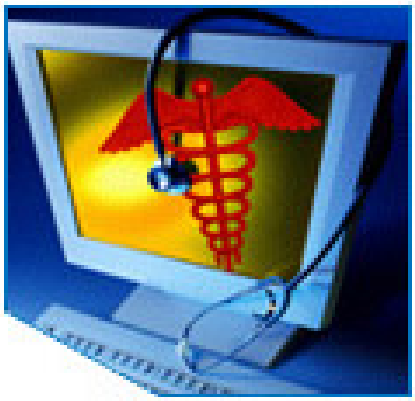
UC3: Well Child Care



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Version 1.1

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Revision History

Version Number	Description of Change	Name of Author	Date Published
0.9	First Draft	Alan E Zuckerman MD	09/16/2005
1.0	Second draft including use case scenarios, treating information systems as actors, and discussing year 1 scope	Alan E Zuckerman MD	9/17/2005
1.1	Remove references to template instructions and added the year 1 scope in terms of what will be included vs. excluded to be consistent with the other 3 proposed use cases	Julie Holtzople	9/17/2005

Overview of the Use Case

Description:

Well Child Care begins with a first physician visit a few days after leaving the hospital, and it continues with regular visits at ages 1,2,4,6,12,18,24,30,and 36 months, and annually thereafter to age 18. At each visit care is dependent upon knowledge of data gathered at previous visits, awareness of previously administered immunizations, and results of laboratory results that may have been performed years before the current visit quite possibly at another practice.

Children frequently change practices several times during their childhood. Therefore information must be coordinated and linked to facilitate school enrollment and to meet standards of care.

The newborn discharge summary contains relatively few important data items, such as birth weight, discharge weight, hepatitis immunization, and bilirubin laboratory tests, that are needed at the first office visit but are frequently not available because parents forget to bring them and hospitals do not send them in time.

Overall, children are dependent upon their parents and previous physicians to maintain and exchange records required to complete their care and to comply with school and public health regulations.

Use Case Scope:

The scope of the use case will be limited to well child visits. It will focus primarily on immunizations, growth measurements, developmental assessments, and a limited number of screening tests, including vision and hearing, as well as laboratory measures such as blood lead.

Well child care is also an opportunity to review the complete problems list, medication list, allergies, specialist referrals, and all laboratory data. Well child visits often include refilling medications, coordination of care with specialists, and chronic disease care including asthma and ADHD.

The focus of this use case will be on the essential elements of well child care, such as the newborn discharge summary, immunization records, and other growth and development records, required for school and public health use. The other three proposed ONCHIT use cases will include the electronic prescribing, chronic disease care, and special referral that overlap with well child care.

Strategic Healthcare Improvement Goals:

There is an unmet need to uniformly transfer data during a well child's lifetime between birth hospital, primary care physician, public health and school systems. The lack of harmonized standards leaves an attending clinician with incomplete records of immunization status, Early Periodic Screening, Detection, and Treatment (EPSDT) assessment and allergies. This hampers early detection/intervention of conditions like childhood obesity, hypertension, and developmental disorders such as Autism. The goal of this use case is to identify and provide the information infrastructure required for the exchange, between authorized parties, of well child health information, including immunization status, to improve individual health outcomes and public health reporting.

Well Child Care is a universal and highly visible requirement that is linked to significant life cycle events, such as the first physician office visit after birth and enrollment in school. The data requirements are relatively simple and well structured, facilitating successful use of Health Information Technology and providing an excellent opportunity to demonstrate the value and use of health information exchange. Hospitals are extremely competitive in providing services for maternity care and are much more likely to rapidly implement an electronic newborn discharge summary than the more complex electronic discharge summaries required by other types of patients.

The recent hurricane has raised concerns over Federal and State coordination, and it has illustrated the need to have national standards for exchange of information for school enrollment when children are relocated to another State from the one where most of their care was provided. Children commonly have changes in name (They may use a different name in the hospital at birth.) providing an opportunity to use optimal patient and record linkage technologies that are essential for well child care. These must include next of kin information, as well as patient demographics.

Expected Outcomes:

Harmonized well child care data standards will improve the efficiency of care and prevent delays in providing care while waiting for necessary records. It will avoid inappropriate duplication of services because of missing records of prior care or missed opportunities for clinical decision support due to incomplete data or lack of reference data on standards of care in a computable format. This will lead to measurable improvements in completion of process of care and outcomes of care including:

- improved immunization rates by identifying children requiring immunizations
- increased detection of obesity and hypertension at earlier ages
- increased detection of abnormal growth patterns that might suggest genetic disorders such as Celiac Disease or Cystic Fibrosis
- increased awareness of newborn screening results and attention to those

results in older children
- increased follow-up of abnormal newborn screening that requires follow-up.

Consistent use of developmental assessment tools at multiple visits can lead to earlier detection of problems such as Autism and Attention Deficit Disorders.

Improved immunization rates can lead to decreased number of outbreaks of contagious diseases such as Pertusis and Chickenpox.

Monitoring adverse reactions to immunizations will improve public confidence in the safety of immunization and identify potential problems that physicians and parents should anticipate and expect from routine care.

