UMMID is a new beginning to usher in the ‘Era of Molecular Medicine’ into twenty-first century medicine in India. The completion of the Human Genome Project has brought new technologies and knowledge to improve medical care based on DNA-based diagnostics and better therapies based on the understanding of molecular pathogenesis. UMMID aims to create awareness about genetic disorders amongst clinicians and establish molecular diagnostics in hospitals so that the fruits of developments in medical genetics reach the patients in India. The plan of the UMMID initiative is to link the well-established centres of Medical Genetics in India to upcoming centres and to establish clinical genetics facilities in district hospitals. This will improve patient care services for genetic disorders and impart latest medical genetics education to medical students to prepare them for the era of molecular medicine.

Plan of Training and Diagnostic Services under the UMMID Initiative

UMMID plans to work at three levels of medical care which will work in close collaboration with a close link between training and establishment of diagnostic services. The three components of UMMID are given below.

Fellowship in Genetic Diagnostics: Hands-on training for six months will be provided to doctors working in government hospitals by eight departments with state-of-the-art DNA-based diagnostic services for genetic disorders. Each centre will train 4 fellows per year thus providing 96 trained doctors in genetic diagnostics during the period of 3 years.

NIDANKendras [Diagnostic Centres]: Hospitals with interested doctors, committed administrators and basic infrastructure have been selected and have been funded to establish genetic laboratories. The centres selected have medical doctors with expertise in medical genetics and passion for the specialty. The financial support and twinning with established Medical Genetics centres will help them to develop state-of-the-art facilities in molecular diagnostics.

Prevention of Genetic Disorders in Aspirational Districts: Each of the 7 centres providing genetic training have adopted one aspirational district and will establish a program for prevention of genetic disorders including beta thalassemia and newborn screening for treatable disorders. This will be a prototype of an outreach program which will take latest genetic diagnostics to the population and lead the way to incorporate genetic services in maternal & child care. This will provide onsite training to the doctors in these district hospitals in addition to creating awareness about genetic disorders amongst the general population.
Do you need **Genetic Counseling**?

**मूम्किनता की जीवन में किसी एक का मामला होने पर व्यक्ति के लिए अधिक है?

आप को गर्भवती हैं और आपकी उम्र 35 वर्ष या अधिक रही?

आपकी गर्भवती के समय महसूस है?

आपके गर्भवती के समय किसी अन्य अवसर (Ultrasound) में कोई विकृति पायी गयी?

आपके गर्भावत के बाद कोई दवाई (विशेषतः मर्मी अथवा एपिलेसी के लिए) खा रहे?

आपके परिवार में पहले किसी बच्चे में जन्मजात विकृति (Malformation) पायी गई?

आपके परिवार में कोई मृत्यु व्यक्ति है?

आपने कोई मृत्यु व्यक्ति साथ है?

परिवार में दस साल के बच्चे के लिए निर्देश मृत्यु व्यक्ति (Unexplained still birth) होता है?

परिवार में एक से अधिक सदस्य एक जैसी ही बीमारी से प्रभावित है?

**उपयोगिता प्रथम अभ्यास में से किसी एक का भी उल्लेख "है",

तो आप हो अपने विशिष्ट के साथ अनुमानित परिमाण प्राप्त करें।

गर्भावत की दस्तक महिलाओं को गर्भावत के पूर्व से ही प्रतिदिन 5 मिनट प्रति 20 फीट (विटामिन) की दवा का सेवन करना अनुमति होता है।

**मूम्किनता जेंटेलस्क विभाग संजय गांधी और आई एस एम लखनऊ**
With control of infectious & malnutrition-related disorders, infant mortality rate in India is markedly decreasing. At this juncture, the contribution of genetic disorders to infant and childhood mortality and morbidity is increasing. Establishment of patient care services for genetic disorders is the need of the time. Though there are excellent medical genetics centres in India providing state-of-the-art patient care services to families with genetic disorders, the number of such centres is small. The Department of Biotechnology has initiated the UMMID program to establish many genetic diagnostic centres in different parts of the country. To achieve this, a combined program of training doctors in genetic diagnostics and providing funding to establish genetic diagnostic laboratories and to create awareness about genetic disorders amongst doctors and lay persons, has been meticulously planned.

