

Submitted :-

May kindly peruse the letter received from Ministry of Personnel, Pension & Public Grievances, Government of India, e-Governance Division, Dated 15th November 2018 at C/1 regarding nomination for national Awards on e-Governance 2018-19 to be given during the National Conference on e-Governance 2019 (22nd edition). The award seeks to recognize and promote the excellence in implementation of e-Governance projects/initiatives/solution. For the year 2018-19 the awards would be presented in 6 categories during the Conference.

Purpose of the Award :-

- (i) Recognize achievements in the area of e-Governance
- (ii) Disseminate knowledge on effective methods of designing and implementing sustainable e-Governance initiative.
- (iii) Encourage incremental innovations in successful e-Governance solution.
- (iv) Promote and exchange experiences in solving problems, mitigating risks, resolving issues and planning for success.

The details of nomination procedure is placed at C/ to C/ . The department proposes to nominate the **“Public Health Module” under Category 1 : Excellence in Government Process-engineering for Digital Transformation. Various names proposed for project is as under :-**

1. Jan Arogya
2. Swasthya Arogyam
3. Jan Swasthya

The details of the project has been filled in the prescribed format provided by the Ministry for e-Governance Awards at C/side for approval please.

DMHS

Advisor to Administrator/Secretary (Health)

Category I

‘Excellence in Government Process Re-Engineering For Digital Transformation’

1. Coverage – Geographical and Demographic:

(i) Comprehensiveness of reach of delivery centres

Nominated project is the Public Health Module for female and male health functionaries posted in village sub centers & in urban wards on Android App in the U.T. of Dadara & Nagar Haveli.

(ii) Number of delivery centres

Total delivery centres are : 71 Sub-Centres & 15 Municipal wards under Urban PHCs.

(iii) Geographical

(a) National level – No of State(s) covered

Nil

(b) State/UT level- No of District(s) covered

1

(c) District level- No of Blocks covered

13

Please give specific details:-

A Public health module covering the entire territory of Dadra and Nagar Haveli. It is operational at all sub centers and Urban Health Centers.

(iv) Demographic spread (percentage of population covered)

100% population of Dadra and Nagar is covered in this app.

2. Situation before the Initiative (Bottlenecks, Challenges, constraints etc with specific details as to what triggered the Organization to conceptualize this project):

The traditional method of paper & pencil which was used by the field health care functionaries in Dadara & Nagar Haveli showed for major drop back specially in the area of data integrity . The data was incomplete, cumbersome & every time reporting was an issue . An unreliable data served no purpose and also limits the need of intervention in specific area of disease prevalence .

This lead to an idea of development of an Android based application for public Health which could capture family survey , household survey , disease survey etc . , data could be reused , be it patients information (investigative or treatment) be made available to the Health Care functionaries and also all the person in a particular village are registered with unique ID .

Data reusability would be a major feature , survey data is stored logically with unique Id's , data accessibility become easy across programmes .

3. Extent of Process re-engineered (Processes that have been re-engineered, services which depend on these processes, analysis/re-design of Process workflows – before (As-Is) and after (To-Be) re-engineering; changes in activities and their sequencing; level of automation (Extent of computerization in terms of number of services computerized, Extent to which steps in each service have been ICT- enabled) #)

The entry flow process is as follows :-

- a) Survey of village, house members & family with relationship of each members to the other.
- b) Registration of all members along with eligible couple registration , ANC registration , PNC registration , Birth & Death registration , Family Planning registration , communicable disease registration & non communicable disease registration .
- c) Screening of Anemia under UDAI Scheme, screening of leprosy under NLEP, VBDCP, Sickle cell Anemia, Blindness & Deafness.
- d) Follow up Services like ANC, PNC, NCD, follow up & Immunization.

The entry manual process flow was reengineered to an electronic medium.

4. Strategy/Methodology Adopted:

(i) Details of base line study done

(1) A Baseline study indicated that the Survey was incomprehensive , incomplete & time consuming . The data captured & analyzed showed a big gap between the actual data & the survey recorded .

All the manual records were submitted and then the idea to use the IT platform for public health came to the department.

(ii) Problems identified

Survey done were incomplete , time consuming & non-reliable which was creating hurdles in the preventive &promotive health strategies Implemented in the U.T.

The implementation to the IT based technology could also be resisted by the health care staff who were used to work on paper for long

(iii) Roll out/implementation model

Project was rollout in phase and module wise,

First phase-

Approach methodology was used wherein Installation of computers in sub centres and android tablet were given to all field health care functionaries .

Data entry operator were individually deployed at the sub centres(1 data entry operator for 5 sub centres) .

