



# *The Pharmatimes*

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This edition of the Pharmatimes provides our regional healthcare professionals additional focus on the ongoing challenges of COVID-19. With the impending supply of vaccines in some States soon, whilst others have catapulted the vaccination process, one needs objective professional thought on how we deliver that service. Will the private health sector be included in the exercise? Vaccines may not be the total answer but interstate travel, when that becomes reality, will assist. COVID-19 passports may become reality.

Healthcare front-liners and the susceptible population subgroups will be targeted in a phased manner in the Fijian State. Again, will the private health providers be included as front liners? Many thanks to the CORVEX team and the philanthropic providers under United Nations institutions who have made this possible. The mantra of hand washing remains important and where the risks are high, social distancing and face masks warranted, if community transmission remains a risk factor. The global situation remains fluid with repeated bouts of variant subtypes and possibilities of vaccine resistance.

This issue also showcases the COVID-19 responses in Fiji. This focused paper reviews the subject of our pandemic preparedness and response. All the challenges and pitfalls faced by the sizable private healthcare providers is presented. We have a view-point article on Digitalization of Healthcare-post COVID-19. Several practices have launched such measures to service their clients with much innovation. I trust it provides some ideas to develop your own initiatives and share as the ship to digitalization has taken off and will take on additional pace in the neo-normal of the 21st Century. The need for national policies, strategies and standards will need to be developed that can only happen if grassroot personnel put their thoughts together and propose a possible way forward.

A word of caution to our health providers in these unfortunate COVID-19 times. Corporatization of Healthcare has developed a predominantly commercial face. Some corporate health facilities have been awfully busy. Grand mastering their skills and abilities to place individuals and corporate groupings under heavy fiscal debts with “over-servicing”. Corporatization of healthcare delivery with its commercial focus has a sad tendency to over investigate and over treat individuals without any compassion to individuals’ pockets (Out of Pocket Expense) and/or over-utilization of caps on healthcare insurance schemes. The buy-in by healthcare scheme operators and cartel-ing of pharmacy services is also now visible. Ethical pharmacists have opted not to be included in these healthcare schemes, sadly. Ethics questionable too. The concept of the solo practitioner or even the small group-practices are under major threat.

General practitioners in several of these corporate establishments have placed the “fear of the devil” into some clients and rapidly drained their pockets. Some public education columns in the written press are another new example surfacing to reap the benefits of possible wider clientele-ism. Read between the lines on some of those opinion columns next Saturday! The misuse of MBA (Multiple Blood Tests) is worthy of mention. Do you need tests which are applicable only in an intensive care situation routinely as a health-screening measure? With the mushrooming of private health services, the general practitioner gatekeepers must remain wary of unscrupulous healthcare entrepreneurs and advise your patients to be cautious. “Do what is needed, don’t over-service for monetary gains”.

Specialists in such setting also have been known to order the most expensive medications without respect to client’s abilities to pay out of pocket whilst Inhouse pharmacies are servicing outpatients, strangely.

Has history taking and physical examination gone out the window? What is the situation on stress tests, echo-cardiography gone? Yes, it is “go collect your \$18,000.00 and come for your stents”. Without even a glance, stents have become the vogue in some establishments. Why?

Why are specialists making unnecessary differential diagnoses when their purpose is to report only? Just too many whys.

Order your clients investigations based on needs, especially in these hard-economic times. The gatekeeper GP must be encouraged to kindly partake in Continuing Education in the interests of your clients. Take cognition of what is required in the individual case. Stop the over-investigation in your client to retain your kickbacks. Continuing educational pursuits will guide you out of this Catch 22 situation especially with the pandemic’s health impacts and the longer-term economic crisis that we will continue to face over the next three to five years ahead. As your executive prepare documents and presentations to the government budget subcommittee on public, private, partnerships (PPP) in healthcare delivery the need to integrate the public and private health systems, addressing Universal Health Coverage by 2030 within the framework of the Sustainable

Development Agenda.

The historical article on Diabetes in Fiji (Part two) is of major professional interest. It outlines the transition from communicable diseases to the increasing incidence of non-communicable ones as our lifestyles evolved. A third part is to follow in June 2021 issue. Dr. Parshu Ram was Fiji's most eminent physician, researcher and medical writer in the 60-80's. Looking at his co-authors one notes younger colleagues who have achieved their own credibility's in time. Dr Ram is in semi-retirement in Melbourne, Australia.

A happy Easter to you all.

Neil Sharma.  
Editor.

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“charting in the storm for the new normal”

**Title:**

The Impact of COVID -19 on Primary Health Care. A Fijian Narrative.

Dr Neil Sharma

**Introduction:**

Primary Health Care (PHC) became a core policy for WHO in 1978 with the Alma Ata Declaration. There have been rapid changes seen in health status and trends, demography, socio-economic trends, governments and WHO's priorities and their ways of working inclusive of guidance, technical and professional support while pandemics evolved (1). Primary care by Non-Governmental Organizations (NGO) and the Private Sector have increasingly developed in the last three decades, to compliment the original PHC model with additional service provisions, working within or outside State health jurisdictions but under various State healthcare regulations, globally (2). These private sector healthcare providers compliment primary public health systems in various capacities but there appear to be varied levels of knowledge gaps of the functions and capabilities of the private sector in many state jurisdictions, on the part of the two separate parties. The World Health Organization (WHO) is calling on countries to adopt a whole-of-government and whole-of-society approach in responding to the COVID-19 pandemic. Among other things, this requires policymakers to include the private health sector in efforts to contain, control and mitigate the health impacts of the outbreak (3,4). The Sustainable Development Agenda (SDA-2015-30), its underlying principle of Universal Health Coverage (UHC) and not leaving anyone behind is seriously being challenged by the COVID-19 pandemic. The sudden and devastating impact of the COVID-19 pandemic with its corollaries in global public health and the ensuing socio-economic depression remains to pan out with second and third waves currently, close to fifteen months into 2021. The global trajectory of SDA and its progress is under major duress with this pandemic.

The World Organization of National Colleges and Academies of Family Medicine (WONCA) annual conference failed to eventuate in April 2020 as a result of the COVID-19 pandemic international travel restrictions, quarantine and social distancing measures. The PHC country profiles which was to be

presented at that forum for comparative analysis, was then expanded to include the impact of COVID-19 in the public health profiles which became the subject of an ongoing narrative. The experts from the six countries developed their own country reviews which has been collated and now is in the due process for international publication. The current PHC profile of Fiji specifically, as part of the larger exercise involving six Asia-Pacific countries reports on the impact of health-care service's multifaceted and interrelated challenges in Fiji.

