

QUOD Statistics

October 2017

QUOD Bioresource Key Figures

Date 1 October 2017

Donors 2,591

Samples 45,486 in total, including:

Blood 24,460 samples

Urine 5,675 samples

Kidney 6,197 samples (3,128 biopsies)

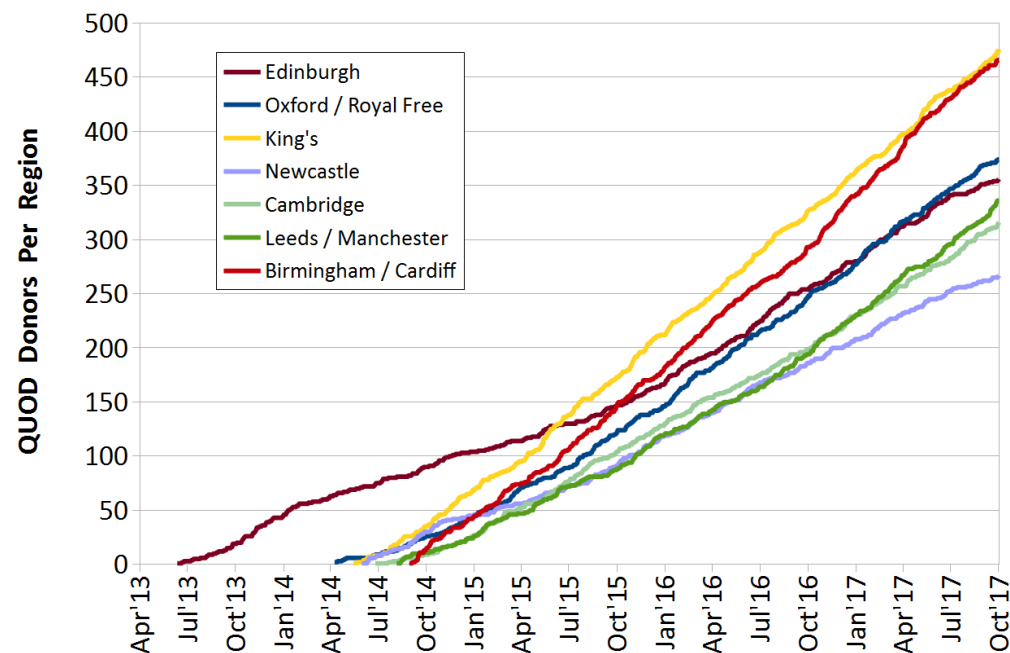
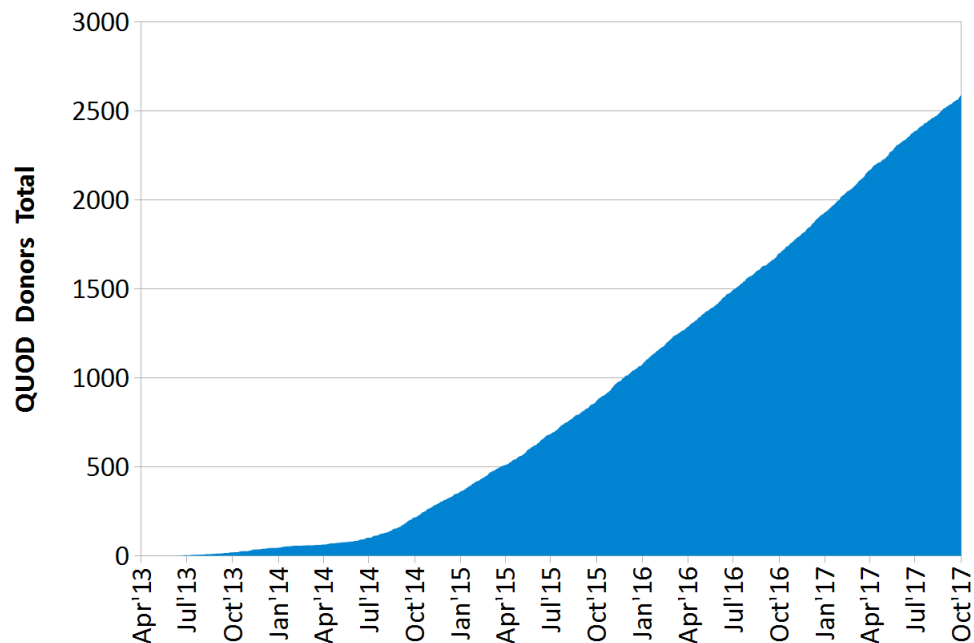
Liver 3,461 samples (1,739 biopsies)

Ureter 3,780 samples (1,903 biopsies)

Spleen 1,913 samples (1,913 biopsies)

