- Reduce the stillbirth rate
- Improve the birth preparedness
- Improve the intake of ANC services
- Improved identification and follow-up of high risk from pre-pregnancy period
- Ensure proper child growth through growth monitoring in his first 1000 days

4. Target beneficiaries

As health care services will be given from the pre-pregnancy phase of life, primary beneficiaries of the programme will be unprotected eligible couples who are willing to have a baby. In addition, to follow the life course approach, all pregnant women, lactating mothers, and children under two years of age will be catered to for the health care services under the integrated package of Vatsalya. The target beneficiaries of the programme are listed as follows.

- Unprotected eligible couples
- Pregnant women
- Birth companion
- Children under two years of age

5. Vatsalya Health Care Package

Vatsalya's service package includes comprehensive health services for pre-pregnancy care. Also, it will be integrated with existing health programmes for high-risk pregnant women, safe delivery and children under two years of age. This will include the following componets;

- Pre-pregnancy care package for unprotected EC
- Identification and management of high risks during pre-pregnancy and antenatal period
- Strengthening of Mothers' weight monitoring and IFA compliance in the ANC period
- Ensuring appropriate Breastfeeding & Complementary feeding practices
- Growth monitoring of Children
- Integrating MAA, DAKSHATA, HBNC, HBYC, PMSMA, RKSK

5.1.1. Pre-pregnancy care services

Pre-pregnancy Period			
High-Risk Identification in Eligible Couples	**Investigation Package**	**Treatment Package**	**Counselling Package**
History: 1.H/o Premature delivery, 2. Stillbirth, 3. Home delivery 4. Previous LBW, 5. H/o Any pregnancy complications 6. Addiction 7. Underage, 8. Multipara, 9. H/o Infections **Examination:** As mentioned in ANC services, as relevant	1.Anemia-Hb% 2. Thyroid 3. RTI/STI-VDRL, Vaginal swab micro if required, PH test 4. BMI 5. DM-RS, FS, HB1AC 6. HT, 7. Vita D, 8. B12 9. Blood Group, 10. Sickle cell 11. Thalassemia, 12. Hep B & C, 13. heart disease 14. CBC & PS 15. Urine exam- R & M 16. Any other 17. Height & Weight	1. IFA /FA supplementation 3. MMN supplementation 4. Disease management 5. Nutrition supplementation if ICDS agreed 6. Vita D supplementation 7. HT & DM management 8. Immunization 9. RTI/STI/UTI mgt 10. Partner screening as relevant	1. Nutrition counselling 2. FP counselling 3. Counselling of companion for RTI/STI 4. Health education for birth preparedness 5. training of birth companion 6. Breastfeeding and complementary feeding education 7. Deaddiction counselling

5.1.2. Pregnancy (ANC) & Postnatal care services

Antenatal & Postnatal Period Services			
High-Risk Identification in ANCs	**Investigation Package**	**Treatment Package**	**Counselling Package**
1. BOR 2. Previous LSCS 3. HT/DM/Sickle cell 4. Less maternal weight gain 5. H/o Any pregnancy complications 6. Addiction 7. Underage, 8. Multipara, 9. Infections/TORCH 10. Anemia/Sever Anemia 11. Non-compliant ANC to IFA 12. Anthropometry 13. Migrant 14. Residing in a Difficult to reach area 15. Refusal of family for health services	1.Anemia-Hb% 2. Thyroid 3. RTI/STI-VDRL, Vaginal swab micro if required, PH test 4. BMI 5.DM-RS, FS, HB1AC, GTT 6. HT, 7. Vita D, 8. B12 9. Blood Group, 10. Sickle cell 11. Thalassemia, 12. Hep B & C, 13. heart disease 14. CBC 15. PS 16. Urine exam 17. Any other 18. Height & Weight	1. **Maternal Weight Monitoring** 2. IFA/Iron Sucrose 3. FA 4. Disease management 5. **ICDS Diet monitoring** 6. Vita D supplementation 7. HT & DM management 8. Treatment of Infections 9. Management of PIH 10. **Inj Dexamethasone** **11. Magnesium sulphate while referring** 12. APH/PPH mgt 13. **Active third stage management** **14. Active 4th Stage management in HRPs**	1. Nutrition counselling 2. FP counselling 3. Counselling of companion for RTI/STI 4. Health education for newborn care 5. Training of birth companion 6. Breastfeeding and complementary feeding education 7. Deaddiction counselling 8. **Visit by VHNSC members, as required** **9. Visit by NGO members, as required**