**Method:**

The PHC profile data of each country was collated on a standardized and mutually agreed upon questionnaire, from within this research group. The data collected from the participating country representative includes details on demographics, involvement of the various disciplines in PHC, training and registration of such disciplines, community accessibility to services, the intersectionality of the various PHC teams, health financing including barriers and challenges faced in-country. This cross-country raw data was tabulated for each jurisdictional state for comparative analysis. The database aimed to highlight specific challenges to the delivery of PHC in the various countries, inclusive of commonalities and variances. Fiji's data was also independently sourced and forms the platform of this paper.

**Results:**

The tabulated data analysis was undertaken for Fiji using a standardized questionnaire. A comparative analysis aimed to review the challenges to PHC in the Asia-Pacific region, to assess best practices as a learning experience. Fijian data has been extracted to this review process. Lessons that could possibly be replicated in countries of similar size or in different stages of the sequential pandemic waves and subsequent pandemics which possibly may follow. The application of lessons learnt in this pandemic setting commences with demographics, the range and levels of expertise available and their credentials. The initial challenges of procurement of medical supplies, consumables, personnel protective gear (PPE) and successively ending with lessons learnt to improve future planning and delivery outcomes in subsequent waves of COVID -19 or other future pandemics.

## Demographics of The Republic of Fiji

Population: 880,000 (2017)

Distribution (e.g. urban / rural / remote)

> 55.9% Urban > 44.1% Rural > 15% of rural in maritime

Socioeconomic breakdown

Ethnic groups

Indigenous: 65% of total pop

Indo-Fijians: 30% of total pop

Pacific People/Asian: 5% of tot pop

Unemployment rate ♀ 7.8% ♂ 2.9%. Post COVID-19: 130,000

laid off tourism workers. 3 tier relief packages (personal superannuation released by government). This was a short-term measure. When this fiscal support ceases more are

expected to be unemployed or underemployed as the pandemic remain ongoing. Long term retirement funds are being

released in this case. Small business closures are rising in urban areas. People are now reconsidering other options to sustain

their families'. Roadside stalls, flea markets, street sale of food items and vegetables have arisen. There are more sexual

services available on the roadside, unfortunately. A ten-fold increase in domestic violence is reported in the local media.

Consequently, GP practices are affected with over 25-30 % reduced income as a result of downturn in "of the street" minor

consultations, reduced scheduled attendances for Non-Communicable diseases, antenatal, maternal child-health and

aged care follow-ups.

PHC services in the already busy public system is challenged with greater workload. Basic medication and supplies are in

even shorter supply with difficulties in the international procurement of medical supply chain and local distribution of such.

Life expectancy: ♀ 70 yrs. ♂ 64 yrs.

basic trained community/village-based health workers remain at the periphery.

## Training & registration

Vocational training remains limited in family medicine and

midwifery. Registered public health nurses and a few pharmacy assistants are available in the rural settings. The regulations

now in place is as follows and is obligatory:

Fiji Medical +Dental Practitioner Act 2011.

Fiji Nurses +Nurse Practitioners Act 2012. (Annual Licensing/CPD)

Fiji Pharmacists Act 2012.

Allied Health workers enacted 2013.

## Clinical disciplines in primary care

Disciplines which constitute PHC active in Fiji include GPs,

Public health nurses, dentists, ad-hoc outreaches by Specialist disciplines. Physiotherapists, dieticians, allied health workers

such as Health inspectors remain mostly urban based.

Availability of PHC disciplines and distribution in the country

remains limited with rural areas devoid of G. P's and only

nurses based out of nursing stations. Zone nurses and only

## The Public Health Sector.

The Incident Management Team (IMT) in the Ministry of

Health and Medical Services along with the armed services,

police, boarder control units continue their sterling role, addressing

the initial lockdown phase. Current screening, isolation and

quarantining of in-bound passengers on freight flights to Fiji

has been successful in new cases being identified in the

quarantined phase without horizontal community spread. Laxity,

health worker exhaustion is evident and lapses in policy

implementation by supervisory staff needs constant attention.

This will prevent horizontal community transmission, long

term. Structured policy and fore-planning for the next phase

and triggered response need greater attention, practice runs

and regulatory implementation plans in place.

The lapses in surveillance to date, has given rise to some near



misses in the recent past and must be objectively addressed.

**Fever Clinics:** These clinics are now closed and grassroots screening measures have become redundant, unfortunately. The community has become lax and the health facilities are not separating respiratory type presentations from the general outpatient client. This could be a sticking point later, if horizontal transmission becomes apparent.

**Triaging Health Facilities:** Mainlining all triaging of patients in both public and private PHC sectors are evident and can prove to be a COVID-19 risk. The war with the virus is not over despite the isolation factor in oceanic states.

**M&E.** This is the biggest tragedy when data is not appropriately collected, analyzed and researched for publication. Various digital formats are available yet under-utilized for long term research. Although Communicable Disease Center (CDC) surveillance systems and IMT have capabilities for data capture, the current human resources are limited and imputing remains fragmentary, as in most low and middle countries. The pandemic outcomes will not be a true reflection of what really happened.

### Access to Primary Care.

The gate keepers to healthcare for rural and maritime residents remains the public health system under Ministry of Health and Medical Services. GP/Family Practitioners act as gatekeepers for paying patients mostly in the peri-urban and urban areas. Some client/patients utilize both the public and private sectors, periodically and intermittently. Referral optional between public health and private practice system is manually managed: A digital system is not fully operational within the public healthcare system. Health information links remains fragmentary as a consequence. No other specialties apart from the general practitioners work in the community with direct /open patient access. On an adhoc basis, public sector specialist outreach programs with volunteers from abroad or locally provide complimentary services of screening, diagnosis and treatment to the rural and maritime population.

### Relationship of primary care with community services

Relationship of primary health care with other community services is on a voluntary basis especially with faith-based organizations but still remains rudimentary. There is some collaboration of primary health care professionals with other community services from the Department of Social Welfare in an informal and adhoc basis only.

**GP practitioners:** Solo and group practices exist. There are no arbitrary standards on practice nurses and managers currently. Some practices are developing capabilities with private diagnostic services: Corporatization of private health care is taking root, additionally. The private PHC teams are affiliated on an ad hoc relation with these entities on a need's basis for second opinions and diagnostics. Health cost are prohibitive for the marginally poor and social/ health insurance is still in a rudimentary stage. Universal Health Coverage has not been considered seriously following the WHO sponsored Social Insurance Study of 2011-12. A modern, small (40 beds) private hospital is evident and has great potential but without medical insurance, out of pocket expense for the average citizen remains prohibitive many a times. Tertiary hospital has been in pipeline for over twenty years but with a series of four political Coup D'états over the last 33 years, development of healthcare facilities has been nail-bitingly slow.

Unfortunately, the GP-Community liaison has been slow in materializing generally. However, faith-based organizations engage some GP's in their operations on a pro-bono basis especially when of the same religious denomination.

