Data Element Import Guide

To import elements into the dictionary, use the Data Element Import Template. From Excel, you may create one data element per row. When creating your Data Elements, you may upload them to the BRICS dictionary by using the import function. All Data Elements must conform to the guidelines in this document or they will not be accepted into the BRICS dictionary.

***Before importing data elements into the BRICS dictionary, the import file MUST BE CONVERTED from an XLS to a CSV file type!**

Data Element Guide

Columns that may be left blank are noted with an asterisk. All others are required, or may be required in certain circumstances.

I. NOTES/Comments*

I. The column is ideal for communicating information to the Operations team or members of the research team prior to data element being uploaded into the system.

II. The column must be removed from the CSV file prior to importing.

II. Variable Name

I. The name of the Data Element within the dictionary.

II. Rules/Restrictions:

1. Required for all Data Elements.
2. 30 character maximum.
3. Must be unique to all Data Elements in the dictionary.
4. The first character must be an alphabetical character a-z or A-Z.
5. Must contain only alphanumeric characters and the special character underscore (_).

6. Must be camel-cased, with the first letter of a word/abbreviation capitalized and all other letters lower case (i.e., TotalScore).

7. For abbreviations, please see the Variable Name Abbreviation Guide in Appendix B.

8. The Variable Name should match the Title exactly. If the Proposed Title is: concept#1 concept#2 concept#1, then the Variable name should be Concpt#1Concpt#2Concpt#3.

   Example: Title = Total Score

   Variable name = TotalScore

9. For copyrighted materials, the Variable Name should follow the following format:

   Assessment Acronym + Title

   Example:

   Assessment: Buss Perry Aggression Questionnaire (BPAQ)

   Title: Buss Perry Aggression Questionnaire (BPAQ) - provoked hit scale

   Variable Name: BPAQProvokedHitScl

III. Title

I. A description for the Data Element; it should represent the essence of the question through discrete concepts, breaking down the question into "What is the primary topic (Object); what is being asked about the topic (Property); and what is the anticipated response or answer (Representation)."

*Please consult the NINDS Word List for appropriate Object, Property, and Representation Terms in Appendixes A and B.

II. Rules/Restrictions

1. Required for all Data Elements.

2. 255 character maximum.

3. Capitalization – First word is capitalized; all others are lowercase except for proper names.

4. The **FIRST** word of the Title will be the main concept. This first term is the most important conceptual idea for a Data Element (consistent with the Object class term which is the first fundamental part of data element as described by ISO-11179) Suggested words include terms like "diagnosis," "adverse event," "imaging," "injury," "medical history," "symptoms," or "treatment." Words like "other" or "initial," that are adjectives/modifiers.

   *ISO-1179 definition of Object Class: A set of ideas, abstractions, or things in the real world that can be identified with explicit boundaries and meaning and whose properties and behavior follow the same rules. This first term is the most important conceptual idea for a Data Element. In instrument related Data Elements, the first term will be the instrument name.

5. Based on ISO-11179 standard for the formulation of metadata, the FINAL word of the Title (DE name) will refer to the data type (e.g., scale, score, etc.).
   *Please refer to Appendix A for a list of representation terms with definitions to describe data types.

6. Titles should be unique. No two Data Elements should have the same combination of Object + Property Qualifier(s) + Property + Representation Qualifier (s) + Representation Term.

7. For copyrighted instruments:
   a) The full name of the form should be the first part of the Data Element name with the acronym in parentheses.
   b) Add a hyphen.
   c) Provide a description of the data/question from the instrument.

d) Based on ISO-11179, the FINAL word of the Title will refer to the data type (e.g., scale, score, etc). The final word will refer to the data type. If the same word is part of the instrument name (e.g., scale), that word will appear twice in the Data Element Title. **Example:** Berg Balance Scale (BBS) - stand one leg scale

7. If applicable, confirm that 'Date' is the appropriate Representation term for the question on the CRF. If a time component is present in the question, change the Representation term to 'Date and Time'.

8. Data Elements that capture only Date should have "Date" as the last term in the Title (replacing "date and time").

IV. Element Type

I. A designation of the Data Element as a Common Data Element (CDE) or Unique Data Element (UDE).

II. Rules/Restrictions:

1. Required for all Data Elements.

2. Designation cannot be abbreviated.

3. Must be one of the following:

a) Common Data Element.

b) Unique Data Element.

*All Data Elements created outside of NINDS working groups will be designated Unique Data Elements.

Users can ONLY select UDE in the template.

V. Definition*

I. The Definition should be a clear definition of the question preferably using the concepts in the Title.

II. Rules/Restrictions:

1. 4000 character maximum.

2. When a familiar acronym appears in the Data Element Title, the full name MUST be provided in the Definition field to ensure understanding.

VI. Short Description

I. It is a concatenated version of the Definition field that is restricted to 255 characters. Use the Definition field as a starting point and reduce to 255 characters using abbreviations, where applicable.

II. Rules/Restrictions:

1. Required for all Data Elements.

2. 255 character maximum.

VII. Datatype

I. Datatype determines the type of data this Data Element will store. User can select between alphanumeric, numeric, date or data and time, GUIDs, file, biosample, or thumbnail (image only files).

II. Rules/Restrictions:

1. Required for all data elements

2. Must be one of the following character strings:

a) Alphanumeric- column Input Restrictions should be completed. When "Free-Form Entry" is also selected, then the column "Maximum Character Quantity" must also be completed.

b) Numeric Values- column Input Restrictions should be completed. When "Free-Form Entry" is also selected, the Minimum and Maximum values may be completed (but are optional).

c) Date or Date & Time- column Input Restrictions should be Free-Form; for all CDEs collecting Date, the data will be collected using the ISO-8601 standard.

d) GUID- column Input Restrictions should only be "Free-Form Entry".

e) File- column Input Restrictions should only be "Free-Form Entry".

f) Thumbnail- column Input Restrictions should only be "Free-Form Entry".

VIII. Maximum Character Quantity

I. The Maximum Character Quantity field determines the maximum number of characters a user may input into a Free-Form Entry, Alphanumeric Data Element.

II. Rules/Restrictions:

1. Required field for Data Elements with Datatype: Alphanumeric and Input Restrictions: Free-Form.

2. This field must be blank for other Datatypes or Input Restrictions.

3. This field must contain a numerical value between 1 and 4000. Be sure to set appropriate parameters (i.e., Social Security Number should have a size of 9).