5.1.3. Child growth monitoring for 1000 days

Child growth monitoring in the postnatal period			
Postnatal Mothers	**Child**	**Counselling Package**	**Monitoring**
1. PNC visit by ANM 2. IFA 3. Calcium & Vita D 4. High-risk identification and referral **5. Health Check up by CHOs** 6. Nutrition supplementation monitoring	1. Immunization 2. **Home KMC** 3. High-risk identification and referral 4. Breastfeeding and weaning 5. **Complimentary feeding** 6. **Growth monitoring** 7. Care of LBWs-**monitoring Iron, Calcium & Vita D supplementation**	1. Nutrition counselling 2. FP counselling 3. Breastfeeding and complementary feeding education & follow-up **5. Continued engagement of birth companion**	**Growth monitoring** **Monitoring of High Risk in the Postnatal period and Infants**

6. Priority activities in "Vatsalya "

6.1.1 Achieving Normal BMI Before Pregnancy

Body Mass Index (BMI) is a good indicator for assessing the nutrition status during preconception. BMI should be calculated for nutritional evaluation of women before pregnancy by the following formula.

$$\text{Body mass index} = \frac{\text{Weight in Kg}}{(\text{Height in M})^2}$$

- Record the height in meters and weight in kilograms accurately of all eligible women (Non-Protected Eligible Couple) at the time of registration.
- Low BMI, i.e. below 18.5, suggestive of maternal undernutrition, is the risk factor for preterm birth, LBW babies and perinatal deaths.
- BMI should be corrected to an average level, i.e. 18.5 to 23 in the pre-pregnancy period.
- Nutritional counselling of all eligible women should be done to promote desired dietary changes along with physical activity for correction of BMI in the pre-pregnancy period
- A diet audit can be done to assess the frequency and adequacy of nutrition intake.
- Explain to the couple the need to postpone the pregnancy until the recommended BMI is achieved.
- Check weight every month to monitor BMI and also improve dietary habits
- Coordinate with ICDS/TD for diet extension under "Amrut Aahaar" to women with BMI <18.5

6.1.2 Preventing and Treating Anemia with Iron & Folic Acid or MMS

Anaemia during pregnancy has detrimental effects on maternal health and pregnancy outcomes. Anaemia is the leading underlying cause of maternal deaths due to postpartum haemorrhage. It leads to prematurity and low birth weight babies.

- Each of the eligible woman (Non-Protected EC) should be screened for anaemia by conducting a clinical examination and blood investigation
- All non-anaemic women should be given a prophylaxis dose of IFA/MMS.
- Start the treatment according to the severity of anaemia, i.e. mild, moderate and severe, as per AMB guidelines. MMS may be used based on availability.
- Girls/women who have Hb below 8 gm/dl should be urgently referred to DH/FRU for evaluation and treatment.
- Follow up every month to check compliance.
- Repeat Hb estimation after three months. If haemoglobin levels have improved to normal, discontinue daily treatment but continue with the prophylactic IFA dose once a week. If the haemoglobin fails to rise, refer her to FRU/DH.
- Counsel for a nutritious and balanced diet containing foods rich in iron, vitamins, proteins and other nutrients
- Deworming should be done by giving a single dose of tablet Albendazole, 400 mg orally, every six months, along with promotion of hand washing and wearing outside.
- Explain to the couple the need to postpone the pregnancy until her haemoglobin level reaches 12 g/dl.
- Discuss the various contraception options available and provide contraception of the couple's choice.