GP's were not provided logistic support with PPE during COVID -19. They procured their own PPE's individually and collectively from overseas sources despite international donations to the States ministry of health. The leaders in the GP sector suggested enhanced laboratory testing criteria for COVID – 19 providing analysis to the States Incident Management Team (IMT) which was sidelined. Without state support realigning their general practice settings as best as could be was undertaken on an individual basis. Practice designs for

PPE procurement and usage, social distancing and telemedicine were considered and undertaken from international literature and advice from contemporaries abroad (5,6). Knowledge, Attitude, Perception (KAP) survey on GPs and mental health and wellness survey (MEHAW) is in progress currently. This is Fiji's first online digital medical survey. Seven parameters of wellness being surveyed, namely: physical, mental, emotional, intellectual, environmental, social and finally spiritual wellness in COVID-19 times. Various initiatives to support the unemployed, poor and needy within the community was flagged and supported by a small group of practitioners with donation of food, clothing and kitchen utensils, especially after a tropical cyclone in early 2020.

## Primary care teams

The PHC teams from the public and private sectors maintain no formal relationship. The pyramid shaped three tier system of PHC exists with community participation in the public health system at no/ low cost to anybody who ends using their services. The Private sector remains neutral to community healthcare needs in normal times but is supportive of the state services in times of natural disasters. PHC services by the private sector is available as and when needed on an "out of pocket" payment basis for all. Minimal healthcare insurance is available to employed workers via "capitation" and on a "capped -needs basis" for a limited range of consultations with the private health sector.

Progress to Universal Health Coverage (UHC) has been undertaken by preliminary studies to roll out GP's in peri-urban, rural and maritime areas. Funding has been sourced from government revenue channels over three years ago but the program has not been functionally established by the health ministry. The Health/GDP ratio < 4% is in need of annual sequential increase to serve the PHC needs of the significant poor, rural dwellers and the maritime areas.

As a result of this dichotomic practice: PHC-private sector not been given support from government with the onset of COVID-19. There is evidence that declining patient numbers of walk-in patients will lead to reduced standards of practice and foreclosure of some GP's if the pandemic is protracted.

Smaller private diagnostic services (general laboratories, ultrasound scanning and radiology units) will follow suit.

## Primary care financing.

The public PHC healthcare is available to all, at no cost or low cost to all citizens. Government taxation and budgetary allocations are the major source of the public healthcare revenue. The private PHC healthcare is an out of pocket expense. There is a small group under private medical insurance coverage as a conjoint effort of the employer and employee. This covers only a small percentage (<5%) of the workforce, currently. Another 5% of the population carry healthcare insurance as an individual option. Both these numbers are expected to fall at the end of 2020 with continued unemployment trends.

Blended "Capitation" and "fee for service" options are available and apply to the medical insurance schemes. Declining patient numbers are being noted following redundancies, reduced work (post onset of COVID-19) in the private PHC. The insurance companies have gradually delayed re-imbursement of payment for services rendered by the private sector in 2020-21 adding further strain to the private PHC providers.

## Strengths of PHC in your country

General Practice complement the State's PHC services. Planning and coordinating public -private sector service and program delivery has been slow and delayed. The need to roll out an interactive system and not run parallel is needed with commonality in program outputs. Additionally, teaching and research capabilities can be enhanced with the rapidly developing healthcare digital technology with the current need for social distancing and isolation. Training needs by GP's are only marginally addressed by state PHC, as observers. Long term plans to integrate both the systems is not being openly discussed. These collaborative initiatives have been on the back burner for three years without political endorsement. The Fiji College of General Practitioners (FCGP) now runs its own conferences, workshops and training for its members. A mentorship program exists for new trainees with established pathways to full membership and annual accreditation and licensing. Research is encouraged and a regular quarterly pub-

lication is established and operational.

Digital technology for telemedicine has been used by some practitioners for appointments, referral, updating appointment schedules, digital consultations, diagnostics, report writing and other means of communication with patients and professional colleagues. Second opinions for dermatological conditions has been set up with some practices. Use of phone or SMS for appointment reminder, treatments, updates or consultations has been established. Emails for blood test result from general diagnostic services are actioned in this manner and compliment the clinical findings, before informing clients in a 24-48hr turnaround time with results. Zoom meetings for international and national meetings, Continuing Professional Development and executive business issues with the public PHC team are being undertaken. Use of social media platform s such as Facebook for patient information has been established with good results.

## Barriers of implementing community-based PHC services.

- Fiscal restraints PHC healthcare delivery in both sectors.
- Poor referral and reporting systems. Digital technology poorly developed.
- Feedback very rudimentary to private PHC from public PHC.
- Public Health awareness and health literacy very poor.
- Health inequity: Race, gender, location based: Urban v Rural v Maritime,

## Conclusion.

PHC is the foundation of health, wellbeing and socio-economic development of society. The delivery of PHC will benefit if the two parallel systems of PHC are integrated with a common strategy and program delivery to common citizens when health inequity is in question. The importance of addressing UHC as part of SDA 2015-30 is paramount. These strategic plans will not be attainable if the fast tracking of integration is delayed with the added risks of the current pandemic when

human resources and supplies are already critically low. Continuity of care is needed especially with current poor palliative care, for NCD complications management, cancer patient surveillance and those with disabilities and the aged in the community cared for appropriately. There is even a greater need for health screening and health promotion now. The vital interconnectivity of the private PHC and public systems are long overdue.

In the positive use of digital technology, remuneration options for private sector in PHC needs discussion to address UHC and meeting SDGs before the private sector goes into bankruptcy and the public PHC is overwhelmed and totally dysfunctional. Keeping in mind, health and gender equity in all COVID – 19 response plans: An All of Society and All of Government approach is mandatory.

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## Diabetes in Fiji in the Twentieth Century Part II: Clinical aspects, diabetes control and prevention

Dr. Parshu Ram and Dr. Ram Raju

### Summary

The earlier study and the clinical experience showed that non-insulin dependent diabetes or Type 2 diabetes was the most common type of diabetes accounting for more than 95% of all cases. There was striking difference in the clinical presentation in the two ethnic groups. In Indians 52.2% presented with classical symptoms, 26.4% detected on routine medical examination and 10.9% with diabetic sepsis. In Fijians 44.1% presented with diabetic sepsis, 22% detected on routine examination and 19.1% with classical symptoms. Diabetic coma was very uncommon.

Juvenile diabetes, malnutrition related and diabetes due to various conditions were rare. The prevalence of gestational diabetes was 3%. Diabetic complications were frequent. In the earlier study the more frequent complications were diabetic sepsis, abnormal ECG, cataract and diabetic retinitis. In the 1983-85 study more frequent complication were diabetic sepsis, cardiac manifestations, hypertension and neurological disorders. Diabetic sepsis was most studied and most common complication accounting for a third of all diabetic admissions.

Diabetes was associated with an increased morbidity and mortality. The development of diabetes activities in Fiji followed almost similar steps as had been previously suggested and described by Zimmet et al.