Units 271,949 biobank items

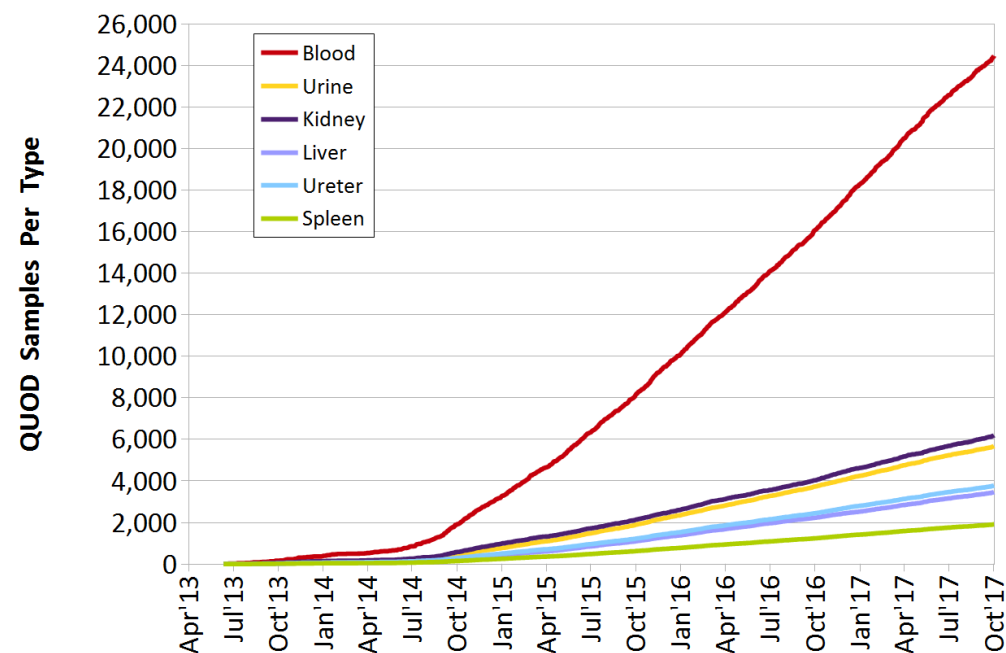
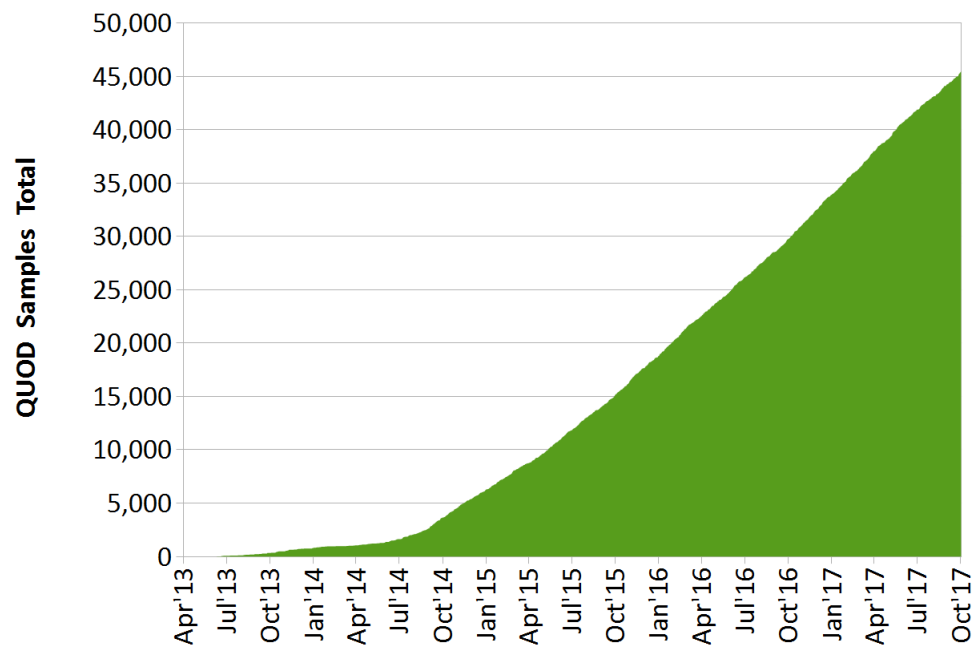
QUOD Donors In Total and Per Region



Milestone:

