

1. Basic Instructions

If you wish to import data directly into the NICOR databases, your local collection system must be capable of generating an export file in CSV (Comma Separated Value) format, which is then uploaded to the NICOR databases using the import routine.

A CSV line (record) consists of variables (fields) containing information separated by commas and enclosed by double-quotes. NICOR accepts either the short code or the long code listed in the datasets for import. There is no restriction on the file name, as long as the extension is .csv e.g. YYYYHfImport.csv

2. CSV Required Format

All values in the csv file (even empty ones) must be enclosed in quotes (""), and values must be separated with a comma. Multi-value fields (such as procedure or diagnosis) values must be separated using a semi-colon.

Each record of the file must be properly terminated with a CRLF (carriage return and line feed, ASCII characters 13 and 10 in decimal, 0D and 0A in hex).

Each record is made up of 144 variables (fields) in the prescribed order.

Format Example:

```
"value1","value2","value3","value4","value5","value6","value7","value8","value9","value10","value11",  
"value 12a; values 12b; value 12c","value13a; value13b",",",.....
```

The dataset can be found on the NICOR website <https://www.nicor.org.uk/national-cardiac-audit-programme/datasets/>

A complete list of variables and their import order can be found in section 9 of this document under 'Import Order'.

3. Format of an export file

```
"value1","value2","value3","value4","value5","value6","value7","value8","value9","value10","value11",  
"value 12a; values 12b; value 12c","value13a; value13b",",",....."value143","value144"  
"value1","value2","value3","value4","value5","value6","value7","value8","value9","value10","value11",  
"value 12a; values 12b; value 12c","value13a; value13b",",",....."value143","value144"  
"value1","value2","value3","value4","value5","value6","value7","value8","value9","value10","value11",  
value 12a; values 12b; value 12c","value13a; value13b",",",....."value143","value144"
```

Note: Empty quotes ("") to highlight how to handle empty values.
..... signifies the continuation of the values.

4. Amending a CSV file

If you need to make changes to your CSV file for it to comply with the specified format then you will need to make any changes to the file using "notepad or notepad ++" . Notepad can be found by clicking the Start button, All Programs, Accessories on a Windows machine. Notepad++ can be downloaded from <https://notepad-plus-plus.org/>, but you may need permission to do this.

Please do not use Microsoft Excel to make any changes to your CVS file as it strips out double quotes, and masks incorrect dates, e.g., a date that is in the .csv file as 18 Apr 2018 will show as 18/04/2018 in Microsoft Excel. Text dates such as 18 Apr 2018 will fail on import

5. New dataset format

Prior to moving to the new NCAP system, the National Heart Failure Audit dataset version 4.2.1 was made up of 3 types of records (Patient details, Admissions and readmissions).

In the new IT Platform there is ONE import file which incorporates the patient fields as well as the admission and readmission fields, giving a total of 144 fields/variables, as opposed to the current format which is only 136 fields.

See in yellow below where the patient fields are incorporated:

CSV Order	Dataset No	Field
1	1.01	Hospital identifier
2	1.02	Local patient identifier
3	1.03	NHS number
4	1.04	Patient name (surname)
5	1.05	Patient name (forename)
6	1.06	Date of birth
7	1.07	Patient sex
8	1.08a	Ethnic category
9	1.09	Postcode of usual address
10	1.13	GP name
11	2.00	Date of admission
12	2.04	Main place of care

6. Heart Failure Dataset

Full details about the legal values for the fields can be found in the dataset, <https://www.nicor.org.uk/national-cardiac-audit-programme/datasets/>

7. Mandatory Fields

All 144 fields are mandatory, please check dataset

8. Record Keys

The following combination of variables are used to determine if a record/s already exist in the NICOR Heart Failure database, if any part of this key has changed for a particular record in your source database, it may result in a duplicate record being created.

Patient Key = Hospital identifier (2) + HospitalNumber (3)

Procedure Key = Hospital identifier (2) + HospitalNumber (3) + Date of Admission (11)

9. Importing and Updating Existing Records

You may import data already in the NICOR Heart Failure database. The import script uses the key generated (see above for key definitions) for each record and attempts to match it against existing record keys in the database.

If it finds a match (i.e. the record already exists), it will check to see if any data has changed, if so, it will modify the existing record. If no data has changed, it will leave the record untouched. If a key match is not found, this will indicate a new record, and one will be created.

10. Import Order

CSV Order	Dataset No	Field
1	1.01	Hospital identifier
2	1.02	Local patient identifier
3	1.03	NHS number
4	1.04	Patient name (surname)
5	1.05	Patient name (forename)