4. Except: Bio-Sample Free-Form Entry, which currently cannot be greater than 100.

IX. Input Restriction

I. This field determines the type of input that will be accepted. Free-form elements allow for short paragraph answer input, and Pre-Defined Values force the user to select an input from the Permissible Values List.

II. Rules/Restrictions:

1. Required for all Data Elements.

2. Must be one of the following character strings:

   a) Free-Form Entry.

   b) Multiple Pre-Defined Values Selected.

   c) Single Pre-Defined Value Selected.

3. If an enumerated list of values contain only numbers (even if PV Descriptions are alphanumeric), the Datatype can be "Numeric Values," with "Single Pre-Defined Value Selected" and also a Minimum and Maximum value entered to define the range of acceptable answers.

4. When a CDE collects a Numeric Value, and there is a unit of measure for routinely capturing the data, add the units to the column Unit of Measure. Accepted measurement units are provided in Appendix C.

5. If a permissible value of "Other, specify" is contained within an enumerated list for a given data element AND the Data Element is alphanumeric or numeric with an input restriction value of Single Pre-Defined or Multiple Pre-Defined, a corresponding "sister" data element is required to support the capture of the Other, specify information.

   Other, Specify creation steps and example table:

   a) Create a corresponding data element with an input restriction of 'Free-Form Entry' to accept the free-form entry information. This data element will complement the 'parent' data element (that has an enumerated permissible value list that includes 'Other, specify').

b) Variable Name: Copy parent CDE/UDE and change name to end with OTH. Ex. TherapuRehabSessDur (parent); TherpauRehabSessDurOTH (corresponding data element).

c) Title: Copy parent Title and add "other text" at the end of the title Ex. Therapy rehabilitation session duration (parent); Therapy rehabilitation session duration other text.

d) Definition: Provide definition of element. Ex. The free-text field related to the duration of a therapeutic rehabilitation session; specifying other text.

e) Maximum Character Quantity: 4000 max characters.

f) Input Restriction: Free-Form Entry.

Variable Name	Title	Definition	Datatype	Maximum Character Quantity	Input Restriction	Permissible Values
TherapuRehabSessDur	Therapy rehabilitation session duration	Duration of a therapy or rehabilitation session	Alpha-Numeric		Single Pre-Defined Value Selected	15 minutes;30 minutes;45 minutes;60 minutes;**Other, specify**
TherapuRehabSessDurOTH	Therapy rehabilitation session duration other text	The free-text related to 'TherapuRehabSessDur; specifying other text	Alpha-Numeric	4000	Free-Form Entry	***Data outside of the values in TherapuRehabSessDur will be accepted here. Ex. 90 minutes; 120 minutes***

X. Minimum/Maximum Value*

I. For a Free-Form, numerical Data Element, a user may specify a range of valid values by inputting a minimum and maximum value.

II. Rules/Restrictions:

1. Only input data to these fields for Data Elements with Datatype: Numeric Values and Input Restrictions: Free-Form.

2. These fields are always optional.

3. These fields must contain numbers.

4. The Minimum Value field must be less than the Maximum Value field.

XI. Permissible Values

I. A list of values that can be used as valid input for this Data Element.

II. Rules/Restrictions:

1. Maximum 200 characters.

2. Required field for Data Elements with Input Restrictions: Multiple Pre-Defined Values Selected or Single Pre-Defined Value Selected.

3. Must contain a semi-colon delimited list of all possible unique permissible values for the data element.

4. Spaces should not be placed before or after any semi-colon in the list.

5. The data from the PV field should be copied into PV Descriptions (e.g., Yes;No;Unknown) **unless** specific PV Descriptions have been provided.

4. If a permissible value of "other, specify" is contained within a Data Element, then a new Data Element must be created to support the other, specify text/data. The BRICS Input Restriction will be "Free-Form Entry" and provide a Size (up to 4000 characters, but most frequently limited to 255 characters.).

5. If a permissible value of "Other, specify" is contained within an enumerated list for a given Data Element AND the Data Element is

alphanumeric or numeric with an input restriction value of Single Pre-Defined or Multiple Pre-Defined, a corresponding "sister" data element is required to support the capture of the Other, specify information.

a) Create a corresponding Data Element with an input restriction of 'Free-Form Entry' to accept the free-form entry information. This Data Element will complement the 'parent' data element (that has an enumerated permissible value list that includes 'Other, specify').

b) Variable Name: Copy parent CDE/UDE and change name to end with OTH. Ex. TherapuRehabSessDur (parent); TherpauRehabSessDurOTH (corresponding Data Element).

c) Title: Copy parent Title and add "other text" at the end of the title Ex. Therapy rehabilitation session duration (parent); Therapy rehabilitation session duration other text.

d) Definition: Provide definition of element. Ex. The free-text field related to the duration of a therapeutic rehabilitation session; specifying other text.

e) Maximum Character Quantity: 4000 max characters.

f) Input Restrictions: Free-Form Entry.

Name	Title	Definition	Datatype	Max-imum Char-acter Quan-tity	Input Restriction	Permissible Values
TherapuRehabSessDur	Therapy rehabilitation session duration	Duration of a therapy or rehabilitation session	Alpha-Numeric		Single Pre-Defined Value Selected	15 minutes;30 minutes;45 minutes;60 minutes;**Other, specify**
TherapuRehabSessDurOTH	Therapy rehabilitation session duration other text	The free-text related to 'TherapuRehabSessDur; specifying other text	Alpha-Numeric	4000	Free-Form Entry	**Data outside of the values in TherapuRehabSessDur will be accepted here. Ex. 90 minutes; 120 minutes**

XII. Permissible Value Descriptions

I. A list of descriptions that matches with the list of permissible values above

II. Rules/Restrictions:

1. Mandatory field for Data Elements with Input Restrictions: Multiple Pre-Defined Values Selected or Single Pre-Defined Value Selected.

2. Must contain a semi-colon delimited list of permissible value descriptions. The semi-colon character **cannot** be used in descriptions.

3. Spaces should not be placed before or after any semi-colon in the list.

4. The Permissible Value Descriptions list must have the same amount of descriptions as there are Permissible Values in the Permissible Value list.

5. The descriptions must match the order of the permissible value.

5. When PVs are a numeric scale or scoring system (e.g., 1;2;3;4;5) and the PV Descriptions include text reporting the meaning of values, the PV Descriptions should be provided. Where no specific meaning is given for some values in the range, additional semicolons may be needed to skip undefined values (e.g., on a scale of 1 to 10 where 1=Never and 10=All of the time, then the PV Description would show Never;;;;;;;;;All of the time.

