss can also increase by a factor of ten or more through perspiration in warm or humid weather or during heavy physical exertion. It's important to realise that rehydration means drinking before you're thirsty—and this means plain old-fashioned water, or a sports drink (more on that later), and not sipping on a double-strength café latte or a can of soft drink.

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*The relative humidity in most air-conditioned buildings is between 40 and 70 per cent, which is ideal for comfort. On an aircraft, the relative humidity may be in the order of 20 per cent. This, however, does not cause true dehydration; but drinking excessive amounts of tea, coffee and alcohol, which cause the body to pass more urine, may exacerbate the effect of this lower humidity.*

Urine colour is an excellent indicator of dehydration. Normally, it should be clear with a pale yellow tint. A darker yellow indicates that you should drink more water. The only exception is when you've had a multi-vitamin or a B vitamin, which makes urine a bright yellow.

### Alcohol?

You've got a thumping headache, you feel dizzy and your judgement isn't what it should be. You know you probably shouldn't have had that last beer last night, but you just couldn't help yourself.

Flying dehydrated and with a hangover can be a dangerous option.

Minimum guidelines state that you should wait at least eight hours after drinking alcohol to commence a flight, but a more conservative approach would be to wait at least 24 hours.

### Caffeine?

It's fair to say that we take our coffee culture seriously, and it's not unusual to start the day with a couple of espressos or flat whites.

The first two 175ml cups—each containing an average of 100 milligrams of caffeine—do enhance performance in the cockpit. Pilots tend to feel less drowsy, their focus improves, as does reaction time, hearing and sight.

However, you risk dehydration if you drink more than 500 milligrams of caffeine a day—which is anywhere from around three to five cups of coffee.

It's not unusual to see crew, 'just living on coffee and no water' during their flights.

**Your hydration strategy should start before you even step foot on an aircraft. So, what can you do to prevent dehydration when flying during the hot summer months?**

## Here are some helpful tips to remember.

### Watch for the signs of dehydration

It's best to catch the onset of dehydration early before it progresses to heat exhaustion. Without treatment, heat exhaustion can lead to kidney damage, seizures, and even heat stroke, which can be life-threatening. Fluid loss and dehydration can be caused by exercising, excessive sweating, flying at high altitudes, or as the result of a recent illness. For pilots, moving and pre-fighting the aircraft on a hot, sunny runway or long flights in an unair-conditioned cockpit can quickly lead to dehydration.

Some of the warning signs of mild dehydration to look out for include **headache, fatigue, dizziness, dry or sticky mouth, and of course, the sensation of thirst**. If you notice any of these signs in yourself or one of your passengers, rehydrate right away and move to a cooler area, if possible.

### Keep water handy on every flight

It's a good idea to stash a bottle of water to your flight bag to maintain hydration. Keep some water bottles on board for your passengers, too. The amount of water you need each day depends on individual factors, but in general, experts suggest drinking at least five 8-ounce glasses of water per day. If you have trouble reaching your daily water intake, make a goal to finish a bottle of water at the top of every hour, or try using a smartphone app to set helpful reminders.

### Stay away from diuretic drinks

Diuretic beverages, such as alcohol, coffee, tea, and sodas, contribute to fluid loss and may further your risk of becoming dehydrated. Try to limit your intake of diuretics and drink plain water as your beverage of choice, especially during this summer months. Luckily, this doesn't mean that you have to live without your morning cup of coffee; just be sure to sip plenty of water for every cup you drink. If you're not a fan of the taste of plain water, try adding some fresh fruit to your H<sub>2</sub>O or choose an electrolyte-enhanced sports drink instead.

### Don't fly if you feel lightheaded, dizzy, or faint

When pre-fighting your aircraft, don't forget to evaluate your own fitness to fly, which includes being honest about your current health condition. For example, if you're recovering from a recent illness, be aware of how the illness may have affected your body's fluid levels. Are you drinking enough water to make up for fluid loss due to extreme temperatures, increased physical activity, or your consumption of diuretic drinks? If you start to feel dizzy, lightheaded, or faint, don't hesitate to cancel or delay your plans until you feel up for flying.

### Fly safely and remember to drink up! ■

Article uplifted & rewritten-Source: Hartzell Propeller.

# ADDRESSING PENDING Audit FINDINGS

Picture Source: Fiji Images

**W**hile having an efficient and effective quality control system is vital for any organization, it is also important to understand and monitor the resolution of findings raised during quality control. Whether the quality control activity is conducted internally or by the appropriate authority, priority to address the findings must remain the same.