6.1.3 Periconceptional Folic Acid/MMS Supplementation

Folic acid is one of the most essential B-complex vitamins to reduce the neural tube defects that develop during the first three months of gestation. Previous history of delivery of neural tube defect baby, anti-epileptic drugs, diabetes, obesity, and hemoglobinopathies are the risk factors for neural tube defects in babies.

- Administer folic acid 400 µg/day orally from three months before pregnancy to three months of pregnancy.
- In addition, advise women to consume vegetables and seasonal fruits rich in folic acids.
- Explain the benefits of starting folic acid tablets to all eligible women and provide folic acid tablets.

6.1.4 Quitting Tobacco and Alcohol

Tobacco smoke contains toxic substances like nicotine and carbon monoxide, which affect foetal development by producing foetal hypoxia and affects foetal development. Consumption or exposure to tobacco during pregnancy is associated with miscarriage, stillbirth, LBW babies, congenital disabilities and perinatal death. Tobacco in any form, including passive smoking, is hazardous to the health of the mother as well as to the development of the foetus.

Alcoholism during pregnancy suffers from incurable foetal alcohol syndrome in which poor growth, congenital disabilities, and microcephaly. Low IQ, behavioural abnormalities and developmental delays are observed. Alcohol can harm a baby at any stageduring pregnancy.

- Screen every eligible woman for tobacco exposure and alcohol intake.
- Encourage her to stop smoking and alcohol by counselling the adverse effects of tobacco and alcohol on the baby.
- Those who find quitting challenging should be referred to a medical officer to guide them to a specialised centre for help.
- Also, counsel for quitting tobacco by a spouse.

6.1.5 Preventing pregnancy in Adolescents and promoting optimal interpregnancy interval

Pregnancy in adolescence: Due to early age marriage and premarital pregnancies

- Pregnancy in adolescents can affect height gain and bone development as adolescents are still in their growing age. Adolescents are prone to prolonged and difficult labour as pelvic bones are not yet fully developed.
- Pregnancy complications like anaemia, hypertensive disease, pre-term labour and LBW babies are more likely.
- Counselling for appropriate choice of family planning methods to be made available to younger age EC to ensure pregnancy after 19 years.
- Premarital pregnancy: Premarital pregnancy is often due to a lack of awareness about reproductive and sexual issues. This can lead to domestic violence, deficient antenatal care and unsafe abortion due to neglect.
- The RKSK platform should be integrated with Vatsalya to provide counselling and health education to adolescent girls
- Counselling of parents should be done to prevent early marriages, especially in areas with a high prevalence of early marriages
- Counsel adolescent married women regarding safe age for first pregnancy, available methods to postpone pregnancy, provide method-specific counselling and contraceptive of choice
- Counselling the couple to use contraceptives to postpone first pregnancy
- Creating awareness regarding risks associated with and methods for preventing unwanted pregnancy during monthly adolescent girls meetings and through the RKSK programme is necessary.
- Encourage girls and their parents to continue school education of girls

Post-abortion pregnancy:

As pregnancy within six months of abortion can be associated with an increased risk of obstetric complications, women should be counselled to postpone pregnancy for at least six months.

Planning Pregnancy after childbirth:

- Interval between two childbirths should be at least three years to improve maternal and child health outcomes.
- All mothers should be counselled to start using contraception methods by six weeks after childbirth.
- Contraceptive counselling should include information about all available methods, their benefits,
- limitations and side effects.

6.1.6 Preventing Reproductive Tract Infections (RTIs) and HIV Infection

Women often get Reproductive tract infections (RTI) in their reproductive organs or sexually transmitted infections (STIs) from unsafe sex with an infected partner.