Medical Officers & data entry operator were treated as master trainee who in turns train all the filed level functionaries.

Second phase-

Population survey module – House survey, Member survey, Family Creation, Relationship and Eligible couple registration module was made active and the survey started with the field data being captured.

Third phase-

RMHCH+A module was made functional like ANC registration, ANC follow up, PNC registration, PNC follow up & Immunization.

Fourth phase-

In this phase all the other programs like NCD & communicable disease and U.T. run scheme were rolled out.

(iv) Communication and dissemination strategy and approach used:-

Since the users were non-tech with medical background all were given computer education through the department IT team. Verbal communication through regular training of all users. Visual strategy like flow chart were made and displayed for each module.

A toll-free number 104 was set up to address any issues related to the App.

5. Technology Platform used:

(i) Description

Front End and Back End IDE – Eclipse, Database – Sqlite Database for Android App and PostgreSQL database for Back-end, Tools- Java8, JDK1.8, Android SDK, Solutions Environment- Windows .

(ii) Interoperability

Platform Dependent ,App works on Android Platform

(iii) Security concerns

App is secured as Rest Api is used and Encryption is used for Database

(iv) Any issue with the technology used

No

(v) Service level Agreements(SLAs) (Give details about presence of SLA, whether documented, whether referred etc. #)

To ensure that the minimum uptime of 95 % of the application.

Bug solving

High priority – 2 hours

Medium priority– 1 day

Low priority – 4 days

6. Citizen Centricity (Give specific details on the following#)

(i) Impact on effort, time and cost incurred by user

- i) A complete health survey data was available which helped in monitoring the scheme, intervention where required was possible, the population at large was surveyed and an identity number allocated. This unique ID number helped them for easy registration and accessibility in different government health institution in the U.T. therefore reducing time & effort.
- ii) The electronic data also saved unnecessary use of papers.
- iii) Data reliability was better and online data collected could be analyzed early.

(ii) Feedback/grievance redressal mechanism

Any Grievances from the citizens or stakeholders were addressed through the toll free number 104 while all medical officers at PHC level and the field officers and consultant at state level addressed the grievances .

(iii) Audit Trails

No Audit Trails have been done so far, however the application is updated with new technology

(iv) Interactive platform for service delivery,

The Interactive platform used is the user friendly design and adaptability of the application.

(v) Need Gap Fulfillment

Yes. Integration with RCH Portal

7. User convenience (Give specific details about the followings #)

(i) Service delivery channels (Web, email, SMS etc.)

SMS, Websites.

(ii) Completeness of information provided to the users

With dashboard available ANMs(users) can get real time data. Need not have to go through registers.

(iii) Accessibility (Time Window)

System is mobile application and tablet is provided to all ANMs thus accessibility is not an issues. Application is available 24/7 at their fingure tips.

(iv) Distance required to travel to Access Points

Zero

(v) Facility for online/offline download and online submission of forms

Forms are stores on tablet device and late push on central server.

(vi) Status tracking

Not needed.

8. **Efficiency Enhancement** (Give specific details about the following #)

(i) Volume of transactions processed

No. House	No. of Members	No. Family	No. of eligible Couple registered.
98417	384192	75119	16911

(ii) Coping with transaction volume growth

Growth of Data Storage will increase with respect to the growth of transaction and Enhancement of Data processing. The technology changes and gets advanced along with the time, so to support the transaction growth we adapt the changes in the application front design and the functionality.

(iii) Time taken to process transactions

Transaction are not time bound , servers usually process the transaction as per the software and hardware installation and it also depends on working capacity of man power .

We have the latest upgraded technology of hardware and software and well trained man power so due to that the time to process is very minimal.

(iv) Accuracy of output

All the Medical data are validated by concern medical staff and also cross checked by the respective department too, so accuracy rate of 98 % is maintained.

(v) Number of delays in service delivery

NA

9. **Cost Effectiveness** (Give details about impact on cost incurred w.r.t. overhead cost, direct and indirect cost, man days/man hour required to do a job etc.#)

Public Health App created is very cost effective, it has already reduced unnecessary paper usage at health facilities of entire U.T. All the Health functionaries became techno friendly and easily adaptable to new innovations in App.

As data can be reused from master file , hours required by Health functionaries for

health survey were reduced and the time were utilized effectively to improve quality and coverage of survey .

10. **Capacity Building and Organizational Sustainability** (Give details about hiring skilled staff, imparting training etc. #)

IT Department ensures that every newly appointed health functionaries will get trained in operating mobile device by master trainers . Training need assessment is also done at frequent interval for field level health functionaries for capacity building.

