1. Executive summary

Arogya Sahayavani 104, a Health Information Helpline (HIHL) is a health contact centre that was conceptualised primarily to ensure that people get basic information on health ailments/ conditions, common remedies for it and the available medical facilities. Any citizen having a health or medical complaint, those desirous of getting advice on medical matters, those who have any complaint to make against any government health facility can dial the toll-free number 104 and get these matters addressed/redressed. Launched in June 2013 in Hubballi, Karnataka, this service handles about 20,000 calls a day from the 100-seat facility in Hubballi. The facility has served over 1.44 crore users since inception. The Health & Family Welfare Services department, Government of Karnataka (GoK), has implemented the scheme through Piramal Swasthya Management and Research Institute (PSMRI), Hubballi.

The helpline utilisation is higher in Northern and Central districts Karnataka in comparison with the South and Coastal region. Similarly, the share of calls from females during 2016-17 has reduced to 7.20% from 12.53% in 2013-14 a declining trend that must be addressed appropriately. The option of providing the service of Female Health Advisory Officers (HAOs)/ Medical Officers (MOs) and Counselling Officers (COs) may be provided for female callers in addition to creating awareness. The average ratio of the urban to rural calls during the period 2013-14 to 2016-17 was 61%:39%. However, the rural calls share decreased from around 40% in 2013-14 to 35% in 2016-17.

As per the MoU between GoK and PSMRI, the Average Handling Time (AHT) of health advisory calls must be 3-4 Minutes. The actual AHT for 2016-17 of Health Advisory Officers (HAOs) is 2:41 minutes which when included with Registration Officer (RO) calls will be between 3-4 Minutes. However, for Counselling Calls the AHT stipulated is 10-15 Mins. Actual AHT is 4:33 Mins. Nuisance calls over the last four years have significantly increased from 37,171 calls in 2013-14 to 2.10 lakh calls in 2016-17.

Grievance calls are classified as ASHA, EPIDEMIC and GENERIC Calls. During 2014-15 to 2016-17, ASHA grievances have shown a decline while EPIDEMIC related grievances have shown an increase of 37%, while growth in GENERIC grievances has been flat. Analysis of grievances which took less than 30 days to resolve indicates that percentage of grievances which took less than 30 days have increased. Since 2014-15 which was the peak year for the

grievances have increased at a Compounded Annual Growth Rate(CAGR) of 33%. Grievance redressal mechanism has positively impacted ASHA workers.

Abandoned calls over the last four years have sharply increased from 1406 calls in 2013-14 to 8.31 lakh calls in 2016-17. Thus, there is a need to augment the call capacity, which is being taken up by operationalising another call centre in Bengaluru with 100 seats capacity.

Attrition rate during inception year was very high at 73 per cent. However, since then it has slowly reduced to 49 per cent in 2016-17. While attrition rate in case of Receiving Officer (RO), MO is lesser, HAO segment has higher attrition at 57%. As per Service Level Agreement(SLA) the doctors to HAOs ratio must be 1:6, however analysing the call load it is observed that ratio of total handling time of MOs to HAOs is ~1:9. Thus, it would be productive to reduce ratio of MOs to HAOs to 1:8.

The queries on health advisory received by 104 were analysed. The top 20 queries together amount to 47% of the total calls. From the analysis it is found that there are several queries such as Body Mass Index, Height, and Masturbation which are related to *General conditions* and these cannot be termed as *Ailments*. There are an estimated 40% of such calls which the HIHL receives which can be termed as *general conditions.*

In case of Customer Delight Index (CDI) three of the nine parameters were found to be not relevant and in case of one relevant parameter the weightage needs to be changed. Further it was also observed that CDI framework cannot be used for all the value-based services.

"The main objective of Arogya Sahayavani is to reduce the minor ailment load on the Public Health System and render qualitative service and grievance redressal mechanism. The pattern of OPD attendance has been mapped for the last five years along with HIHL call growth. The share of Total calls to OPD is at 8%, which also includes significant share of educational related calls. Thus, the share of ailment related calls would be approximately at 5%. The correlation between HIHL calls and OPD attendance has a very high positive correlation of 98% indicating that both have grown positively. During primary research over 81 percent people have indicated that they are delighted with 104 services, over 15 percent of the beneficiaries have indicated that they are satisfied and only around 2 per cent of the beneficiaries have indicated that they are dissatisfied with the service.