### Diabetes Mellitus – Clinical Aspects

#### Type 2 - NIDDM

Earlier study (1) showed that non-insulin dependent diabetes mellitus or Type 2 diabetes was the most common type of dia-

betes in the country accounting for more than 95% of all cases. Most of the cases (69%) of NIDDM occurred in those over 40 years. There were only six cases below the age of 20 years in Indians. There was striking difference in clinical presentation in the two major ethnic groups. In Indians 52.2% presented with the classical symptoms of polyuria, polydipsia, polyphagia and weight loss, 26.4% detected on routine medical examination and 10.9% with diabetic sepsis and others with complications. In Fijians 44.1% presented with diabetes sepsis mainly in the lower limbs, 22% detected on routine medical examinations, 19.1% with classical symptoms, and 5.8% with pulmonary tuberculosis.

Diabetic coma or prediabetic coma were very uncommon. There was only one Indian, aged 21 years who was admitted repeatedly in diabetic coma. Pre-coma occurred in three cases, two Fijians and one Indian. Ketosis occurred in 45 Indians and eight Fijians – all these cases had only Plus 1 acetone.

#### Juvenile Diabetes - IDDM

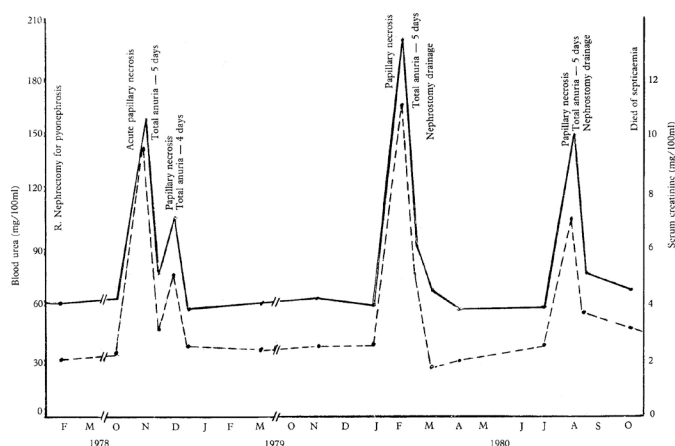
Juvenile diabetes was almost unknown in Fiji in 1960's (1). In hospital admissions of 410 (I 340 F70) over two year period in 1964 -65, only one case was under 10 years.

In 1985 there were 22 children around the country who suffered from IDDM (2). Their ages ranged from three years to 15 years and with a female preponderance of 5.2. The ethnic distribution was Fijians 4, Indians 16 and others 2. All these children were living around cities or larger towns in the country. Some may have moved to these areas in a hope of having better treatment.

Malnutrition-related and diabetes secondary to various conditions including alcohol damaged pancreatic diabetes were very rare. One patient, female aged 44 years old had extensive calcific pancreatic diabetes mellitus and had several episodes of papillary necrosis (3) Fig.1 & 2.



**Fig 1: Intravenous pyelogram showing papillary necrosis in the left kidney. (Right kidney previously removed). Note extensive pancreatic calcification**



**Fig 2: Repeated episode of papillary necrosis in a long standing diabetes mellitus (Female, aged 44 years, pancreatic-diabetes – 20 years)**

In the National diabetes and cardiovascular diseases survey in 1980, the prevalence of impaired glucose tolerance in the community was 10%.

In the gestational diabetes study in 1985–87 the prevalence of diabetes was 3% (4).

A clinical study at the Lautoka Hospital by Dr. Stutton in 1975 – 76 showed that improved management of diabetic pregnancies resulted in a neonatal survival of 100%. This was due to a change in the unit policy in 1975 which was changed to one based on the regimen used at the Kings College Hospital, London.

There was an increased incidence of diabetes in the second half of the twentieth century. It was the impression of a paediatric colleague in 1985 that IDDM was on the increase compared to 20 years earlier (2). Diabetic coma virtually unheard of 20 years earlier accounted for 2% (54 cases) in 1983-85 period. There was also the observation that some cases of NIDDM were seen in younger age group.

### Diabetic Complications

The consequences of diabetes are largely dependent on its complications. The first study on diabetic complications was carried by Dr. Cassidy in 1964-65 period (1). He studied 410 diabetic admissions (Indians 340 and Fijians 70) to the Colonial War Memorial Hospital. Table.1 shows diabetic complications which occurred in more than 10% of the patients in either ethnic groups. In Fijians diabetic sepsis was the most common complication (34.2%) follow by abnormal ECG, cataracts, carbuncles and furuncles and diabetic retinitis, others were less common. In Indians more frequent complications were abnormal ECG, diabetic retinitis, cataracts, ketosis and ischaemic heart disease. There were no complications in 11.4% of Fijians and 13.8% of Indians.

**Table 1: Complications of Diabetes in more than 10% of patients**

|                         | Fijians |      | Indians |      |
|-------------------------|---------|------|---------|------|
|                         | No      | %    | No      | %    |
| Diabetic Sepsis         | 24      | 34.2 | 27      | 7.9  |
| Abnormal ECG            | 23      | 32.8 | 118     | 34.7 |
| Cataract                | 20      | 28.5 | 56      | 16.4 |
| Carbuncle/Furuncle      | 20      | 28.5 | 23      | 6.7  |
| Diabetes Retinitis      | 17      | 24.0 | 98      | 28.8 |
| Pyelitis                | 11      | 15.6 | 42      | 12.3 |
| Hypertension            | 10      | 14.2 | 36      | 10.5 |
| Ketosis                 | 8       | 11.4 | 45      | 13.2 |
| Ischaemic heart disease | 1       | 1.4  | 36      | 10.6 |
| No complications        | 8       | 11.4 | 54      | 15.9 |
| Total Cases             | 70      |      | 340     |      |

There were four detailed studies on diabetic sepsis form the Lautoka and CWM Hospitals. Diabetic sepsis was most frequently in the 40-70 years age group and it affected both ethnic groups and both sexes. Almost 80% of all sepsis occurred in the lower limbs and the remaining 20% elsewhere and included carbuncles, cellulitis and breast abscess.

Initial lesions were usually trivial such as puncture wounds, pruritic lesion, pressure from shoes, blisters, burns, minor cuts, bruises and cracks between toes.

The control of diabetes and foot care was poor or non-existent in the majority. Almost a quarter of all those with sepsis did not know that they had diabetes. Often the minor early injuries were ignored or people resorted to traditional and herbal remedies. In the majority there was considerable delay in seeking medical advise.

The hospital stay of patient with diabetic sepsis on average was 30 days, that was four times as long as general patients. Occasionally inpatient stay was prolonged. Those with sepsis required frequent and repeated surgery and anesthetics. Almost a quarter ultimately required major amputations i.e. above trans-metatarsal joints. The case fatality ranged from 7% to 38%.

