Red Blood cell count result

Entity: Cluster

Concept description:	**Identification:**
Test to verify the nr of red blood cells in the body, results as a single value.	*Id*: openEHR-EHR-CLUSTER.laboratory_test_panel-red_blood_cell_count.v0 *Reference model*: openEHR_EHR

Purpose	**Use**	**Misuse**	**Copyright**	**References**	**Contact**
To record Red Blood cell count test results as a single value. LOINC 26453-1 Erythrocytes [#/? volume] in Blood Component Property Time System Scale Method Erythrocytes NCnc Pt Bld Qn Part: Erythrocytes Erythrocytes or red blood cells (RBCs) are the cells in the circulation that carry oxygen to and remove carbon dioxide from the tissues throughout the body. They are	To record Red Blood cell count test results as a single value. Normally used in conjunction with a parent Laboratory test result (Observation) archetype.	Should not be used to record Anatomical pathology macroscopic/microscopic findings.	© openEHR Foundation	Based on NEHTA 'Pathology Test' archetype. Available from: http://dcm.nehta.org.au/ckm/OKM.html#showarchetype_1013.1.839_8 Pathology (Data Specifications) Version 1.0 [Internet]. Sydney, Australia: National E-Health Transition Authority; 2007 May 29 [cited 2011 Jul 11]; Available at http://www.nehta.gov.au/component/docman/doc_download/962-pathology-v10. Laboratory Technical Framework, Volume 3: Content, Revision 3.0 [Internet]. USA: IHE International; 2011 May 19; [cited 2011 Jul 11]. Available from: http://www.ihe.net/Technical_Framework/index.cfm#laboratory Hl7 FHIR Observation resource: HL7 FHIR; Available from http://www.hl7.org/implement/standards/fhir/observation.html	

produced in the bone marrow in response to erythropoietin where they transition through six stages over a seven day period. When they are released into the circulation, their nucleus has been extruded and they measure 6-8 microns in diameter. The lifespan of RBCs is about 120 days. When the RBC ages the cell membrane becomes less pliable and tears as they cell travels through the micro vessels of the body. The damaged RBCs are removed from the circulation by the spleen. Variations in number, shape and size of RBCs are indicative of many diseases and disorders. There are many factors that may lead to decreased numbers of RBCs including							

hemorrhage, hemolysis, iron or vitamin deficiency, marrow failure and more. Larger than normal RBCs may be indicative of liver disease while smaller than normal RBCs are seen in thalassemias and other anemias. (Mosby's manual of diagnostic and laboratory tests, Kathleen Deska Pagana; Timothy James Pagana, Elsevier St. Louis, Mo ©2010) Source: Regenstrief LOINC NB: This is not cloned in templates from laboratory-tests but specialized. The reason for this is that maintainability becomes hard when there are changes in the model, but the correspondending constraint can occur in more templates (which will happen							

because, ET decided to have archetypes which can occur in several templates.					

Concept	Description	Constraints	Values
Laboratory result	Specific detailed result, including both the value of the result item, and additional information that may be useful for clinical interpretation.	***Cluster*** 0..*	
Result value	Actual value of the result.	***Quantity*** 0..1	Property = Concentration Units = x 10^12/l; >=3.8; <=6.5;
Comment	Comment about the Result.	***Text*** 0..1	Text;
Reference range guidance	Additional advice on the applicability of the reference range.	***Text*** 0..1	Text;
Result status	The status of the result value.	***Text*** 0..1	Internal; 'Registered', 'Interim', 'Final', 'Amended', 'Cancelled/Aborted', 'Not requested'
Result status timestamp	The date and/or time that the entire result was issued for the recorded ‘Result status’.	***DateTime*** 0..1	Allow all
	Slot Result detail [Cluster]	Include : Cluster	Exclude : Cluster
	Slot Other detail [Cluster]	Include : Cluster	Exclude : Cluster