Stakeholders:

The following is a list of the stakeholders for this use case:

1. Patient or Child who is receiving care
2. Parent or Guardian who manage visits and maintain their own records
3. Primary Care Physician who is usually a Pediatrician or Family Physician
4. Public health immunization clinics that administer vaccines that also need to be recorded by the primary care physician
5. Hospital where the child was born
6. Attending physician on the hospital newborn service (not always the same as the primary care physician)
7. Nurse in the hospital who arranges newborn screening and forwarding of records
8. Nurse in the office who measures growth and administers immunizations
9. Immunization Registries (State of birth, Current State of residence, states of previous residence)
10. Enhanced immunization registries that include data on growth and development in addition to immunizations
11. RHIOs that are developing longitudinal patient summary records or linkages of records from multiple practices
12. School Systems
13. Newborn screening laboratory
14. Medicaid EPSDT Programs and other payer quality assurance programs for well child care
15. State Health Departments
16. National Immunization Program that sets standards and monitors immunization rates
17. CDC Growth Standards
18. National guidelines for child development such as the Bright Futures project that is a join effort of the American Academy of Pediatrics and other organizations
19. Office staff in primary care offices who must transfer records to other practices, complete school forms, and request information from other practices and transfer the information to the new practice records

20. Hospital EHR system
21. Ambulatory EHR system
22. Immunization registry information system
23. Personal Health Record systems
24. RHIO document registries, document repositories, and record locator services systems
25. Laboratory information systems in Newborn Screen Laboratories
26. Laboratory information systems in hospitals that perform tests during newborn hospitalization
27. Laboratory information systems that perform tests such as hematocrit or blood lead that are used in routine well child care

Interoperability Scenarios include in UC3 Well Child Care:

The following scenarios will be part of this use case:

	ID Number	Name
Scenario I	UC3S1	Hospital Discharge for a normal healthy newborn
Scenario II	UC3S2	Hospital Discharge for a sick premature infant
Scenario III	UC3S3	First office visit or home visit after birth for an infant born at home or in a free standing birthing center (within 24 hours of birth)
Scenario IVa	UC3S4A	First well child office visit after discharge for an infant with a newborn hospital discharge summary
Scenario IVb	UC3S4B	First well child office visit for an infant whose parents bring an electronic personal health record
Scenario IVc	UC3S4A	First well child office visit for an infant who arrives with no electronic data
Scenario Va	UC3S5A	Routine well child office visit for a patient in a practice with an HER
Scenario Vb	UC3S5B	Routine well child office visit for a child in a practice that does not have an EHR
Scenario VI	UC3S6A	First well child office visit for a new patient previously seen by a practice in the same region (information in the same immunization registry or RHIO) who arrives with an electronic patient summary prepared by the previous practice
Scenario VI	UC3S6B	First well child office visit for a new patient previously seen by a practice in the same region (information in the same immunization registry or RHIO) who arrives with an electronic personal health record provided by the parents
Scenario VI	UC3S6C	First well child office visit for a new patient previously seen by a practice in the same region (information in the

		same immunization registry or RHIO) who arrives with no electronic data
Scenario VII	UC3S7A	First well child office visit for a new patient previously seen by a practice in a different region (information in a different immunization registry) who arrives with an electronic patient summary prepared by the previous practice
Scenario VII	UC3S7B	First well child office visit for a new patient previously seen by a practice in a different region (information in a different immunization registry or RHIO) who arrives with an electronic personal health record provided by the parents
Scenario VII	UC3S7C	First well child office visit for a new patient previously seen by a practice in a different region (information in a different immunization registry or RHIO) who arrives with no electronic data

Year 1 Scope:

The following scenarios will have completed implementation guidelines published during Year 1:

1. UC3S1 – Hospital Discharge for a normal healthy newborn
2. UC3S4A - First well child office visit after discharge for an infant with a newborn hospital discharge summary
3. UC3S4B - First well child office visit for an infant whose parents bring an electronic personal health record
4. UC3S4A - First well child office visit for an infant who arrives with no electronic data
5. UC3S5A - Routine well child office visit for a patient in a practice with an HER
6. UC3S5B - Routine well child office visit for a child in a practice that does not have an HER
7. UC3S6A - First well child office visit for a new patient previously seen by a practice in the same region (information in the same immunization registry or RHIO) who arrives with an electronic patient summary prepared by the previous practice
8. UC3S6B - First well child office visit for a new patient previously seen by a practice in the same region (information in the same immunization registry or RHIO) who arrives with an electronic personal health record provided by the parents
9. UC3S6C - First well child office visit for a new patient previously seen by a practice in the same region (information in the same immunization registry or RHIO) who arrives with no electronic data
10. UC3S7A - First well child office visit for a new patient previously seen by a practice in a different region (information in a different immunization registry) who arrives with an electronic patient summary prepared by the previous practice
11. UC3S7B - First well child office visit for a new patient previously seen by a

practice in a different region (information in a different immunization registry or RHIO) who arrives with an electronic personal health record provided by the parents

12. UC3S7C - First well child office visit for a new patient previously seen by a practice in a different region (information in a different immunization registry or RHIO) who arrives with no electronic data

The ability to complete Scenario IV, transfer of care from another region using a different immunization registry or RHIO is dependent upon evolution of national standards that are a key of this project

The most import task for harmonization of standards in year one will be harmonization of the ASTM Continuity of Care Record and the HL7 Clinical Document Architecture. This is a very achievable goal that will be greatly facilitated by involvement of the ANSI HITSP as a facilitating third party. This task will facilitate integration of personal health record scenarios and facilitate translation of hospital discharge summaries for import into ambulatory EHR

Special challenges for well child care will be the ability to merge individual documents from single visits into an integrated patient summary and to merge data from patient summaries prepared at different points of time into a single reconciled current document.

Patient record linkage and patient identification is a key task that also must be included in year 1 either as a separate scenario or as a part of other scenarios such as a query to an immunization registry.