XIII. Unit of Measure*

I. For any entry type that must be recorded as a specific unit of measurement, a measurement unit should be provided.

II. Rules/Restrictions:

1. An option for Data Type of Alphanumeric or Numeric with any Input Restriction.

2. **Only one** measurement unit can be entered into this column for each Data Element.

3. When a Data Element collects a Numeric Value or Alphanumeric, and there is a unit of measure for routinely capturing the data, add the units to the column Unit of Measurement. *See Appendix C for accepted Unit of Measurement.

***NB: See Appendix C for the current complete list of measurement types.** If the data elements you are working with have measurement types that are not included in this list, please let the Operations Team know, and we will have it added.

XIV. Guidelines/Instructions*

I. Optional field for including information about administration or other details that may be pertinent.

II. Contains any information useful for data collection and properly gathering input for this Data Element.

III. Rules/Restrictions:

1. 4000 character maximum

2. When collecting Date and/or Time, the data will be collected using the ISO 8601 standard. Please insert:

   Data sharing instructions: When data/time data are prepared for aggregation or sharing, they should be converted to the format specified by ISO 8601; yyyy-MM-DD T:hh:mm:ss.

3. If this column includes a comment that refers to another CDE, make sure the CDE Title is given, not text like “question b” from the form on which they appear. Reference the CDE, not the form question.

XV. Notes*

I. Any additional notes you would like others to be able to see when the element is published.

II. Any extra notes or messages related to this Data Element may be placed here.

III. Rules/Restrictions:

1. 4000 character maximum.

IV. If notes pertain to a specific disease type, be sure to indicate to which disease type the note refers.

XVI. Preferred Question Text*

I. May contain one or more suggested questions a researcher may ask a patient or subject to get the proper input for this Data Element.

II. Rules/Restrictions:

1. 4000 character maximum.

2. For a copyrighted instrument, the Question Text MUST match the instrument exactly.

3. For all other forms, this field should contain the question shown on the CRF, but it must be meaningful content (e.g., **not** "if yes, specify"). Where needed, the form should be updated to show new Question Text.

XVII. Keywords*

I. A list of keywords associated with this Data Element. Examples include: assessment name, study title.

II. Rules/Restrictions:

1. 55 character maximum
2. Must begin with an alphabet character
3. List of keywords must be in a semi-colon delimited list.
4. Keywords cannot contain a semi-colon character.
5. Keywords cannot have a space, but an underscore can be used instead (i.e. Head_Injury).

XVIII. References*

I. Any external references related to this Data Element may be placed here.

II. Rules/Restrictions:

1. 4000 character maximum.

III. If references are disease specific, be sure to indicate to which disease-type they pertain to.

XIX. Historical Notes*

I. Background information about the data element.

II. Rules/Restrictions:

1. 4000 characters maximum.

XX. See Also*

I. Refers to another data element with relevant information.

II. Rules/Restrictions:

1. 255 characters maximum.
2. Input restrictions should be Free-Form Entry.

3. Data Type should be Alphanumeric.

XXI.Effective Date* - not in NTRR spreadsheet

I. Identifies the date that an item became or will become available.

II. ISO Format: YYYY-MM-DD

XXII. Until Date* - not in NTRR spreadsheet

I. Identifies the date that an item is or will no longer be effective.

II. ISO Format: YYYY-MM-DD

XXIII. External ID. LOINC* - not in NTRR spreadsheet

I. A LOINC ID associated with this data element.

II. See http://loinc.org/ for more information.

III. Rules/Restrictions:
1. 55 characters maximum.

XXIV. External ID.SNOMED* - not in NTRR spreadsheet

I. A SNOMED ID associated with this data element.

II. See http://www.nlm.nih.gov/research/umls/Snomed/snomed_main.html for more information.

III. Rules/Restrictions:
1. 55 characters maximum.

XXV. External ID.caDSR*- not in NTRR spreadsheet

I. A caDSR ID associated with this data element.

II. See https://cabig.nci.nih.gov/concepts/caDSR/ for more information.

III. Rules/Restrictions:
   I. 55 characters maximum.

XXVI. External ID.CDISC* - not in NTRR spreadsheet

I. A CDISC ID associated with this data element.

II. See http://www.cdisc.org for more information.

III. Rules/Restrictions:
   I. 55 characters maximum.

XXVII. External ID.NINDS* - not in NTRR spreadsheet

I. A NINDS ID # associated with this data element.

II. See http:// www.ninds.nih.gov for more information.

III. Rules/Restrictions:
   a. 55 characters maximum.

XXVIII. Population.All

I. The target population group for this data element

II. Rules/Restrictions:

1. Required for all data elements

2. Must be one of the following character strings:

   a) Adult

   b) Pediatric

   c) Adult; Pediatric

XXIX. Domain. Disease (For all diseases)

I. The Domain (and Sub-Domain) of a Data Element.

II. Rules/Restrictions:

1. Required for all Data Elements.
2. For a list of valid Domains and Sub-Domains, please refer to the NINDS CDE website. http://www.commondataelements.ninds.nih.gov/#page=Default

III. Format:

1. Input must be in Domain.Sub-Domain format. *For example, under the column heading Domain.Stroke, the value ntered could be Outcomes and End Points.Quality of Life.*

   Note: Each Domain has one or more sub-domains.
2. An element can have one or more Domain.SubDomain(s) per disease. If there is more than one Domain.SubDomain, please use a semi colon delimited list.
3. There can be Domain.Subdomain in more than one disease.

XXX. Classification.Disease (For example: Classificaton.Epilepsy)

I. There are 4 classification categories designated for NINDS data elements. The classifications vary with the Disease. (Core, Basic, Supplemental, Exploratory).

II. There can only be one Classification per disease (or sub-disease if present).

III. For all Unique Data Elements, the classification will ALWAYS be Supplemental.

IV. A classification is required for every disease category where a Domain.Subdomain is listed.

XXXI. Submitting Organization Name

I. The organization or unit within an organization that has submitted the data element for addition, change or cancellation/withdrawal in the data dictionary.

II. Rules/Restrictions:

1. Required for all Data Elements.
2. 255 characters maximum.
3. Input restrictions should be Free-Form Entry.
4. Data Type should be Alphanumeric.
5. Can contain special characters.