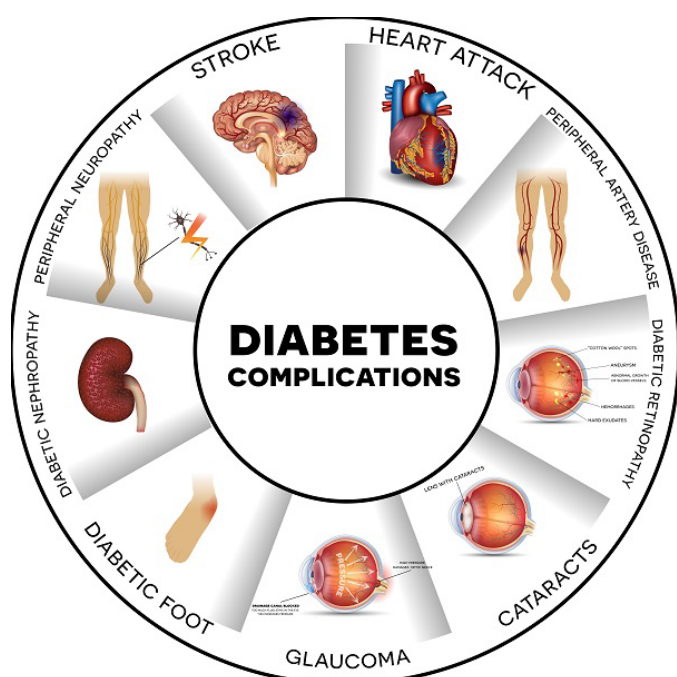


Table 2: Studies on Diabetic Sepsis

| Place Period                         | Lautoka Hospital Dec – Jan 1969 (6) | Lautoka Hospital Jan 75 – Aug 76 (7) | CWM Hospital Nov 77 – Oct 78 (8) | CWM Hospital Jan 83 – Jan 84 (9) |
|--------------------------------------|-------------------------------------|--------------------------------------|----------------------------------|----------------------------------|
| Number examined                      | 29                                  | 90                                   | 59                               | 110                              |
| Ethnic group                         |                                     |                                      |                                  |                                  |
| Fijians                              | 21%                                 | 42%                                  | 58%                              | 62%                              |
| Indians                              | 76%                                 | 58%                                  | 37%                              | 33%                              |
| Others                               | 3%                                  | –                                    | 5%                               | 5%                               |
| Sex                                  |                                     |                                      |                                  |                                  |
| Male                                 | 55%                                 | 52%                                  | 54%                              | 33%                              |
| Female                               | 45%                                 | 48%                                  | 46%                              | 67%                              |
| Age commonly involved                | 40 – 70 years                       | 40 – 70                              | 40 – 60                          | 40 – 60                          |
| Site of Sepsis                       |                                     |                                      |                                  |                                  |
| Lower limbs                          | 79%                                 | 89%                                  | 80%                              | 75%                              |
| Elsewhere                            | 21%                                 | 11%                                  | 20%                              | 25%                              |
| Delay                                |                                     |                                      |                                  |                                  |
| < 2 weeks                            | –                                   | –                                    | 72%                              | 36%                              |
| > 2 weeks                            | –                                   | –                                    | 28%                              | 64%                              |
| Diabetic State                       |                                     |                                      |                                  |                                  |
| Known diabetics                      | 89%                                 | 71%                                  | 71%                              | 78%                              |
| Unknown diabetics                    | 11%                                 | 29%                                  | 29%                              | 22%                              |
| Amputations (major) (above TM Joint) | 24%                                 | 28%                                  | 25%                              | 17%                              |
| Average hospital stay (days)         | 28                                  | 40                                   | 30                               | 29                               |
| Case Fatality                        | 7%                                  | 38%                                  | 9%                               | 12%                              |

The next important study was by Dr. S. R Govind in 1982-85 for his MPH thesis (10). Diabetic sepsis remained the most common complication accounting for almost a third of all diabetic hospital admissions (Fig. 3). There was a marked increase in the frequency of cardiac complications (cardiac failure, ischaemic heart disease and sudden deaths) and hypertension compared to the earlier study of 1964-65. Almost a quarter of diabetics had hypertension (SBP  $\geq 160$  and DBP  $\geq 95$ mmHg). Diabetes was considered a risk factor for ischaemic heart disease in up to 25% of heart attacks. Diabetic coma virtually unheard of 20 years earlier accounted for almost 2% (54) of cases (Fig. 2).

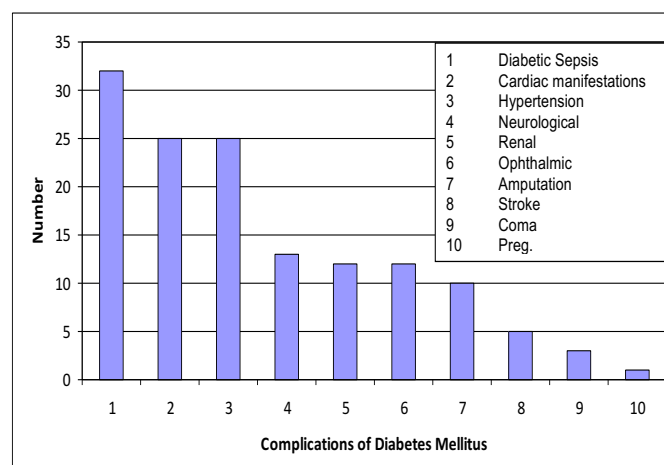


Fig. 3: Percentage of total diabetic admissions between 1983 – 1985 according to complications

Cataracts were common in diabetic and 40% of 200 cataract operations annually at the CWM Hospital in 1980's were in diabetics. Seven percent of registered blind in the country were due to this disease. By 1980-90 diabetes became the third most common cause of the end-stage kidney disease.

## Morbidity and Mortality

Diabetes mellitus is associated with an increased morbidity and mortality.

A study done at the CWM Hospital to assess the number of visits for diabetes and cardiovascular diseases over a 10 day period from 26 August – 6 September 1981 showed that these diseases were an important reason for hospital visits (11).

Nine hundred and thirty or 13% of all visits (7068) were for diabetes and cardiovascular diseases and if casualty (3734) and ante-natal visits were excluded the above two diseases accounted for 41% of all visits. Of these diabetes mellitus was the second most common outpatient visit with an average of 33 visits per day. During the same the three doctors two hour and half weekly diabetic clinic average attendance was 110.

There was a marked increase in hospital admissions in the second half of the twentieth century. In the 30 year period (1952 - 82) there was almost seven fold increase in admission from 170 to 1337 and 34 fold in Fijians and five fold in Indians (12).

The number of bed occupied by diabetics was disproportionately high. The 1983 study that 18% of hospital bed in medical, surgical, ophthalmology and gynecology units were occupied by diabetics and this increased to 26% by 1989 (13).