Therefore, it may be concluded that, while the load on public health system has not significantly impacted, while 104 has successfully addressed the latent needs on health education and minor ailments.

Based on the data analysis and findings the following are the recommendations:

Short term Recommendations (< 1 year):

The short-term recommendations which are focused on creation of awareness and improving processes are listed below:

1. **Creation of awareness across segments:** Lack of awareness uniformly across the state has resulted in skewed usage of the helpline geographically. So, there is a need to create awareness across the state especially in South Karnataka which has lower call share. Similarly, the since the usage the helpline among women is very low at ~8% of the call share, it is an imperative not only to create awareness among women. Further visibility of 104 is lesser unlike 108, which is visible on ambulances. Therefore, 104 HIHL brand must be strengthened.

   Since the primary objective of the helpline is to reduce the minor ailment load on Public Health System. Accordingly, hospitals will be a good point to start creating awareness and divert minor ailment sufferers from OPD to 104 HIHL. Hence it is recommended to

   - Have Graphic display boards at OPD registration/doctors' room, dressing and nursing chambers about 104 HIHL for minor ailments.
   - Have Graphic display boards about Grievance lodging in case of corruption at various places such as diagnostic chambers, laboratory, operation theatre, Drug dispensary and other locations where corruption grievances are frequent.
   - Engage 3A's (ASHA, Anganwadi worker, Auxiliary Nurse Midwifery(ANM)) to create awareness among women to utilise the 104 HIHL through graphic pamphlets for distribution among villages.
   - To reach the poor and needy other schemes targeting BPL may be leveraged. For e.g. Printing about 104 on BPL Card cover.
   - HIHL brand may be strengthened by incorporating a strong tagline (e.g. Health in your Hands) for which it stands

- While 104 HIHL gets visibility in various radio advertisements related to other epidemics (e.g. Dengue), mandatory tag line about 104 HIHL may be incorporated in all the advertisements where 104 is used as information line.
- Wide publicity through mass media and folk media may to be given to improve the awareness
- The awareness programmes on specific areas covering preventive, women and child health, personal hygiene, communicable and non- communicable diseases may be conducted to enhance effectiveness. The suggested categories are:
    1. **Gastro intestinal:** Acidity, heartburn, indigestion, diarrhoea
    2. **Respiratory:** Cold, Asthma, breathlessness, cough, cough with sputum and sometimes blood
    3. **Genito urinary:** Burning urination, burning menstruation, white discharge, PMS, frequent urination, prolapsed uterus, bleeding
    4. **Mental health:** Epilepsy (Fits), psychosis, aggressiveness/violent behaviour
    5. **Vision related:** Specifically, for persons more than 45 years old – vision correction, cataract
    6. **General:** Body ache, joint pains, fever with chills, any rashes on the body, mouth ulcers, white patches (leukoderma), leprosy

    Preventive steps/ early warning signals for increasing non-communicable diseases to be included are:

    1. **Diabetes:** Over eating of fried foods, fats, sugar, coffee/tea, alcohol, and sedentary lifestyle
    2. **Cancer:** 7 danger signs of oral cancer, cervical cancer amongst women with many children, breast cancer and self-examination tips, smoking related (at least get basic X-ray examinations done)
    3. **Coronary:** Blood pressure/Hypertension, Stroke, Heart Attack

2. **Improvements in Grievance communication & review:** Currently once the grievance is registered, it is communicated to concerned DHO through email and a follow-up is done after 7 days by SIO. It is recommended that the communication of grievance is also sent to the concerned institute (PHC/THC/DHC/UHC) directly in addition to DHO and a follow up may start on the 3rd day of communicating the

grievance. A timeline matrix may be developed based on type of grievance in discussion with the Director, Health and Family Welfare. A monthly review meeting should be held to discuss those grievances which have not been resolved within stipulated time and necessary corrective and preventive actions may be taken in the meeting. In case of any changes in personnel managing these institutions, the Department of Health and Family Welfare Services must on a monthly basis, share the new contacts with the service provider.

3. **Optimisation of Medical officers engaged:** As per SLA the doctors to HAOs ratio has to be 1:6, however analysing the call load it is observed that ratio of total handling time of MOs to HAOs is ~1:9. Thus it would be productive to reduce ratio of MOs to HAOs to 1:8 accordingly number of medical officers may be reduced.