XXXII. Submitting Contact Name*

I. The contact name of the submitter from the submitting organization.

II. Rules/Restrictions:

1. Required for all Data Elements.
2. 255 characters maximum.
3. Input restrictions should be Free-Form Entry.
4. Data Type should be Alphanumeric.
5. Can contain special characters.

XXXIII. Submitting Contact Information*

I. The contact information of the submitter from the submitting organization.

II. Rules/Restrictions:

1. Required for all Data Elements.

2. 255 characters maximum.
3. Input restrictions should be Free-Form Entry.
4. Data Type should be Alphanumeric.
5. Can contain special characters.

XXXIV. Steward Organization Name

I. The organization that maintains responsibility for the maintenance of administrative information applicable to one or more administered items.

II. Rules/Restrictions:

1. Required for all Data Elements.
2. 255 characters maximum.
3. Input restrictions should be Free-Form Entry.
4. Data Type should be Alphanumeric.
5. Can contain special characters.

XXXV. Steward Contact Name*

I. The name associated with the stewardship.

II. Rules/Restrictions:

1. 255 characters maximum.
2. Input restrictions should be Free-Form Entry.
3. Data Type should be Alphanumeric.
4. Can contain special characters.

XXXVI. Steward Contact Information*

I. The contact information associated with the stewardship.

II. Rules/Restrictions:

1. 255 characters maximum.
2. Input restrictions should be Free-Form Entry.
3. Data Type should be Alphanumeric.
4. Can contain special characters.

APPENDIX A: REPRESENTATION TERMS GUIDE

Representation Term	**NINDS Data Type**	**Definition**	**Abbreviation for Variable Name**
Anatomic Site	Alphanumeric	the named location of, or within, the body of a living being	AnatSite
Category	Alphanumeric	the descriptive identification representing a level of intensity, defined meaning, or subjective measurement	Cat
Code	Alphanumeric OR Numeric Values	the selection from a system of defined categories for representation of data, often defined using stratification or hierarchical organization; data may have either a numeric or alphanumeric system assigned for coding	Code
Count	Numeric Values	the quantity of the specified item	Ct
Date	Date or Date & Time	the date on which an event was observed or occurred	Date
Date/Time	Date or Date & Time	the date and time when an event was observed or occurred	DateTime
Dose	Numeric Values	the quantity of an agent (such as drug, substance or energy) administered, taken, or absorbed at one time	Dose
Duration	Numeric Values	the value measuring a quantity or period of time during which an event or observation occurs	Dur
Frequency	Numeric Values	the number of occurrences counted for an event within a given time period	Freq
Grade	Alphanumeric OR Numeric Values	the position on a scale of intensity or amount or quality, of or relating to histology; data may have either a numeric or	Grade

		alphanumeric system for grading	
Indicator	Alphanumeric	the response for yes/no/unknown/NA)	Ind
Integer	Numeric Values	a concept of quantity using only whole numbers greater than zero	Intg
Interval	Numeric Values	the period of time or the distance separating occurrences	Intrvl
Location	Alphanumeric	the field to describe the geographic area (not anatomic)	Loc
Measurement	Numeric Values	the size or magnitude of the specified item	Measr
Name	Alphanumeric	the words or language units by which an object is known	Name
Number	Numeric Values	a concept of quantity derived from zero and units or a numeral or string of numerals used for identification	Num
Range	Numeric Values	the value chosen from the limits or scale of variation for an event or the difference between the lowest and highest numerical values	Rng
Rate	Alphanumeric OR Numeric Values	the measurement of degree, speed, or frequency relative to time with regard to an observation or event; data may be a numeric quantity or may be reported by enumerated values with grouped ranges of values	Rt
Reason	Alphanumeric	the explanation of the cause of some phenomenon or action	Rsn
Scale	Numeric Values	the numeric value representing the position in a range of numeric values for level of intensity, defined meaning or subjective measurement	Scl
Score	Numeric Values	the numeric value used in calculation for the position in a range of numeric	Score

		values representing level of intensity, defined meaning or subjective measurement	
Site	Alphanumeric	the field to describe the area (not anatomic)	Site
Source	Alphanumeric	the text describing where something is available or referenced	Source
Status	Alphanumeric	the condition or state at a particular time	Stat or Status
Text	Alphanumeric	the undefined field to capture descriptive information related to an item	Txt
Time	Date or Date & Time	the time at which an event was observed or occurred	Time
Type	Alphanumeric	the enumerate descriptive information to identify an item	Typ
Unit of Measure	Alphanumeric	the name of a reference standard used for measurement when determining a quantity	UOM
Value	Numeric Values	the numeric quantity measured, assigned or computed	Val

APPENDIX B: VARIABLE NAME ABBREVIATION GUIDE

Amnesia=Amns	Cerebral Spinal Fluid=CSF
Abbreviated Injury Scale=AIS	Cervicomedullary=Cervimed
Abnormality=Abnrmly	Chemical=Chem
Accident= Acdnt	Chronic=Chrnc
Accumulation=Accum	Circulation=Circ
Activity=Act	Circumference=Circumf
Admission=Adms	Cisternal=Cist
Advanced Surgical Associates= ASA	Classification=Class
Alcohol=Alc	Clinical =Clin
Alteration of Consciousness=AOC	Cognitive=Cog
Amplitude=Amp	Collection=Coll
Analysis=Anlysis	Combat=Cmbt
Anatomic=Antmic	Component=Comp
Anesthesia=Anesth	Compression=Comprsn
Aneurysm=Anrysm	Concomitant=Concom
Arrival=Arrvl	Concussion=Concuss
Arterial=Arter	Condition=Cond
Arteriosclerosis=Artersclsis	Confounders=Confound
Aspiration=Aspir	Constipation=Constptn
Assessment=Assmt	control=cntrl
Associated=Assoc	Contusion=Contusn
Atrophy=Atrphy	Cortical=Cortcl
Attention=Attn	Country=Cntry
Average=Avg	Cranial Nerves= CranlNerv
Behavior=Behavr	Cranial=cranl
Biological=Bio	Current=Curnt
Blood=Bld	Daily=Dly
Brainstem=Brnstm	Deepest=Dp
Branch=Brnch	Definitive=Defn
Caliber=Calbr	Delayed=Delyd
Carbon dioxide= CO2	Density= Densty
Cardiac=Card	Deployed=Deployd
Cardiovascular=Cardiovsclr	Deployment=Deplymt
Caregiver=Caregvr	Depressed=Deprsd
Cat=Category	Destination=Dest
Catheter=Cath	Device=Dev
Center=Ctr;	Diagnosis=Diagnos
Central=Centrl	Diastolic=Diastl
Cerebral Perfusion Pressure=CPP	Difficulty=Diffclty