STIs like Syphilis, Gonorrhoea, and Genital herpes in a pregnant woman can be transmitted to the foetus. They can cause stillbirths, preterm births, LBW, and premature rupture of membranes, leading to neonatal infections and neonatal deaths. HIV-infected women can transmit the infection to their babies during pregnancy, labour, and through breastfeeding.

- Eligible women should be counselled about the symptoms of the RTI and STI, report to the health centre, and seek medical help to get cured of the infection.
- All eligible women should be counselled about the prevention of RTIs by proper menstrual hygiene, avoiding unsafe abortion and delivering in a hospital by skilled birth attendant (SBA).
- Similarly, all women should be educated about safe sex practices and avoiding risky sexual behaviour to avoid STIs.
- Provide treatment for STI: CHOs/MO
- Counsel for voluntary HIV testing

7. Detecting & Managing Chronic Diseases Before Pregnancy

Detecting and treating diseases before pregnancy, which are known to have adverse effects on maternal and pregnancy outcomes, can improve the chances of successful pregnancy. Some of these diseases that should be screened and investigated during visits to HWCs/PHCs are -

- Diabetes mellitus
- Heart disease
- Hypertension,
- Kidney disease
- Epilepsy
- Thyroid disorders
- Hemoglobinopathies

Health condition/ Disease	Complications	Investigation to be done	Recommendation for preconception
Diabetes mellitus	Congenital disabilities Macrosomia (large for dates) babies	HbA1C, Fasting and post prandial blood sugar	Folic Acid supplementation
Heart Disease	Intolerance of additional strain on health put on by pregnancy; Worsening of heart diseases during pregnancy; Increased risk of preterm and LBW babies.	Auscultation of the chest for Precordial murmurs, abnormal heart rhythm, and crepitations at lung bases. If suspected, Electrocardiography and 2D Echo	Women with preexisting heart disease should receive counselling regarding maternal and foetal risks during pregnancy. Consult a specialist before planning pregnancy. Correction of anaemia as it

Health condition/ Disease	Complications	Investigation to be done	Recommendation for preconception
			increases the risk of heart failure Investigation for urinary, respiratory and dental issues as it increases the risk of heart failure
Hypertension & Renal Disease	Preeclampsia/Eclampsia in pregnancy	Blood pressure, Urine examination for protein,	Regular check-up/screening by ANM/CHOs. Appropriate treatment and referral if required. Evaluation of women with proteinuria, previous history of kidney disease as chronic renal disease
Epilepsy	Developmental issues in growing foetus and Risk of major congenital malformations due to some antiepileptic medicines like Sodium Valproate, Phenobarbitones	Proper history taking Thorough medical consultation	Physician check-ups and adequate advice Discuss the appropriate time for conception with their physician. Folic acid 5 mg daily should be started three months before conception.
Thyroid disorders	Irregular menstruation, inability to conceive and recurrent abortions, increased risk of preeclampsia, placental abruption and post-partum haemorrhage. Poor mental development of a child with inferior IQ.	Thyroid-stimulating hormone (TSH) levels, Thyroid function tests.	Examine all eligible women for hypothyroidism. Refer to physician for treatment. Women with hypothyroidism should be advised to plan pregnancy when their TSH level is average. Women on treatment should be monitored after the detection of pregnancy to adjust the dose of medicines.
Hemoglobinopathies		Solubility test, HPLC	Screening of all women and counselling. In carrier women, her spouse should be tested for his carrier status. If both are found to be carriers, then the couple should be referred to a specialist for advice before planning pregnancy.

- Screening is to be done at field camps – MAA camps, VHSND, CHO visits, RBSK team visits, RKSK camps, HWC camps, or in H-t-H visits.
- Detail history taking, health check-ups, and investigations should be done at HWCs/ PHCs to diagnose these conditions.
- Any health problem that requires special treatment before pregnancy should be discussed, and necessary measures should be taken.
- Ongoing medicines for any disease need to be reviewed before pregnancy to check whether they are safe to continue during pregnancy.
- They must also discuss their intentions to get pregnant and learn about their fitness before planning pregnancy.