4. **Streamlining process to enable only female HAOs to address calls from female callers:** Only 8% of all the callers are female. During the primary research all the women callers have indicated their preference to women advisors. This would assist women callers to share their personal health problem without inhibitions. However, there is no option in the software to transfer calls from a women caller to women advisors. So necessary software system has to be developed/ procured to enable this facility. Similarly, male callers may be addressed by male advisors towards reducing the nuisance callers.

5. **Amendment of Customer Delight Index (CDI): S**ome of the parameters used in CDI are not relevant and in some cases the weightage used needs to be amended. The recommended CDI structure is given in Table 25 of the recommendations section. Further the CDI questionnaire should standardised/translated into Kannada to ensure the feedback is consistent across the callers. Though this is a short-term measure it is suggested to have automated calling mechanism for feedback considering that medical conditions are personal in nature which is discussed under long term recommendations.
6. **Consolidate services between Hubballi/Bangalore centres:** Services across the two call centres may be consolidated based on the locational advantages. For e.g. Counselling may be gradually moved to Bangalore as availability of advisors with academic background in psychology is better, thus the quality of services may be

improved. Similarly, Grievance Services may also be moved to Bangalore as the department HQ is situated in Bangalore and reviews of grievances may be scheduled by health department personnel more frequently along with SIOs.

As per the SLA, the capacity of telephonic lines must be 25% more than peak handling capacity. In this regard one more PRI line may be added at Hubballi call centre to increase the capacity from 90 lines to 120 lines.

Long Term Recommendations (1-3 years)

The long-term recommendations which will augment the capacity of 104 services and improve service delivery are,

1. **Automated feedback system on Customer satisfaction:** Considering the personal nature of health grievances automated feedback system may be deployed to take beneficiary feedback. In line with the feedback system deployed by IRCTC where in after the completion of each journey an automated call is received by the passenger about feedback on journey. Similarly, after each of the beneficiary call within 30 minutes an automated call can be made to the beneficiary and check if they are satisfied with the advice by pressing 1 for YES and 2 for NO on their phones. This will be less intimidating to the beneficiary and more responses may be expected since every caller will be requested feedback. The data thus received may be directly received from the system to Department of Health and Family Welfare Services. Based on the initial results continuous improvement goals may be sent for improving customer service.
2. **Development of 104 mobile application:** With smart phones becoming more prevalent and data charges falling the acceptability and usage of mobile application is increasing. 104 HIHL mobile application may be developed where in list of home remedies, option to register grievances, monitor grievances, lifestyle management tips may be provided. All the government doctors should also have this app installed, and grievances will directly be routed from a complainant to relevant health care officer for resolution thus simplifying transactions. This may also reduce the load as for ailments such as acne and educational queries, the beneficiary may access through the application.

3. **Qualification for Counselling officers to be amended:** In the SLA, the qualification specified for counsellor is BSc. Since all BSc courses may not train students in counselling/psychology, the same may be removed from SLA.
4. **New Value-added services:** New services may be included which cover areas of food adulteration, natural calamities, and environment/sanitation.

Recommendations requiring change in Policy

1. **Expansion of the capacity to 400 seats:** Currently 200 seats have been installed. Considering the low awareness across geography, gender and current growth rate, within 1 to 2 years the capacity deficit is expected to emerge once awareness is created. So, it is recommended to expand the capacity of HIHL within the existing units to 400 seats to make the health helpline more effective.
2. **Government doctor's employment on rotation:** Considering the unavailability of MOs in the working age of less than 60 years the option of deployment of government medical officers on deputation on rotation basis needs to be done. Officers with special needs may also be looked at for these roles.
3. **Complementary Human resources strategy to develop medical officers:** Alternative to Medical Officers (MOs) who have MBBS as qualification, complementary human resource strategy is the development MO Cadre for minor ailment. As specified under *National Health Policy 2017.* This can be done through appropriate courses like a B.Sc. in community health and/or through competency-based bridge courses and short courses. These bridge courses could admit graduates from different clinical and paramedical backgrounds like AYUSH doctors, B.Sc. Nurses, Pharmacists, GNMs, etc and equip them with skills to provide services at the sub -centre and other peripheral levels in addition to 104 call centres. These bridge courses may be developed and offered on PPP basis in medical colleges in Hubballi/Dharwad and Bangalore.

We understand from Department of Health and Family Welfare that capacity augmentation of 100 seats in Bengaluru has been operationalised now and some of the other measures suggested in this report like automated feedback system, mobile application development are being taken up under the RFP being floated for PPP partner to run the 104 HIHL services which is coming up for fresh bidding.