Diffuse Axonal Injury=DAI	First=1st
Direction=Dir	Fluently=Fluent
Discharge=Dischrg	Fracture=Fract
Disorder=Disordr	Frequency=Freq
Displacement=Disp	Gastrocnemius=Gastrocnmus
Dissection=Disct	Gastrointestional=GI
Distal=Distl	Glutamate=Glut
Documented=Documntd	Greater=Gtr
Dopamine dysregulation syndrome= DDS	Gun Shot Wound=GSW
Drainage=Drain	Hallucinate=Hallucnt
Drinks=Drnks	Health=Hlth
Drug=Drg	Heart rate= HR
Dur=Duration	Height= Hgt
Dyskinesia=Dysk	Hemorrhagic=Hem
Education=Edu	History=Hist
Effacement=Effmt;	Hospital=Hosp
Elevation=Elevatn	Hypertension=Hyptnsn
Emergency Room= ER	Hypocapnia=Hypocap
Emergency=Emrgy	Hypotensive=Hypotnsn
Employment=Emplmt	Hypothermia=Hypothrm
Enclosed=Enc	Hypoxic=Hypx
Epidural=Epdurl	Hypoxic-ischemic=Hypxisch
Episode=Epi	Identifier=ID
Episode=Episd	Illicit=Illct
Estimation=Est	Image=Img
Ethnicity=Ethn	Imaging=Img
Event=Evnt	Immediate=Immd
Exclusion=Xclusn	Impairment=Impairmnt
Executive=Exec	Important=Importnt
Expanded=Expnd	Improvement=Imprvmnt
Expectation=Expectns	Inadvertent=Inadvrt
Exposure=Expos	Inclusion=Inclusn
Expression=Xpressn	Income=Inc
Extenders=Extndrs	Indicator=Ind
External=Ext	Infarction=Infarc
Extra=Xtra	Influence=Infl
Facial=Facl	Informed Consent= InfConst
Family=Fmly	Injury=Inj
Field=Fild	Inpatient= Inpat
Field=Fild	Insurance=Ins
Findings=Find	Interval=Intrvl

Intervention=Intrvnt	Movement= Movmnt
Intracerebral Hemorrhage=ICH	Multiple=Mult
Intracranial=Intracran	Muscular=Musclr
Intravenous=IV	Neurofibrillary=Neurofib
Intraventricular Hemorrhage=IVH	Neurologic=Neuro
Ischemia=Isch	Neuropathological=Neuropath
Junction=Jun	Not Applicable= NA
Lactate=Lact	Number=Num
Language=Lang	Obtained=Obt
Last=Lst	Occurance=Occur
Laterality=Lat	Ongoing=Ongng
Left=Lft	Operations=Ops
Lesion=Lesn	Optional=Optnl
Level=Lvl	Orientation=Orient
Likelihood=Likhd	Other=Othr
Living= Lving	Outpatient-Outpat
Location=Loc	Oxygen Saturation=O2Sat
Longer=Lngr	Oxygen=O2
Loss of Consciousness=LOC	Parkinsonian=Parkinsn
Manufacturer=Manuf	Partial Pressure=PPressr
Marital=Martl	Participant=Partcpnt
Marshall=Marsh	Participation=Prtp;
Maximum=Max	Party=Prty
Measurement=Measr	Pathology=Pathlgy
Mechanism=Mech	Pattern=Pattrn
Medical=Med	Pediatric intensity level of therapy =PILOT
Medical=Medcl	Penetrating=Pentrt
Medication=Medctn	Performed=Perf
Mental=Mentl	Perinatal=Perintl
Method=Methd	Peripheral=Perphrl
Microdialysis=Microdlys;	Person=Prsn
Microinfarcts=Microinfarct	Physical=Phys
Midline=Midlne	Plaque=Plaq
Military=Mil	Positive=Pos
Minimum=Min	Post=Pst
Mixed=Mxd	Post=Pst
Modality=Modlty	Post-Operative=PostOp
Monitor=Mon	Postural=Postrl
Month=Mo	Preference=Pref
Morphology=Morph;	Pregnancy=Preg

Prematurely=Prematur	Session=Sessn
Pre-Operative=PreOp	Severity=Sev
Presentation=Present	Shape=Shpe
Pressure=Pressr	Shift=Shft
Primary = Primry	Significance=Signfcnce
Primary=Primry	Skull=Skul
Problem=Prob	Social=Socl
Procedure=Proced	Software=Sftwr
Procedure=Proced	Specimen=Specmn
Product=Prdct	Spoken=Spoke
Professional=Prof	Start=Strt
Protective=protect	Sternocleidomastoid=SCM
Provider=Prvdr	Strength=Strgth
Proximal=Proxml	Study=Stdy
Pyruvate=Pyru	Subarachnoid hemorrhage=SAH
Quadriceps=Quadcps	Subdural hematoma =SDH
Qualitative=Qual;	Subject=Subj
Received=Recvd	Substance=Sub
Referral=Refer	Support=Suprt
Region=Regn	Supretentorial=Supratent
Rehabilitation=Rehab	Surgical=Surg
Relationship=Relate	Swelling=Swell
Reliability=Reliabl	Symptom=Symptm
Reporter=Rprtr	Symptom=Symptm
Residence=Resdnce	System=Sys
Resipiration=Resp	Systolic=Syst
Response=Respns	Temperature=Temp
Result=Reslt	Terminations= Term
Return=Rtrn	Text=Txt
Revised=Rev	Therapeutic=Therapu
Right=Rt	Therapy Intensity Level= TIL
Route=Rte	Tissue=Tiss
Sample=Samp	Tobacco=Tobco
Satisfaction=Satisfctn	Traffic=Traf
Scanner=Scan	Training=Traing
Screen=Scrn	Transfusion=Transfn
Sedation=Sed	Transport=Trspt
Seizure=Seiz	Trauma=Traum
Sequence=Seq	Traumatic Axonal Injury=TAI
Services=Srvc	Traumatic= Traumtc