An Analysis of cardiovascular diseases and diabetes mortality, morbidity and risk factor in 1981 (14) concluded "mortality and hospital admissions due to above diseases have been increasing in Fiji steadily over the past 20 years. These diseases were present more frequently in the Indians than the Melanesian population of Fiji but recently the steepest rise in the prevalence rates occurred among Melanesians population. The underlying conditions contributed most to increasing mortality and morbidity were hypertension and diabetes mellitus. In 1978 the proportional mortality from diabetes was 6.0% (9% in persons aged  $\geq 40$  years) (11).

In the study of inpatient mortality among diabetic admissions

to all hospitals between 1983-85 (10) showed that cardiovascular diseases, renal diseases and diabetic sepsis accounted for 80% of diabetic deaths (Table. 3). In Indians the most common cause of death was cardiovascular disease responsible for 46% of such deaths whereas in Fijians diabetic sepsis was the most frequent cause resulting in 43% deaths. Twelve percent of deaths in both ethnic groups were due to diabetic coma.

Diabetes-related deaths were relatively rare in those below the age of 39 years.

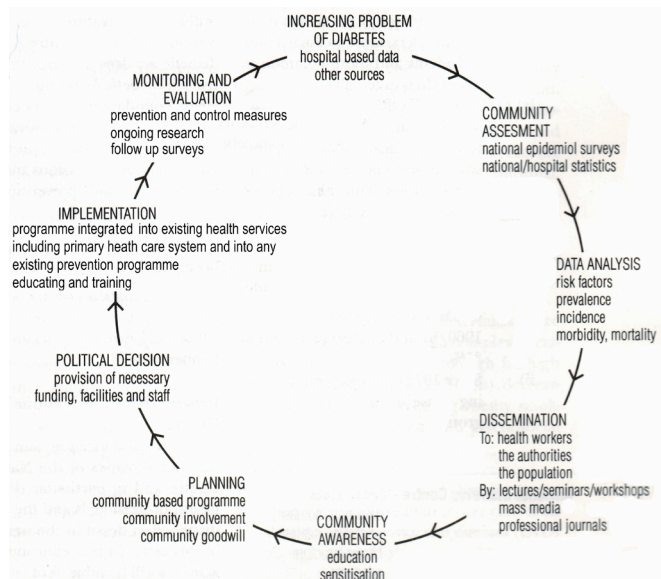
**Table 3: In-hospital mortality among diabetic admissions in all hospitals between 1983 and 1985 by cause, ethnic group and age**

| Causes             | Ethnic groups |           |          | Total      | %            |
|--------------------|---------------|-----------|----------|------------|--------------|
|                    | Indians       | Fijians   | Others   |            |              |
| Cardiovascular     | 61            | 7         | 2        | 70         | 36.1         |
| Renal              | 31            | 10        | 1        | 42         | 21.7         |
| Diabetic Sepsis    | 17            | 24        | 1        | 42         | 21.7         |
| Coma               | 16            | 7         | 1        | 24         | 12.4         |
| Other causes       | 7             | 8         | 1        | 16         | 8.1          |
| <b>TOTAL</b>       | <b>132</b>    | <b>56</b> | <b>6</b> | <b>194</b> | <b>100.0</b> |
| Age groups (years) |               |           |          |            |              |
| 0 – 19             | 0             | 2         | 0        | 2          | 1.0          |
| 20 – 39            | 5             | 2         | 0        | 7          | 3.6          |
| 40 – 59            | 52            | 30        | 2        | 84         | 43.3         |
| 60+                | 75            | 22        | 4        | 101        | 52.1         |
| <b>TOTAL</b>       | <b>132</b>    | <b>56</b> | <b>6</b> | <b>194</b> | <b>100.0</b> |

## Diabetes Prevention and Control

The important steps in the community-based diabetes prevention and control programme was suggested and described in detail by Zimmet et.al. (15, 16) and with some modification (Fig. 4) formed the basis of diabetes activities in Fiji. Once the problem is brought to the attention of medical profession and the health administrators and before any control measures are implemented, it is essential to assess the magnitude of the problem in the community. This usually means initial epidemiological survey and an analysis of available national, hospital and other health statistics. This should provide data on the prevalence, incidence, morbidity, mortality and preventable or reversible risk factor of diabetes in the population. This information needs to be disseminated to the health workers, health administrators and the community including politicians using all available means such as lectures, seminars, workshops, professional journals and the mass media.





**Fig. 4: Major steps in the community-based diabetes prevention and control measures – modified from Zimmet et.al**

Diabetes is a prevalent disorder and needs the involvement of the whole community for successful control measures. The community needs to be made aware of the problem, educated and sensitized to ensure participation, support and provision of resources.

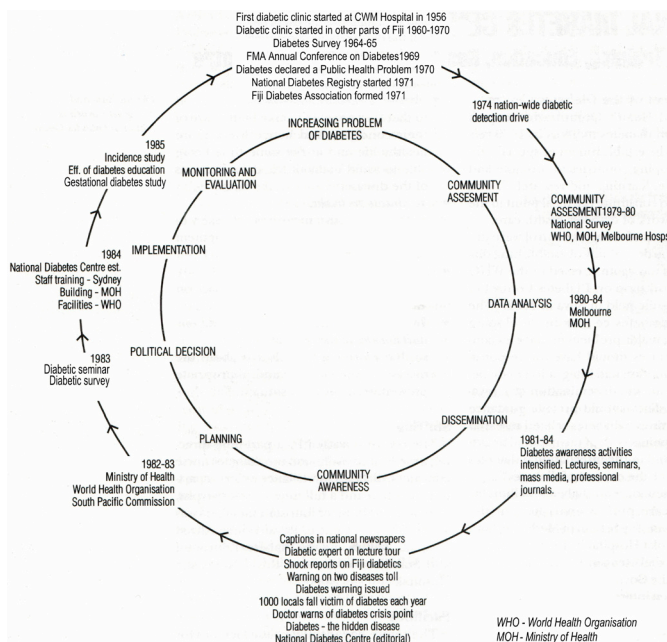
In planning control measures it is important to consider the available resources, community attitude and behaviour and the existing health care delivery system. The programme will need to be practical, realistic, well planned, cost effective, community wide and prevention orientated and integrated into the existing health care system (17).

Ultimately need the political decision for the provision of facilities, funding and staffing. Once the prevention and control measures are implemented, there is a need for monitoring and evaluation of the effectiveness of these measures, follow up and ongoing research.

## Diabetes activities in Fiji

The diabetes activities had followed similar steps as suggested by Zimmet (1). The increasing problems of diabetes came to the attention of health authorities from diabetic clinic statistics, diabetic survey in 1964-65 and hospital statistics. Diabetes was declared a public problem in 1971.