Quality control activities assist an organization by identifying the gaps in the security process which needs to be addressed to prevent any security breach or to avoid any attempts of acts of unlawful interference. Once the gap is identified a suitable corrective action plan needs to be developed to address the finding. The corrective action plan needs to be realistic and be of such that it can be implemented at the earliest.

After conducting the quality control activity, the following procedure shall be followed to avoid pending findings:

- When a finding is discovered, it has to be raised to the accountable security manager.
- The accountable security manager with his team will identify the root cause to the finding and provide a suitable corrective action plan.

- The quality control personnel shall review the corrective action plan and conduct a follow-up to verify if the corrective action plan is not only implemented, but effective as well.
- If the corrective action plan is effective the finding shall be deemed to be addressed. However, if a finding is raised and a corrective action plan has not been developed than this will leave the gap identified to remain open.

If vulnerabilities or gaps identified in relation to the operation on the ground are not addressed, then such vulnerability would be visible to the public. When this happens, the health of the organization will be affected as it can create opportunities for breaches.

For any organization, monitoring the resolution of findings until its closure with suitable corrective action plan will maintain a healthy operation and avoid any future security breaches. Therefore, commitment from the management is critical in addressing the outcome of quality control activities.■

# COVID-19

## How bad is this crisis and how much worse is it likely to get?

On 31<sup>st</sup> December 2019, an outbreak of pneumonia of unknown etiology was reported in Wuhan City, Hubei province of the People's Republic of China. On 09<sup>th</sup> January 2020, Chinese authorities reported that the cause of this viral pneumonia was initially identified as a new coronavirus, which is different from any other human coronavirus discovered so far. The disease has subsequently been named as COVID-19.

The International Civil Aviation Organization (ICAO) issued electronic bulletins and State letters to highlight ICAO's role in providing aviation-related information on COVID-19 and in serving as the key facilitator for States and organizations that are members of the ICAO Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA) programme to implement effective collaboration and coordination with all stakeholders. ICAO is also working with governments and industry partners, such as the International Air Transport Association (IATA) and Airport Council International (ACI), to provide guidance to aviation authorities, airlines and airports on appropriate measures aimed to protect the health of the travelling public and reduce the risk of transmission.

ICAO and WHO remind all stakeholders of the importance of following existing regulations and guidance, particularly the relevant standards contained within the various Annexes to the Convention on International Civil Aviation and the International Health Regulations (2005). Cross-sector collaboration at the national level is also important and in this regard, States are reminded to coordinate between aviation and health authorities and to establish National Facilitation Committees that comprise all relevant groups, in line with ICAO guidelines.

In a matter of weeks, the airline industry worldwide has been brought to its knees by the coronavirus, with carriers slashing schedules, thousands of aircraft grounded, staff fallout, and airports empty of passengers.

The knock-on effect on the aviation industry has been equally disastrous, with Fiji – already rocked by the Max grounding ... Where does a devastated aviation industry go from here?

How bad is this crisis and how much worse is it likely to get?

The impact on the Aviation industry will be long lasting and Fiji CAA is very conscious of the need to be flexible and responsive in its regulatory approach during these unprecedented times. The number of common challenges which will be faced by the operators are needed to be identified early to ensure that CAA Fiji can be proactive in working with you to find solutions.

Fiji CAA will minimize the regulatory burden as much as possible over the coming months, without compromising safety and security.

We understand the impacts of COVID-19 measures are significant for the aviation sector as a whole and that there is currently considerable uncertainty both about the effect of the measures and about the future. We are working with the Ministry of Civil Aviation and to seek certainty and clarify the challenges arising from these measures.

**We will keep you updated - please visit CAAF website for more information. ■**

*Article from CAA NZ & joint covid update ICAO & WHO.*



# GOUT AND YOUR HEART

## Introduction

In the U.S., gout affects nearly 6 million men and 2 million women, or about 4 percent of the population, according to the Arthritis Foundation. The buildup of uric acid can form needle-like crystals in a joint and cause sudden pain, tenderness, redness, warmth and swelling, often in the big toe. But it's also associated with a greater risk of kidney disease, diabetes, cancer and sleep apnea.



## CARDIOVASCULAR RISK

Having a type of inflammatory arthritis called gout may worsen heart-related outcomes for people being treated for coronary artery disease, according to new research.

A recent study in *The Journal of the American Heart Association* sought to clarify older research on the link between cardiovascular disease and gout, which occurs in people with high levels of uric acid in the blood.