Treated=Treatd
Treatment=Treatmt
Type=Typ
Type=Typ
unexpected=Unexpctd
Value=Val
Vascular=Vasclr;
Vehicular=Vehlr
Venous=Ven
Ventricle=Vent
Ventriculomegaly=Ventculmegly
Version=Ver
Violent=Vio
Volume=Vol
Volumetric=Volumtrc
Voluntary=Vol
Week=Wk
Weight=Wgt
Worsening=Wrse;
Written=Writn
Years=Yrs

APPENDIX C: MEASUREMENT TYPES

Unit Type	Unit Name	Abbreviation
Substance Fraction Unit	International Units Per Liter	IU/L
Substance Fraction Unit	Thousands Per Micro Liter	K/uL
Substance Fraction Unit	Millions per micro liter	M/uL
Substance Fraction Unit	Femtoliter	fL
Substance Fraction Unit	Grams per decileter	g/dL
Substance Fraction Unit	Grams per liter	g/L
Substance Fraction Unit	Grams per milliliter	g/mL
Substance Fraction Unit	Milli international units per milliliter	mIU/mL
Substance Fraction Unit	Milli equivalents per liter	mEq/L
Substance Fraction Unit	Milligrams per Deciliter	mg/dL
Substance Fraction Unit	Millimoles per kilogram	mmol/kg
Substance Fraction Unit	Millimoles per liter	mmol/L
Substance Fraction Unit	MilliOsmolesPerKiloGram	mosm/kg
Substance Fraction Unit	Nanograms per milliliter	ng/mL
Substance Fraction Unit	Nanomoles per liter	nmol/L
Substance Fraction Unit	Picograms per milliliter	pg/mL
Substance Fraction Unit	Picomoles per liter	pmol/L
Substance Fraction Unit	Units per liter	U/L
Substance Fraction Unit	Microinternatonal units per milliliter	uIU/mL
Substance Fraction Unit	Micrograms per deciliter	ug/dL
Substance Fraction Unit	Micrograms per liter	ug/L
Substance Fraction Unit	Micrograms per milliliter	ug/mL
Substance Fraction Unit	Micromoles per liter	umol/L
Substance Fraction Unit	Picomoles per micromole	pmol/umol
Substance Fraction Unit	Nanomoles per millimole	nmol/mmol
Substance Fraction Unit	Nanmoles per millimole Creatinine	nmol/mmol Cre
Substance Fraction Unit	Nanmoles per mole	nmol/mol
Substance Fraction Unit	Micromoles per mole	umol/mol
Substance Fraction Unit	Millimoles per mole	mmol/mol
Substance Fraction Unit	Millimoles per mole Creatinine	mmol/mol Cre
Substance Fraction Unit	Micromoles per mole Creatinine	umol/mol Cre
Substance Fraction Unit	Equivalents per micromole	eq/umol
Substance Fraction Unit	Equivalents per millimole	eq/mmol
Substance Fraction Unit	Bone collagen equivalents per millimole Creatinine	BCE/mmol Cre
Substance Fraction Unit	Bone collagen equivalents per micromole Creatinine	BCE/umol Cre
Volume Fraction Unit	Percent Oxygen	% Oxygen
Volume Fraction Unit	Milliliters per deciliter	cc/dL
Mass or Substance Rate	Percent Excretion	% Excretion

Fraction Units		
Mass or Substance Rate Fraction Units	Percent Uptake	% Uptake
Rate	Rate of Centrifugation	Revolutions per minute
Rate	Bloodflow	Liters/minute
Rate	Speed	Miles/hour
Mass Content Unit	Micrograms per nano gram	ug/ng
Mass Content Unit	Nanograms per milligram	ng/mg
Mass Content Unit	Nanograms per milligram protein	ng/mg Prot
Mass Content Unit	Micrograms per milligram Creatinine	ug/mg Cre
Mass Content Unit	Milligrams per milligram	mg/mg
Mass Content Unit	Milligrams per milligram Creatinine	mg/mg Cre
Mass Content Unit	Nanograms per gram	ng/g
Mass Content Unit	Nanogams per gram Creatinine	ng/g Cre
Mass Content Unit	Micrograms per gram	ug/g
Mass Content Unit	Microgram per 100 gram	ug/100 g
Mass Content Unit	Microgram per gram Dry Weight	ug/g Dry Weight
Mass Content Unit	Microgram per gram Creatinine	ug/g Cre
Mass Content Unit	Micrograms per gram Hemoglobin	ug/g Hgb
Mass Content Unit	Milligrams per gram	mg/g
Mass Content Unit	Milligram per gram Creatinine	mg/g Cre
Mass Content Unit	Grams per gram	g/g
Mass Content Unit	Nanograms per kilogram	ng/kg
Mass Content Unit	Micrograms per kilogram	ug/kg
Mass Content Unit	Milligrams per kilogram	mg/kg
Mass Content Unit	Grams per kilogram	g/kg
Mass Content Unit	Grams per 100 gram	g/100g
Mass Content Unit	Grams per gram Creatinine	g/g Cre
Temperature	Degree Celsius	C
Temperature	Degree Farenheit	F
Temperature	Degree Kelvin	K
Pressure	Millimeters of Mercury	mmHg
Pressure	Kilo pascal	kPa
Pressure	Pounds per square inch	psi
Mass	Picogram	pg
Mass	Femtogram	fg
Mass	Nanogram	ng
Mass	Microgram	ug
Mass	Micrograms per total volume	ug/Total Volume
Mass	Micrograms per specimen	ug/Spec
Mass	Milligrams per volume	mg/Volume
Mass	Milligrams per total volume	mg/Total Volume

Mass	Gram	g
Mass	Grams per total weight	g/Total Weight
Mass	Decigram	dg
Mass	Centigram	cg
Mass	Kilogram	kg
Mass	Metric Ton	Metric Ton
Mass	Picrograms per millimeter	pg/mm
Mass	Kelvin per watt	K/Watt
Time	Picosecond	ps
Time	Nanosecond	ns
Time	Microsecond	us
Time	Millisecond	ms
Time	Second	sec
Time	Kilosecond	ks
Time	Megasecond	Ms
Time	Minute	min
Time	Hour	h
Time	Day	d
Time	Week	wk
Time	Month	Mo
Time	Year	yr
Substance	Mole	mol
Substance	Millimole	mmol
Substance	Millimoles per total volume	mmol/Total Volume
Substance	Femtomole	fmol
Substance	Picomole	pmol
Substance	Micromole	umol
Substance	Nanomole	nmol
Substance	Milliosmole	mosm
Areic Substance Unit	Milliequivalents per square meter	meg/m^2
Areic Substance Unit	Millimoles per square meter	mmol/m^2
Area	Square Inch	in^2
Area	Square Feet	ft^2
Area	Square Yard	yd^2
Area	Square Millimeter	mm^2
Area	Square Centimeter	cm^2
Area	Square Meter	m^2
Volume	Femtoliter	fL
Volume	Picoliter	pL
Volume	Nanoliter	nL
Volume	Microliter	uL
Volume	Milliliter	mL