The 1980 national epidemiological diabetes and cardiovascular diseases survey and the analysis of health statistics showed an epidemic increase in these diseases. This led to an intensification of diabetic educational and awareness activities. These included a series of lectures at the CWM Hospital on the epidemiology and public health aspects of diabetes, seminars on diabetes (first sponsored by Motibhai Company with Professor D. Porte, a distinguished diabetologist from Seattle, USA, as a guest speaker and second sponsored by Novo Laboratories with Dr. R. Scott and Dr. J. Scot, prominent New Zealand endocrinologist and diabetologist as main speakers) and 1982 Fiji Medical Association Annual Conference included diabetes as an important topic. A large number of articles were published in the Fiji Medial Journal. The media, radio, television and the newspapers contributed extensively to increase community awareness. Several prominent articles appeared in the newspapers (Fig. 5).



**Fig. 5: The development of diabetic activities in Fiji 1960 -1995 – outer circle**

**Major steps in the diabetes prevention and control – inner circle**

In 1982-83 discussions followed between the Ministry of Health, the World Health Organization and the South Pacific Commission on the prevention and control programme for



non-communicable diseases and diabetes. For diabetic it was felt that the establishment of a National Diabetes Centre with the responsibility of promoting and integrating diabetes care would be most appropriate step. Because of financial and other constraints no firm decision was made as to its implementation.

In the jointly sponsored two day Diabetic seminars by the Ministry of Health, and Lions Club of Ba as the Hoodless House, Fiji School of Medicine in Suva and at the Lautoka Hospital and conducted by Professor John Turtle and his diabetes team from Royal Prince Alfred Hospital, Sydney the need for a Diabetic Centre was raised. With the support from Professor Turtle and his willingness to train staff in diabetes care and the keen interest of the Prime Minister Ratu Sir Kamisese Mara lead to the establishment of the National Diabetes Centre in 1984 (This will be covered in Part III).

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**DIGITALISATION IN HEALTH WITHIN COVID-19 PANDEMIC**

“charting in the storm for the new normal”

Authors: Dr Josefa Koroivueta and Dr Neil Sharma, Bakshi Medical Centre, Suva, Fiji

**Background:**

Charting the health ship in the COVID – 19 storm requires smart leadership, clarity of vision and prescribed set of measures so that the ship reaches its desired destinations with minimal harm to the crew (health and frontline workers), the ship (facilities and systems) and the passengers (vulnerables and the public at large).

The requirement for social distancing in light of COVID-19 has led to an unprecedented rise in dependence on digital technologies for both health care providers and patients. While healthcare providers turbo charge the digitalisation of health care, the new normal *modus operandi* allows for potential improvements in access, usage in population tracking during COVID-19 pandemic, monitor individual and population vitals, keep a check on case numbers with fatality rates, survival rates and hospitalization figures as well.

Digitalisation would be considered as a means, a set of tools, not an aim for public health. They can transform healthcare services in ways that would contribute to health system goals of quality, accessibility, efficiency, and equity of healthcare. The rule of the game is to ensure that all people enjoy the benefits of digital technologies.

As public health professionals, we advocate that innovation and technology help to reduce the inequities in our world, instead of becoming another reason people are left behind. The technology and the digital environment offer new opportunities for identifying needs and delivering healthcare from prevention and health promotion to curative interventions and self-management.

Digital tools such as mobile apps with tracing functionalities can be of substantial support in this process, identifying both known and unknown contacts of a confirmed case and possibly help in their follow up, in particular in settings with large numbers of cases where public health authorities can become overwhelmed.

**Introduction:**

The impact on health outcomes and health inequalities must be carefully considered to ensure they contribute to social health and not detract from it. While visiting the doctor is technically permitted under these rules, overstretched health systems, along with the need to minimise risk of contagion, means that gaining access to medical professionals has become extremely challenging.

Weak or stretched health systems exacerbate medical emergencies. This is expected to have significant consequences on overall health outcomes – and thus welfare – not only for those directly affected by COVID-19, but also those for whom vital support from health care providers has been severely limited as a result of the surge in demand.

This surge inspiring catalyzed digital innovations as a solution to the problems during COVID-19. How to reach your patients, how to meet virtually, the smart way to project management of health projects domestically and through international providers.

**The technological play globally:**

When it comes to the COVID-9 pandemic, we have learnt that mobile apps have the potential to bolster contact tracing strategies to contain and reverse the spread of COVID-19. In a number of countries worldwide, the use of apps has supported health authorities in monitoring and mitigating the ongoing COVID-19 pandemic, facilitated the organisation of medical follow-up of patients, and provided direct guidance to citizens on playing their part in the control of the disease. The added value of these apps is that they can record contacts that a person may not notice or remember.

The online Partners Platform, launched with United Nations Development Coordination office (UNDCO) on March 16th, was built upon a WHO-vetted checklist of 143 actions, drawn from the most up-to-date guidance created by international experts (1). Countries can choose actions from the checklist to create their COVID-19 preparedness and response plans. They can then track if they have initiated or fully completed the actions. Since all actions are fully costed, countries can also note where they need financial assistance.

The aim of contact tracing and warning is for public health authorities to rapidly identify as many contacts as possible with

a confirmed case of COVID-19, ask them to self-quarantine if possible, and rapidly test and isolate them if they develop symptoms. Contact tracing is normally carried out manually by public health authorities. This is a time-consuming process where cases are interviewed in order to determine who they remember being in contact with from 48 h before symptom onset and up to the point of self-isolation and diagnosis.

Several member states in the EU and EEA have launched or intend to launch initiatives that involve contact tracing apps in the fight against COVID-19. The use of these technologies has raised policy questions about privacy and data management, determining different approaches in different countries, especially between Asia and Europe. The adoption of the digital tools (encouraged or mandatory), a digital infrastructure enabled and activated by the national government, and the possibility to share data represent the main conditions and the most dilemmas related to the improvement of digital contact tracing strategies. In this sense, EU member states should urgently converge towards effective app solutions that minimise the processing of personal data, and recognise that interoperability between these apps can support public health authorities, especially after the reopening of the EU's internal borders (2).

Outside of Europe, China, South Korea, Taiwan, and Singapore have developed several technologies to collect data in order to contain the dissemination of the virus.

CHINA: China adopted a government-mandated QR code that shows the level of risk of the citizen in order to recognise positive cases.

SINGAPORE: Singapore encouraged people to install an app called "TraceTogether," which uses Bluetooth signals between nearby devices.

HONG KONG: Hong Kong requires all new arrivals to download the "StayhomeSafe" app,

SOUTH KOREA: while in South Korea the "Corona 100 m" app registers all personal data and movements by GPS that can be used by the government.

TAIWAN: Taiwan used a similar approach, where the contact tracing system allows the government to contact citizens to ensure they do not evade tracking by leaving their devices at home.

EUROPE: Apps developed in Europe, instead, are based on voluntary use, without a government obligation.