11. **Accountability** (Give details about, impact on transparency of process, fixing responsibilities etc. #)

Login based access, every users are provided with login credentials. Thus accountability are fixed on users itself. Concerned staffs are responsible for the accuracy of the survey data .

12. **Innovation** (Give details on the extent to which re-engineered process is unique, compared to other common process re-engineering efforts, impact on number of steps required, identification and removal of bottlenecks/Irrelevant steps etc. # Specifically highlight the digital transformation achieved).

Public Health application of Dadra and Nagar Haveli is first in its kind which includes all the public health disease survey under one application.

Public Health Application is linked with IHMS system of Dadra and Nagar Haveli.

Survey data is also displayed on doctor's OPD screen in every health facilities so real time health history can be analyzed by treating doctor .

13. **Appropriate Delegation** (Give details on whether a team involving employees from all levels has been deployed for the project implementation and maintenance, can employees be held accountable for their actions, etc. #)

Team of IT professional are deployed for maintenance and enhancement of application.

Android Developer-1

Test engineer – 1

Database Administrator -1

Java Developer - 1

- 14 **Demonstrate Innovative use of ICT**

(Give details about use of new and emerging technology, innovative usage of ICT for process change to improve quality of the life/ organizational effectiveness, relevance of technology to provide the service #)

Development of Dashboard: Dashboard was developed for real time monitoring of surveys. Rest API is used for Data exchange between device and server.

15. Result Achieved/ Value Delivered to the beneficiary of the project-(share the results, matrices, key learning's, feedback and stakeholders statements that show a positive difference is being made etc):

(i) To Organization

- Public Health Survey Module have eliminated the large number of problems associated with paper and pencil Survey method.
- Response rates are almost always higher over the internet, lost or corrupted data can easily be downloaded again and the expensive and error-prone process of data entry is simply eliminated.

(ii) To citizen

Entire medical records as well as survey data are collected and stored so when data requested by citizens complete Health data can be furnished .

(iii) Other stakeholders

As mobile based survey is introduced , Health care functionaries need not to carry heavy registers with them .

16. Extent to which the Objective of the Project is fulfilled-(benefit to the target audience i.e.G2G, G2C, G2B, G2E or any other, size and category of population/stakeholder benefited etc):

- i) G2G – it improves communication , data access and data sharing across health facilities of DNH .
- ii) G2C – reduce difficulties in providing immediate information to patients or citizens .
- iii) G2E - Departmental goal of introduction of electronic public health system is already accomplished with development of techno friendly employee pool .

17. Adaptability and Scalability

(Give details about Local language support, ability to leverage shared Government infrastructure, Standardization of technology used (hardware, software, application etc. #)

- Language bar of health functionaries while conducting survey is addressed by Medical Officer In charge regularly through meetings.
- The public health survey module has been developed on Android application and is scalable in terms of adding any service delivery components.

(i) Other Measures, if any, to ensure adaptability and scalability

It is ensured that there will be more demand of data storage in future due to increase in population, our data storage is scalable, we can increase the size of the storage on providing physical storage memory as well as cloud storage too. And as per need the application can adapt different upgraded technologies.

(ii) Measures to ensure replicability

While the application is platform free and based on android, so doesn't need much pre-requisite software, so it can be easily replicate in all other centers.

(iii) Restrictions, if any, in replication and or scalability

There should be no firewall restrictions between the systems. API application servers should be in our network. So that the central storage and retrieving of data will be done smoothly.

(iv) Risk Analysis

Risks are identified, classified and managed before actual execution of Health survey module. These risks were classified in different categories (Schedule Risk, Budget Risk, Operational Risks, and Technical Programmatic Risks) and were addressed accordingly before starting of new module in survey.

18. Comparative Analysis of earlier Vs new system with respect to the BPR, Change Management, Outcome/benefit, change in legal system, rules and regulations

i) Work place management in health care centres has been improved as unnecessary files and papers is been replaced by re-engineered processes.

ii) Our health care functionaries are more user friendly to technology after introducing mobile survey as compared to the initial paper based survey's wherein it was difficult for them to make simple reports using computer.

19. New Models of Service Delivery

Give details about type of partnership model use, Links to/Supported by Public/Private Organization Links provided to relevant websites etc. #)

The Application is Government owned and is run by the Medical & Public Health Department & maintenance and monitoring is outsourced.

20. Other distinctive features/ accomplishments of the project:

1. Integration with HIMS (e-Aarogya) system
2. Centralized Dashboard

3. Report generation of National Programmes.

#This is just an indicative list of indicators. Applicant can add on more information based on suitability of the project nominated.