Volume	Milliliters per heartbeat	mL/heart beat
Volume	Liter	L
Volume	Deciliter	dL
Volume	Centiliter	cL
Mass	Milligram	mg
Volume	Kiloliter	kL
Volume	Hectoliter	hL
Volume Duration	Liter square second per second	L s^2/s
Number Content Units	Per milligram	/mg
Number Content Units	Per gram	/g
Number Content Units	Per gram Creatinine	/g Cre
Number Content Units	Per gram Hemoglobin	/g Hgb
Number Content Units	Per gram total Nitrogen	/g Total Nitrogen
Number Content Units	Per gram total Protein	/g Total Protein
Number Content Units	Per gram Wet Tissue	/g Wet Tissue
Number Content Units	Per kilogram	/kg
Number Content Units	Per kilogram body weight	/kg Body Weight
Substance Content Unit	Femtomoles per milligram	fmol/mg
Substance Content Unit	Nanomoles per milligram	nmol/mg
Substance Content Unit	Micromoles per milligram	umol/mg
Substance Content Unit	Micromoles per milligram Creatinine	umol/mg Cre
Substance Content Unit	Moles per kilogram	mol/kg
Substance Content Unit	Femtomoles per gram	fmol/g
Substance Content Unit	Nanmoles per gram	nmol/g
Substance Content Unit	Nanmoles per gram Creatinine	nmol/g Cre
Substance Content Unit	Micromoles per gram	umol/g
Substance Content Unit	Micromoles per gram Creatinine	umol/g Cre
Substance Content Unit	Micromoles per gram Hemoglobin	umol/g Hgb
Substance Content Unit	Millimoles per gram	mmol/g
Substance Content Unit	Millimoles per kilogram	mmol/kg
Substance Content Unit	Osmoles per kilogram	osm/kg
Substance Rate Content Unit	Milliosmoles per kilogram	mosm/kg
Substance Rate Content Unit	Milliequivalents per gram	meq/g
Substance Rate Content Unit	Milliequivalents per gram Creatinine	meq/g Cre
Substance Rate Content Unit	Milliequivalents per kilogram	meq/kg
Arbitrary Concentration Content Units	International Units per gram	IU/g
Arbitrary Concentration Content Units	International Units per gram Hemoglobin	IU/g Hgb
Arbitrary Concentration	Ehrlich Units per 100 gram	EU/100 g

Content Units		
Arbitrary Concentration Content Units	International Units per kilogram	IU/kg
Arbitrary Concentration Content Units	Micromoles per minute per gram	umol/min/g
Arbitrary Concentration Content Units	Milliunits per gram	mU/g
Arbitrary Concentration Content Units	Milliunits per gram Hemoglobin	mU/g Hgb
Arbitrary Concentration Content Units	Units per gram	U/g
Arbitrary Concentration Content Units	Units per gram Hemoglobin	U/g Hgb
Arbitrary Concentration Content Units	Uniter per gram Creatinine	U/g Cre
Arbitrary Concentration Content Units	Milliunits per milligram Creatinine	mU/mg Cre
Arbitrary Concentration Content Units	Milliunits per milligram	mU/mg
Arbitrary Concentration Content Units	Kilounits per gram	kU/g
Arbitrary Concentration Content Units	Katal per kilogram	kat/kg
Volume Content Units	Milliliters per kilogram	mL/kg
Volume Content Units	Liters per kilogram	L/kg
Energy Content Units	Kilocalories per ounce	Kcal/oz
Aeric Number Units	Per square meter	/m^2
Aeric Number Units	Grams per square meter	g/m^2
Aeric Number Units	Kilograms per square meter	kg/m^2
Aeric Number Units	Micrograms per square meter	ug/m^2
Aeric Number Units	Milligrams per square meter	mg/m^2
Aeric Number Units	Nanograms per square meter	ng/m^2
Areic Mass Units	Gram meter	Gram Meter
Areic Mass Units	Gram meter per heartbeat	Gram Meter/Heartbeat
Areic Mass Units	Gram meter per heartbeat per square meter	Gram Meter/Heartbeat/m^2
Massive Distance Unit	Kilograms per mole	kg/mol
Molar Mass Unit	Per microliter	/uL
Number Concentration Units	Cells per microliter	cells/uL
Number Concentration Units	Red blood cells per microliter	RBC/mm^3
Number Concentration Units	Thousands per microliter	10^3/uL
Number Concentration Units	Millions per microliter	10^6/uL

Number Concentration Units	Billions per microliter	10^9/uL
Number Concentration Units	Per milliliter	/mL
Number Concentration Units	Spermatozoa per milliliter	Sperm/mL
Number Concentration Units	Copies per milliliter	Copies/mL
Number Concentration Units	Thousand per milliliter	10^3/mL
Number Concentration Units	Thousand copies per milliliter	10^3 copies/mL
Number Concentration Units	Million per milliliter	10^6/mL
Number Concentration Units	Billions per milliliter	10^9/mL
Number Concentration Units	Colony forming units per milliliter	cfu/mL
Number Concentration Units	Per deciliter	/dL
Number Concentration Units	Thousand per liter	10^3/L
Number Concentration Units	Million per liter	10^6/L
Number Concentration Units	Trillion per liter	10^12/L
Number Concentration Units	Billion per liter	10^9/L
Mass Concentration Unit	Picograms per millileter	pg/mL
Mass Concentration Unit	Nanograms per millileter	ng/mL
Mass Concentration Unit	Nanograms per millileter red blood cells	ng/mL RBCs
Mass Concentration Unit	Micrograms per milliliter	ug/mL
Mass Concentration Unit	Grams per millileter	g/mL
Mass Concentration Unit	Picograms per deciliter	pg/dL
Mass Concentration Unit	Nanograms per deciliter	ng/dL
Mass Concentration Unit	Micrograms per deciliter	ug/dL
Mass Concentration Unit	Micrograms per deciliter red blood cells	ug/dL RBCs
Mass Concentration Unit	Milligrams per deciliter	mg/dL
Mass Concentration Unit	Milligrams Phenylketones per deciliter	mg Phe/dL
Mass Concentration Unit	Grams per deciliter	g/dL
Mass Concentration Unit	Nanograms per liter	ng/L
Mass Concentration Unit	Picograms per liter	pg/L
Mass Concentration Unit	Micrograms per liter	ug/L
Mass Concentration Unit	Milligrams per liter	mg/L
Mass Concentration Unit	Grams per liter	g/L

