## Competency Questions and DL queries and results for the Hypertension Ontology

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Competency question	Query	Query result	Status
What are all of the	'elevated blood	Basil's elevated	Validated for adult
elevated BP measures	pressure	systolic BP	systolic and
in the data set?	measurement datum'	measurement datum	diastolic BPs
in the data set.		Clara first elevated systolic BP measurement datum  Clara second elevated systolic BP measurement datum  Desmond's first elevated systolic BP measurement datum  Desmond's systolic BP measurement datum	
		elevated systolic BP measurement datum	
		Ernest's diastolic BP measurement datum	
		Ernest's systolic BP measurement datum	
Which data items in the data set are about	'is about' some 'elevated blood	Amy's diagnosis	Validated for adult systolic and
elevated BP	pressure phenotype'	Basil's elevated	diastolic BPs and
phenotypes?		systolic BP	diagnoses of
		measurement datum	hypertension
		Clara's first elevated systolic BP measurement datum	
		Clara's second elevated systolic BP	
		measurement datum	
		Desmond's first diastolic BP measurement datum	

	1	T	
		Desmond's second	
		diastolic BP	
		measurement datum	
		Ernest's diastolic BP	
		measurement datum	
		Ernest's elevated	
		systolic BP	
What are all of BP	'blood pressure	Basil's elevated	Validated
values in the data set	measurement datum'	systolic BP	
>= 126.0 mm Hg?	and 'has measurement value' some	measurement datum	
	xsd:double[>=	Clara's first elevated	
	"126.0"^^xsd:double]	systolic BP	
		measurement datum	
		Ernest's systolic BP	
		measurement datum	
What are all of the	'health care	Basil's first health	Validated for
health care encounters with elevated BP	encounter' and has_specified_output	care encounter	adults, systolic and diastolic BP
values?	some 'elevated	Clara's first health	
	systolic blood pressure measurement datum'	care encounter	
	ineasurement datum	Clara's second health	
		care encounter	
		Ernest's only health	
		care encounter	
Who are the patients	'Homo sapiens' and	Clara	Validated for
with elevated BP	'bearer of' some	Desmond	adults, systolic and
values at 2 more	('blood pressure' and		diastolic BP
health care	inverse('is about') min		
encounters?	2 ('elevated blood		
	pressure		
	measurement datum' and		
	is_specified_output_of		
	some 'health care		
	encounter'))		

Who has a	'has phenotype' some	Clara	
hypertensive	Hypertension	Desmond	
phenotype?			
Who has a phenotype	'has phenotype' some	Clara	
that gives rise to	('feature gives rise to	Desmond	
hypertension?	disease' some		
(Note: for	hypertension)		
hypertension, this is			
equivalent to the same			
query above, but for			
cases where multiple			
phenotypes may give			
rise to a common			
disease, this distinction			
is more useful.)			
Which patients have	organism and	Amy	Validated for
been diagnosed with	inverse('is about')		adults, systolic and
hypertension?	some 'diagnosis of		diastolic BP
	hypertension'		
Who has either a	(organism and	Amy	Validated for
diagnosis of	inverse('is about')	Clara	adults, systolic and
hypertension or a	some 'diagnosis of	Desmond	diastolic BP
hypertensive	hypertension') or ('has		
phenotype?	phenotype' some		
	Hypertension)		