Researchers from Duke University studied data from more than 17,000 patients, including 1,406 who had gout at the start of the study and were being treated for cardiovascular risk factors. After following patients for an average of 6.4 years, researchers found that "in spite of aggressive medical therapy," the gout was linked to worse outcomes and death.

Among patients who had gout at the beginning of the study or who developed it during follow-up, their risk

of either dying of cardiovascular disease or having a heart attack or stroke was 15 percent higher than patients who never developed gout.

Patients who had gout at any point during the study had a twofold increased risk of heart failure death compared to people who never developed gout.

Many patients don't even realize a link exists between gout and heart problems, and the new findings show the need for patients to talk to their physicians about added risks.

Also, from a physician's perspective, it's important to consider that patients with gout may be at increased risk for cardiovascular disease even if they're already treating them with all the standard therapies. It's something to have on their radar.

Although it's unclear why gout might increase the risk of cardiovascular disease, possible reasons include increased oxidative stress and inflammation.

People who have a high level of inflammation are at an increased risk for cardiovascular disease, and we also know gout is characterized by periods of acute inflammation. The link may have to do with that.

Gout is not just a disease of the joints: It's a disease that causes inflammation in the joints and in the body. It's not just a pain in the toe – it affects other organs, too, including the heart.

The new study underscores the potential dangers of ignoring even occasional episodes of gout.

Patients may say, 'I have an attack every two years, so shouldn't I wait (for treatment) until it becomes more frequent?' But in light of studies such as this one, patients might want to take that into account and know that leaving gout untreated might be affecting their cardiovascular health. ■

(Article by Dr Isireli Biunaitotoya)

# KNOW YOUR AVIATION APPROVED MEDICAL ASSESSORS (AMA's)



**Dr R Ponnu Swamy Goundar**  
CAAF AMA  
Email: meenaponnu.g@gmail.com



**Dr Ram Raju**  
2 Lodhia St, Nadi Town.  
Tel: 6700240; 9920444  
Email: rraju@connect.com.fj



**Dr Isireli Biumaitotoya**  
Concave Drive, Namaka, Nadi.  
Tel: 6725707; 9955151  
Email: Biumaitotoya@gmail.com



**Dr Nahina Naaz**  
Ace Medical Centre, RB JetPoint Complex  
Matintar, Nadi.  
Tel: 6727530.  
Email: drnahina.naaz@gmail.com



**Dr John Fatiaki**  
Epworth Clinic, 254 Waimanu Rd, Suva.  
Tel: 3302043; 3302421  
Email: docjohn@connect.com.fj  
epworthclinic.fj@gmail.com



**Dr Louise Williams**  
*(Specialist Ophthalmology)*  
Concave Drive, Namaka, Nadi.  
Tel: 6727944; 9309450  
Email: louisejohn@connect.com.fj



**Dr Pardeep Ram**  
*(Specialist Ophthalmology)*  
Laser Eye Centre Ltd, Lautoka.  
Tel: 9763727  
Email: pardeepgram@yahoo.com.



**Dr Isoa Bakani**  
*(Specialist Cardiology)*  
Suite 5 Palm Courts, QLD Insurance Bldg.  
Victoria Parade, Suva.  
Tel: 3301911  
Email: bakani@connect.com.fj



**Dr Rauni Tikonayau**  
Level 6, Civic House, Suva.  
Tel: 3316999 ext 355229; 9906404  
Email: rauni.tikonayau@govnet.gov.fj



**Dr Anthony Wiles**  
320 Remuera Road, Auckland, New Zealand.  
Tel: (09) 524-6504  
Email: wiles@remueradoctors.co.nz



**Dr David Payne**  
Medicine at Work Plaza 2, Habid Physio,  
100 Willis Street, Wellington 6011, New Zealand.  
Tel: (21)246-5940;  
Email: davidjepayne@googlemail.com



**Dr P. V. Masrani**  
VM medical Centre  
#78/B Pankag Mansion  
Dr A B Rd, Worli, Mumbai 400018,  
India.  
Tel: (9122) 2490-1066  
Email: Punita@drmasrani.com

# CORONAVIRUS PREVENTION



**Wash hands often with soap and water for at least 20 seconds.**



**Do not touch your face, mouth, nose, eyes with dirty hands.**



**Use an alcohol-based hand sanitiser if soap and water are not available.**



**Keep your distance from sick people and if you become ill, stay home.**



**Clean and disinfect frequently touched objects and surfaces like phones.**



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