

DOSE INSTRUCTIONS

Understanding uses in
Primary and Secondary Care

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SECONDARY CARE

- ✗ Review of 1000 Order Sentences from Newcastle Hospital NHS Foundation Trust
- ✗ Exclusions:
 - 216 lacked any timing detail
 - 85 had invalid dose durations
- ✗ Total exclusions 301

ANALYSIS METHOD

Check current Dose Syntax v0.6 for:

- ✗ Nos of Discharge : Inpatient
- ✗ Count 3 categories of non-concordance:
 - “additional instructions” e.g. as in PIL
 - “site” or “route” instruction
 - “indication” or “trigger” reasons
- ✗ Other non-parseable terms itemised

FINDINGS

- ✗ Discharge: Inpatient 963: 37
- ✗ Include:exclude for 0 timings/duration 699:301
- ✗ Concordance with Dose Syntax v0.6 645 = 92%
- ✗ Need archetype to hold additional data 148 = 21%
- ✗ Lack of terms in Dose Syntax v0.6
 - “Once” 35
 - Delay to start time 4
 - Named weekdays 2
 - Minimum interval frequency 1
- ✗ Not computable: complex 3, not supported 42 45

DOSE SYNTAX UPDATES IN V0.7:

- ✗ Once (not the same as Immediately)
- ✗ Named weekdays
- ✗ New numeric interval values and
- ✗ Minimum interval (by Range for Interval Frequency)
- ✗ Order sentences excluded / residual due to
 - too complex 3
 - lack “delay to start time” 4

And

- ✗ Concordance with Dose Syntax v 0.7 692/699 =
***** 99% *****

PRIMARY CARE

- ✗ 100 random Dose Instructions as captured by NWIS 2D barcodes
- ✗ Not supported:
 - 2 were clinically ambiguous
 - 3 used unsupported terms
 - 1 had a drug name in the dose direction (2 of these also had typos)
 - 3 were too complex

DOSE INSTRUCTIONS: PARSING ISSUES

	A	B	C	D	E	F	G
1	Original instruction	Parsable dose	Additional instruction	Notes			
83	APPLY DAILY WHEN NEEDED TO ITCHY RASH ON ARMS	od prn	to itchy rash on arms	"apply" elsewhere in model			
84	APPLY 2-3 DROPS 3-4 TIMES A DAY IN RIGHT EAR	2-3 d td\qd	in right ear				
85	30ML TDS WHEN REQUIRED	30ml td prn					
86	ONE AT NIGHT, MAY BE INCREASED TO TWO AFTER ONE WEEK	1 n:1w;2n:indef					
87	ONE TABLET TO BE TAKEN DAILY FOR 7 DAYS THEN ONE TAB TWICE DAILY FOR 7 DAYS THEN ONE THREE TIMES A	1 od:7d;2 bd:7d;1 td:ind					
88	60 BOTTLES TAKE 1-2 PER DAY (ORANGE FLAVOUR)	1-2 od prn	60 bottles (orange flavour)	per day - is this one each day or over the course of the day			
89	CHANGE EVERY SEVEN DAYS	1 7d		is "change" a route or admin method?			
90	EACH BATH TIME	1 prn	with bath	no timing			
91	TO BE INJECTED BY NURSE	1 prn	to be injected by nurse	no timing			
92	USE ON ADVICE OF DIETICIAN	1 prn	Use on advice of dietician	no timing			
93	NOCTE THEN TWICE A WEEK	1 n:1d; 1 bw?		not clear what is going on here! - lacks timing detail			
94	TAKE ONCE DAILY OR TWICE A DAY			OR here means range 1 to 2 - but ambiguous			
95	DAY 1 3 +5			typo for days 1,3,5? Virtual day numbering not supported			
96	FLYNN XMG HARD CAPSULES, TAKE ONE THREE TIMES A DAY	1 td?		AMP in the Dose Direction!			
97	1-2 /WEEL; 2-3 TIMES/YEAR			typo for "week"? Too complex			
98	USE REGULARLY AS DIRECTED			too complex			
99	2ML INSIDE THE CHEEK WHEN REQUIRED FOR PROLONGED SEIZURES, FURTHER 2ML IF REQUIRED	2ml prn		too complex			
100	2 TABLETS IN THE DAY WITH MAIN MEAL AND THEN 2 IN THE EVENING	2 mm+e		Add main meal 'mm' to named timings			
101	FREQUENT USE	f		?Add to dose timings or intervals			
102							
103							

FINDINGS

Of 91 valid Dose Instructions

- ✗ Concordance with Dose Syntax v0.7 91= 98%
- ✗ need archetype for additional data 38 = 31%

New terms proposed for next Dose Syntax v0.8

- add Main Meal to Dose timings
- add “Virtual day numbering” timing for hormonal Rx

DISCUSSION POINTS

- ✗ Can Primary and Secondary care suppliers follow the same upgrade path?
- ✗ Interface design / re-design issues
 - minimise for established users e.g. GPs
 - interface switchable from std. to enhanced?
 - new opportunities for new users e.g.
 - other Primary Care prescribers
 - Secondary Care (ambulatory and internal)
 - mHealth apps for patients.
- ✗ Use of dm+d assumed: can HEPMA suppliers support this?

THE NEWCASTLE DECLARATION

The 'Newcastle Declaration' - why citizens need far better information sharing across health and social care.

- ✗ jointly developed by front line clinical information leaders from across the NHS, at the 2015 CCI0 Network Summer School, Newcastle in Sept 2015
- ✗ Principles for Interoperability:
5 General and 5 Technical

5 TECHNICAL INTEROPERABILITY PRINCIPLES

1. All clinically relevant data held within supplier systems **must be made available for use by any care setting** subject to relevant IG incl. security and consent.
2. Data controllers have the right and responsibility to determine if clinically relevant data is transmitted between systems **for viewing only or for storage and reuse**.
3. **Suppliers must openly publish** details of interfaces and provide these interfaces inclusively and without license fee.
4. Wherever interface or message standards exist, and those standards are fit for purpose, **suppliers must adopt those standards**.

Where standards do not exist, **suppliers must collaborate with stakeholders** to produce a consensus set of interfaces and messages.
5. Wherever interfaces exist, suppliers must support and maintain **system availability** and performance within the levels of service expected to support safe clinical care.

INTEROPERABILITY FOR THIS DOSE SYNTAX

1. Availability of data APIs
2. Purpose: viewing, storage, re-use? re-use
3. Suppliers to adopt HEPMA
4. System performance overhead? minimal
5. Publication: this is it