Mass Concentration Unit	Kilograms per liter	kg/L
Mass Concentration Unit	Milligrams per cubic meter	mg/m^3
Mass Concentration Unit	Kilograms per cubic meter	kg/m^3
Substance Concentration Unit	Femtomoles per milliliter	fmol/mL
Substance Concentration Unit	Picomoles per milliliter	pmol/mL
Substance Concentration Unit	Nanomoles per milliliter	nmol/mL
Substance Concentration Unit	Micromoles per milliliter	umol/mL
Substance Concentration Unit	Moles per milliliter	mol/mL
Substance Concentration Unit	Picomoles per deciliter	pmol/dL
Substance Concentration Unit	Nanomoles per deciliter	nmol/dL
Substance Concentration Unit	Micromoles per deciliter	umol/dL
Substance Concentration Unit	Millimoles per deciliter	mmol/dL
Substance Concentration Unit	Millimoles per liter	mmol/L
Substance Concentration Unit	Picomoles per liter	pmol/L
Substance Concentration Unit	Nanomoles per liter	nmol/L
Substance Concentration Unit	Micromoles per liter	umol/L
Substance Concentration Unit	Moles per liter	mol/L
Substance Concentration Unit	Moles per cubic meter	mol/m^3
Substance Concentration Unit	Microequivalents per milliliter	ueg/mL
Substance Concentration Unit	Milliequivalent per milliliter	meg/mL
Substance Concentration Unit	Equivalents per liter	eg/L
Substance Concentration Unit	Milliosmoles per liter	mOsm/L
Substance Concentration Unit	Osmoles per liter	Osm/L
Arbitrary Concentration Units	Microinternational Units per milliliter	uIU/mL
Arbitrary Concentration Units	Milliinternational Units per milliliter	mIU/mL

Arbitrary Concentration Units	Ig G Phospholipid Units per milliliter	IgG Phospholipid U/mL
Arbitrary Concentration Units	Ig MP Phospholipid Units per milliliter	IgM Phospholipid U/mL
Arbitrary Concentration Units	Complement Ch 50 Units per milliliter	CH50 U/mL
Arbitrary Concentration Units	Ig A Phospholipid Units per milliliter	IgA Phospholipid U/mL
Arbitrary Concentration Units	Elisa Units per milliliter	Elisa U/mL
Arbitrary Concentration Units	International Units per milliliter	IU/mL
Arbitrary Concentration Units	Kilointernataional units per milliliter	kIU/mL
Arbitrary Concentration Units	International Units per deciliter	IU/dL
Arbitrary Concentration Units	Ehrlich Units per deciliter	EU/dL
Arbitrary Concentration Units	Milliinternational units per liter	mIU/L
Arbitrary Concentration Units	International Units per liter	IU/L
pH	pH	pH
Unity	Log10	log 10
Unity	Million per specimen	x10^6/spec
Unity	Per total count	/Total
Unity	Thousand	x10^3
Unity	Thousand Red Blood Cells	x10^3 RBCs
Unity	One hundred thousand	x10^5
Unity	Million	x10^6
Unity	Ten to Eighth	x10^8
Length	Inch	in
Length	Feet	ft
Length	Yard	yd
Length	Femtometer	fm
Length	Picometer	pm
Length	Nanometer	nm
Length	Micrometer	um
Length	Millimeter	mm
Length	Decimeter	dm
Length	Meter	m
Length	Kilometer	km
Heart Rate	Beats per minute	bpm
Respiratory Rate	Breaths per minute	bpm
Enyzyme Activity	Katal	kat

Cell count	Cells per cubic millimeter	c/mm
Concentration	Milligrams per kilograms of body mass	mg/kg
Cell count	Cells (thousands)/cubic millimeter	K/uL or K/mm3
Bandwidth	Hertz per pixel	Hz/Pixel
Volume	Cubic Millimeter	mm^3
Volume	Cubic Centimeter	cm^3
Substance Fraction Unit	Milligrams per 100 milliliters	mg/100ml
Percentage	Percentage	Pct.
Volume Fraction Unit	Volume percent	Volume %
Sound	Decibel	dB
Frequency	Hertz	Hz
Rate	Centimeters per second	cm/sec
Angle	Angle degree	°
Angle	Radian	rad
Volume Content Units	Milliliter per Square Meter	ml/m^2
Cell count	Colony-Forming Units per Milliliter	colony-forming units/mL
Angle	Degree of Arc	degree of arc
Concentration	Milligram of Alcohol per 100 Milliliters of Blood	mg of alchohol/100mL of blood
Current	Milliampere	mA
Electric Potenial	Microvolt	microvolt
Electric Potenial	Millivolt	mV
Electric Potenial	Volt	V
Electric Potenial Rate	MicroVolt per Millisecond	microvolt/millisecond
Electric Potenial Rate	MilliVolt per Millisecond	mV/msec
Energy Content Rate	Calories per ounce	calorie/oz
Energy Content Units	kilocalorie	Kcal
Length	micron	micron
Magnetic Strength	Tesla	T
Mass Content Unit	Gram per Square Meter	g/m^2
Pressure	Centimeter of Water	cmH2O
Pressure Rate	Millimeters of Mercury per Milliliter	mmHg/mL
Pulse Count	Pulse	pulse
Radiation	Gray	Gy
Radiation	Becquerel per Kilogram	Bq/kg
Rate	Hour per Day	Hr/day
Rate	Liter per Minute	l/min
Rate	Meter per Second	m/sec
Rate	Centimeter per Second	cm/sec
Rate	Square Millimeter per Second	mm^2/sec
Rate	Milliliter per 100 Gram per Minute	mL/100g/min
Rate	Cycles per Second	cycles/sec

Rate	Millimeter per Hour	mm/hr
Resistance	Millimeter times Minute per Liter	mm * min/L
Spectroscopic Count	Point	point
Volume Rate	Milliliter per Minute	mL/min
Length	Centimeter	cm