All the components are integrated into one thread of serving patients and families with genetic disorders not only of tertiary care hospitals but also the population from the lower socio-economic strata from aspirational districts.
Antenatal Screening and Prevention of Birth Defects & Genetic Disorders

Aspirational Districts- DBT UMMID-“Unique methods of management of inherited disorders” Programme

are pregnant and have one or more of these Risk factors you may need genetic counseling and prenatal testing

Are you at advanced Maternal age -35 year or more

You have diabetes or any other chronic disease

Taking anticonvulsants, anticancer medicines, blood-thinners or other unsafe medicines during this pregnancy

Your previous child or any other child in your family had malformations at birth

You and your husband are carriers for any genetic disease or chromosomal defect

You or your family members had one or more abortions or stillbirths

Any member in your family has Beta thalassemia, Sickle cell anemia, Haemophilia, Muscular dystrophy, Spinal muscular atrophy or any other genetic disease

Multiple members in your family are affected with similar disease

If you have any of the above risk factors please consult your doctor immediately and get referred to the Medical Genetics Centre for further testing and management.
UMMID is a new ray of hope based on systematic planning for giving the power of genomics to the doctors of the twenty-first century, for the care of patients & their families
### List of Training Centres

| Department of Medical Genetics, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Raibarely Road, Lucknow, Uttar Pradesh |
| Division of Genetics, Department of Pediatrics, All India Institute of Medical Sciences, New Delhi |
| Genetics Unit, Department of Pediatrics, Maulana Azad Medical College, New Delhi |
| Department of Clinical Genetics, Christian Medical College, Vellore, Tamil Nadu |
| Centre for Genetic Studies and Research, The Madras Medical Mission, Chennai, Tamil Nadu |
| Diagnostics Division, Centre for DNA Fingerprinting and Diagnostics, Hyderabad, Telangana |
| Department of Haematology, Christian Medical College, Vellore, Tamil Nadu |
| ICMR-National Institute of Immunohaematology, KEM Hospital, Parel, Mumbai |

### List of NIDANKendras

| Lady Hardinge Medical College (LHMC), Delhi |
| Nizam’s Institute of Medical Sciences (NIMS), Hyderabad, Telangana |
| All India Institute of Medical Sciences (AIIMS), Jodhpur |
| Army Hospital Research & Referral, Delhi |
| Nil Ratan Sircar (NRS) Medical College and Hospital, Kolkata |

### List of Aspirational Districts

<table>
<thead>
<tr>
<th>Name of the Mentor Institute</th>
<th>Aspirational District</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>LHMC, New Delhi</td>
<td>Mewat</td>
<td>Haryana</td>
</tr>
<tr>
<td>CDFD, Hyderabad</td>
<td>Yadgir</td>
<td>Karnataka</td>
</tr>
<tr>
<td>AIIMS, New Delhi</td>
<td>Haridwar</td>
<td>Uttarakhand</td>
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<tr>
<td>CMC, Vellore</td>
<td>Washim</td>
<td>Maharashtra</td>
</tr>
<tr>
<td>MAMC, New Delhi</td>
<td>Ranchi/ Bokaro</td>
<td>Jharkhand</td>
</tr>
<tr>
<td>SGPGIMS, Lucknow</td>
<td>Shrawasti</td>
<td>Uttar Pradesh</td>
</tr>
<tr>
<td>NIIH (KEM hospital campus), Mumbai</td>
<td>Nandurbar</td>
<td>Maharashtra</td>
</tr>
</tbody>
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**Department of Biotechnology, Government of India**
बच्चे का भविष्य आपके हाथ में है। नवजात शिशु की निम्नलिखित बीमारियों के लिए जन्म के बाद तीसरे दिन जाँच जरूर कराइये।

1. कन्जेनाइटल हाइपोथायरोइडिस्म (Congenital hypothyroidism)
2. गैलक्टोसेमिया (Galactosemia)
3. बिओथिडासिड की कमी (Biothidase Deficiency)
4. कन्जेनाइटल एड्रेनल हाइपरप्लाजिया (Congenital adrenal hyperplasia)

PREVENTION IS BETTER THAN CURE
Expected Outcomes of UMMID

- Contribute to patient care services for genetic disorders which account for 80% of rare disorders, by developing trained manpower in the cutting-edge area of genomic technologies.
- Establish genetic diagnostic centres in different parts of the country which will not only provide patient care services but improve the component of medical genetics training in medical education & equip medical doctors of the twenty-first century for the era of molecular medicine.
- Create awareness about genetic disorders amongst clinicians & laypersons, so that the patients & families get appropriate diagnosis, management & preventive services through government [Beneficiaries -70000 pregnant women & 35000 newborn babies per year]
- UMMID will spread the reach of diagnostic facilities for rare genetic disorders, pharmacogenetics, prenatal diagnosis & population-based screening for prevention.
- Establishment of genomic techniques will contribute to research into genetic aspects of rare & common genetic disorders.

Initiative of Department of Biotechnology, Government of India