ITALY: From June 2020, Italy developed the app "Immuni" that is recommended, but not mandatory. This app uses a Bluetooth signal that allows recognising possible exposition to positive cases.

FRANCE: The French app "StopCovid" works similarly and it is based on voluntary use, as is the German app "Corona-Warn-App."

FIJI: Care FIJI app which uses Bluetooth technology for contact tracing.

There is evidently a different approach in digital contact tracing between Europe and Asia. This could be related to differences at political level but also to the characteristics of the population, where the collectivist spirit of Asian Countries may encourage a common action and effort to face the virus spread. We should keep in mind, however, that such programmes can only help control the UK COVID-19 epidemic if they are effectively implemented and form part of a wider package of interventions that include social distancing, infection control, and hygiene measures.

## The uses in private sector:

1. In Fiji, digital technology for telemedicine has been used by some practitioners for appointments, referral, updating appointment schedules, digital consultations, diagnostics, report writing and other means of communication with patients and professional colleagues.
2. Avenue to digitally seek second opinions for dermatological conditions have been set up with some practices with group viber or with referral for second opinion with specialists abroad e.g., dermatology conditions.
3. Use of phone or SMS for appointment reminder, treatments, updates or consultations has been established.
4. Emails for blood test result from general diagnostic services are actioned in this manner and compliment the clinical findings, before informing clients in a 24-48hr turnaround time with results.
5. Zoom meetings for international and national meetings, Continuing Professional Development and executive business issues with the public PHC team are being undertaken.
6. Use of social media platforms such as Facebook for



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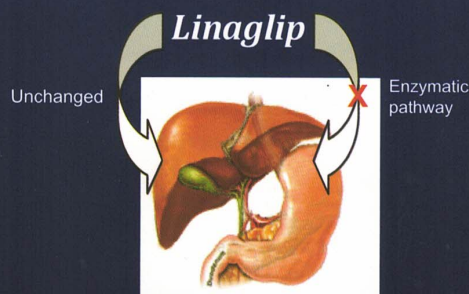
## Safe for renal impaired patients<sup>1</sup>

Since Linagliptin is excreted in a very low amount through kidney, the drug has insignificant impact on kidney function. For this reason, Linagliptin is safe for renal impaired patients and requires no dosage adjustment for them.

| Drug            | Renal excretion | Dose of Drug    |                   |                 |
|-----------------|-----------------|-----------------|-------------------|-----------------|
|                 |                 | eGFR >60 mL/min | eGFR 30-59 mL/min | eGFR <30 mL/min |
| Sitagliptin     | Predominant     | 100 mg          | 50 mg             | 25 mg           |
| Saxagliptin     | Predominant     | 5 mg            | 2.5 mg            | 2.5 mg          |
| Vildagliptin    | Intermediate    | 100 mg          | 50 mg             | 50 mg           |
| <b>Linaglip</b> | <b>Low</b>      | <b>5 mg</b>     | <b>5 mg</b>       | <b>5 mg</b>     |

## Safe for hepatic impaired patients<sup>1</sup>

As Linagliptin is excreted unchanged through biliary route and doesn't use hepatic enzymes for metabolism, it is safe for hepatic impaired patients as well.



**Safe for RENAL & HEPATIC impaired patients**

patient information has been established with good results. Used to reach wider audience or for individual clients. This needs a dedicated administrator for regular postings and information update. Also, to respond on a timely manner to client enquiries on both general and confidential matters. Should be open and no barriers whatsoever in communications.

#### On the downside:

1. On line payment modes for GP service are in existence and clients can pay with internet banking or direct on-line deposits. There is no reliable mechanism to fast-track payments of bill as there are delays in payment of services by clients with delays in payments by health insurance providers (a trend seen during the COVID-19 pandemic).
2. On a wider societal level, there is need to ensure that, where there are benefits to be gained from the digitalisation of health care, such benefits are distributed in a manner that does not exacerbate or create health-related inequalities. Since digital technologies became mainstream, it is well-documented that the uptake of such technologies is not uniform across different groups in society (4). According to the Consumer Digital Index 2019, 4.1 (8%) million adults in the UK are offline, and 1.9 million people (22%) do not have the essential digital skills needed for day-to-day life. Digital disengagement is also found to be higher amongst older people from minority ethnic backgrounds.
3. Furthermore, the shift to digitalisation may lead to a redistribution of resources away from non-users of DHTs. Evidence from India suggest that the adoption of digital technologies can come at the expense of non-users as health care professionals change their response in favour of the users (4).

#### Conclusion:

Digital technology for telemedicine has been used by some practitioners for appointments, referral, updating appointment schedules, digital consultations, diagnostics, report writing and other means of communication with patients and professional colleagues.

The use at national level for donor/partner platform is a proven means to track on resource usage. The transparency of the Platform allows donors to track what actions are taking place, where the biggest resource needs and gaps lie, and how to pri-

oritize which allocations go where.

There is an imminent risk that improvements to health outcomes resulting from the digitalisation of health care will accrue only to those who are more willing and/or able to engage. It is therefore possible that digitalisation and COVID-19 benefits accruing to one group will come at the expense of other, less well-off groups. Therefore, digital inequality may lead to induced health inequalities. Existing health inequalities may become exacerbated, as people who are less able to benefit from DHTs are generally those already in disadvantaged groups and the dispersed maritime communities or highlands.

The need for National Policy Development encompassing Digitization in Health is now mandatory to standardize data collection, address national needs and aspirations whilst due consideration is given to client confidentiality and address the potentials of further deterioration of health inequalities and equities in society. These measures sets the health ship afloat during the COVID-19 storm as it steers on to the new or better normal.

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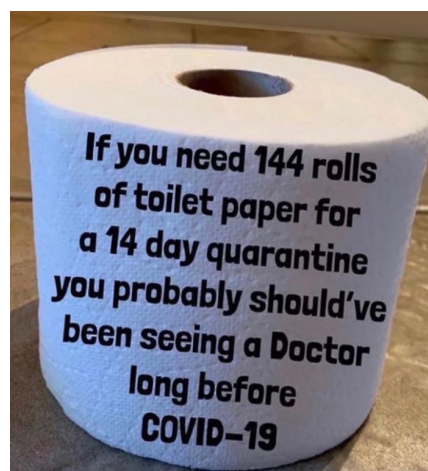
## DERMATOLOGY QUIZ



37 yr old Indian Lady presented with a few days history of pruritic rashes as shown  
What is your diagnosis and treatment and differential diagnosis ?

Email the answer to [rraju@connect.com.fj](mailto:rraju@connect.com.fj)  
All correct responses go into a draw for a FJD 200 prize money

## LAUGHTER



**NEVER IN MY WHOLE LIFE WOULD  
I IMAGINE MY HANDS**



**WOULD CONSUME MORE ALCOHOL  
THAN MY MOUTH**