6	1.06	Date of birth
7	1.07	Patient sex
8	1.08a	Ethnic category
9	1.09	Postcode of usual address
10	1.13	GP name
11	2.00	Date of admission
12	2.04	Main place of care
13	2.04ai	Specialist input
14	3.01	Breathlessness
15	3.04	Peripheral oedema
16	4.00	IHD
17	4.07	Device therapy (prior to or during this admission)
18	4.08	Device mode (prior to or during this admission)
19	4.09	Valve disease
20	4.10	Congenital heart disease
21	4.12	Hypertension
22	4.14	Diabetes
23	4.14a	Asthma
24	4.15	Cerebral vascular accident (CVA)
25	4.17	Chronic obstructive pulmonary disease (COPD)
26	5.01	Alcohol (units/week)
27	5.02	Smoking history
28	7.01	ACE inhibitor (admission)
29	7.02	ACE inhibitor dose (admission)
30	7.03	ACE I contraindication (admission)
31	7.04	ARB (admission)
32	7.05	ARB dose (admission)
33	7.06	Beta blocker (admission)
34	7.07	Beta blocker dose (admission)
35	7.08	Beta blocker contraindication (admission)
36	7.09	Loop diuretic (admission)
37	7.10	Loop diuretic dose (admission)
38	7.11	Thiazide or Metolazone (admission)
39	7.12	Thiazide dose (admission)
40	7.13	MRA (admission)
41	7.14	MRA contraindication (admission)
42	7.15	MRA dose (admission)
43	7.16	Aspirin (admission)
44	7.17	Aspirin dose (admission)
45	7.18	Other oral anti-platelet (admission)
46	7.20	Digoxin (admission)
47	7.21	Digoxin dose (admission)
48	7.22	CCB (admission)

49	7.23	CCB dose (admission)
50	7.24	Statin (admission)
51	7.25	Statin dose (admission)
52	7.26	Warfarin (admission)
53	7.27	INR (admission)
54	7.28	Warfarin dose (admission)
55	7.28a	Other oral anticoagulant (admission)
56	7.28b	Other oral anticoagulant dose (admission)
57	7.29	Amiodarone (admission)
58	7.30	Amiodarone dose (admission)
59	7.31	Allopurinol (admission)
60	7.32	Allopurinol dose (admission)
61	7.33	NSAID (admission)
62	7.34	Oral nitrates (admission)
63	7.35	Nitrate dose (admission)
64	7.36	Bronchodilators (admission)
65	7.37	Diabetes therapy (admission)
66	7.40	Ivabradine (admission)
67	7.41	Ivabradine dose (admission)
68	7.42	Hydralazine (admission)
69	7.43	Hydralazine dose (admission)
70	8.01	Height
71	8.02a	Weight (admission)
72	8.02	Weight (discharge)
73	8.04a	Heart rate (admission)
74	8.04	Heart rate (discharge)
75	8.06a	Systolic blood pressure (admission)
76	8.06	Systolic blood pressure (discharge)
77	9.01	Hb (discharge)
78	9.02	Urea (discharge)
79	9.03	Creatinine (discharge)
80	9.04	Serum Sodium (discharge)
81	9.05	Serum Potassium (discharge)
82	9.13	BNP
83	9.14	NT-proBNP
84	9.16	QRS duration
85	9.21	ECG
86	9.23	Echo (or other gold standard test e.g. MRI, nuclear scan or angiogram)
87	9.29	MRI systolic dysfunction
88	9.33	Chest x-ray cardiothoracic ratio
89	9.35	Chest x-ray pulmonary oedema
90	11.01	ACE inhibitor (discharge)

91	11.02	ACE inhibitor dose (discharge)
92	11.03	ACE I contraindication (discharge)
93	11.04	ARB (discharge)
94	11.05	ARB dose (discharge)
95	11.06	Beta blocker (discharge)
96	11.07	Beta blocker dose (discharge)
97	11.08	Beta blocker contraindication (discharge)
98	11.09	Loop diuretic (discharge)
99	11.10	Loop diuretic dose (discharge)
100	11.11	Thiazide or metolazone (discharge)
101	11.12	Thiazide or metolazone dose (discharge)
102	11.13	MRA (discharge)
103	11.14	MRA contraindication (discharge)
104	11.15	MRA dose (discharge)
105	11.16	Aspirin (discharge)
106	11.17	Aspirin dose (discharge)
107	11.18	Other oral anti-platelet (discharge)
108	11.20	Digoxin (discharge)
109	11.21	Digoxin dose (discharge)
110	11.22	CCB (discharge)
111	11.23	CCB dose (discharge)
112	11.24	Statin (discharge)
113	11.25	Statin dose (discharge)
114	11.26	Warfarin (discharge)
115	11.27	INR (discharge)
116	11.28	Warfarin dose (discharge)
117	11.28a	Other oral anticoagulant (discharge)
118	11.28b	Other oral anticoagulant dose (discharge)
119	11.29	Amiodarone (discharge)
120	11.30	Amiodarone dose (discharge)
121	11.31	Allopurinol (discharge)
122	11.32	Allopurinol dose (discharge)
123	11.33	NSAID (discharge)
124	11.34	Oral nitrates (discharge)
125	11.35	Nitrates dose (discharge)
126	11.36	Bronchodilators (discharge)
127	11.37	Diabetes therapy (discharge)
128	11.40	Ivabradine (discharge)
129	11.41	Ivabradine dose (discharge)
130	11.42	Hydralazine (discharge)
131	11.43	Hydralazine dose (discharge)
132	14.00	Confirmed diagnosis of heart failure
133	15.00	Referral to heart failure nurse follow-up

134	15.01	Referral to cardiac rehabilitation
135	15.03	Referral for cardiothoracic surgery
136	15.04	Referral for transplant
137	15.05	Referral to palliative care services
138	15.07	Referral to cardiology follow-up
139	15.10	Date of discharge
140	15.11	Heart failure management plan
141	15.12	Review appointment with the heart failure MDT
142	15.13	Date of review appointment
143	15.14	Stable on oral therapy after discharge planning
144	15.15	Death in hospital

11. NCAP IT Platform User Guide

You can find out more on how to access and navigate the new IT system here:

<https://wiki.nicor.org.uk/display/NCAP/NCAP+Applications+Manual>