2,500 donors were enrolled into the QUOD Bioresource by 22 August 2017

QUOD Samples In Total and Per Type



QUOD Sample Collection Metrics

| Statistics Coverage Period: | | | Jun'13 – Sep'17 | | Legend: | | CS – Collected Samples (%) MS – Missed Samples (%) | | | | EC – Expected and collected EM – Expected but missing | | | | NN – Not expected and not collected NC – Not expected but collected | | | | | | | | | | |
|--|--|--|-----------------|-----|-----------------|--|---|-----|------|-----|--|----|---------------------------|--|--|-----|------|------|------|-----|-----|------|-----|------|----|
| Donors Covered By Samples: | | | 2558 | | Tissue Samples: | | CS | MS | EC | EM | NN | NC | Blood Samples: | | CS | MS | EC | EM | NN | NC | | | | | |
| Donor Groups: | | | | | DL RNAlater | | 86% | 14% | 1705 | 289 | 551 | 13 | DB1 | | 29% | 71% | 741 | 1817 | 0 | 0 | | | | | |
| DBD Total | | | 1250 | 49% | DL Formalin | | 86% | 14% | 1706 | 288 | 551 | 13 | DB2 | | 94% | 6% | 2413 | 145 | 0 | 0 | | | | | |
| | | | | | DLK RNAlater | | 77% | 23% | 1531 | 463 | 556 | 8 | DB3 | | 92% | 8% | 2347 | 211 | 0 | 0 | | | | | |
| – DBD Actual | | | 1198 | 47% | DLK Formalin | | 77% | 23% | 1534 | 460 | 556 | 8 | DB4 | | 89% | 11% | 1113 | 137 | 1296 | 12 | | | | | |
| – DBD Non-proceeding | | | 52 | 2% | | | | | | | | | | | | | | | | | | | | | |
| DCD Total | | | 1308 | 51% | DRK RNAlater | | 77% | 23% | 1538 | 456 | 557 | 7 | Blood Samples – Detailed: | | CS | MS | EC | EM | NN | NC | | | | | |
| | | | | | DRK Formalin | | 77% | 23% | 1540 | 454 | 557 | 7 | | | | | | | | | | | | | |
| – DCD Actual | | | 796 | 31% | DLU RNAlater | | 94% | 6% | 1865 | 129 | 553 | 11 | DB1 EDTA | | 9% | 91% | 236 | 2322 | 0 | 0 | | | | | |
| – DCD Non-proceeding | | | 512 | 20% | DLU Formalin | | 94% | 6% | 1868 | 126 | 553 | 11 | DB1 Heparin | | 1% | 99% | 37 | 2521 | 0 | 0 | | | | | |
| | | | | | | | | | | | | | DB1 SST | | 6% | 94% | 145 | 2413 | 0 | 0 | | | | | |
| | | | | | DS RNAlater | | 95% | 5% | 1886 | 108 | 550 | 14 | DB1 Plasma Other | | 2% | 98% | 45 | 2513 | 0 | 0 | | | | | |
| Donor Groups Summary: | | | | | | | | | | | | | DB1 Serum Other | | 12% | 88% | 318 | 2240 | 0 | 0 | | | | | |
| Actual donors | | | 1994 | 78% | Urine Samples: | | CS | MS | EC | EM | NN | NC | DB2 EDTA | | 94% | 6% | 2411 | 147 | 0 | 0 | | | | | |
| | | | | | | | | | | | | | DB2 Heparin | | 94% | 6% | 2405 | 153 | 0 | 0 | | | | | |
| Non-proceeding donors | | | 564 | 22% | DU2 | | 88% | 12% | 2261 | 297 | 0 | 0 | DB2 SST | | 94% | 6% | 2398 | 160 | 0 | 0 | | | | | |
| | | | | | DU3 | | 89% | 11% | 2277 | 281 | 0 | 0 | DB3 EDTA | | 92% | 8% | 2342 | 216 | 0 | 0 | | | | | |
| Notes: | | | | | DU4 | | 85% | 15% | 1058 | 192 | 1281 | 27 | DB3 Heparin | | 91% | 9% | 2335 | 223 | 0 | 0 | | | | | |
| | | | | | | | | | | | | | DB3 SST | | 91% | 9% | 2316 | 242 | 0 | 0 | | | | | |
| Note 1 – Tissue samples are expected to be collected only for actual donors. | | | | | | | | | | | | | | | DB4 EDTA | | | | | 89% | 11% | 1111 | 139 | 1296 | 12 |
| For tissue samples, sum of EC and EM equals the number of actual donors, | | | | | | | | | | | | | | | DB4 Heparin | | | | | 89% | 11% | 1107 | 143 | 1296 | 12 |
| and sum of NN and NC equals the number of non-proceeding donors. | | | | | | | | | | | | | | | DB4 SST | | | | | 88% | 12% | 1102 | 148 | 1296 | 12 |
| Note 2 – DB4 and DU4 samples are expected to be collected only for DBD donors. | | | | | | | | | | | | | | | | | | | | | | | | | |
| For these samples, sum of EC and EM equals the number of DBD donors, | | | | | | | | | | | | | | | | | | | | | | | | | |
| and sum of NN and NC equals the number of DCD donors. | | | | | | | | | | | | | | | | | | | | | | | | | |
| Note 3 – DB1/2/3 and DU2/3 are expected to be collected for all donors. | | | | | | | | | | | | | | | | | | | | | | | | | |

Note 1 – Tissue samples are expected to be collected only for actual donors.
For tissue samples, sum of EC and EM equals the number of actual donors,
and sum of NN and NC equals the number of non-proceeding donors.

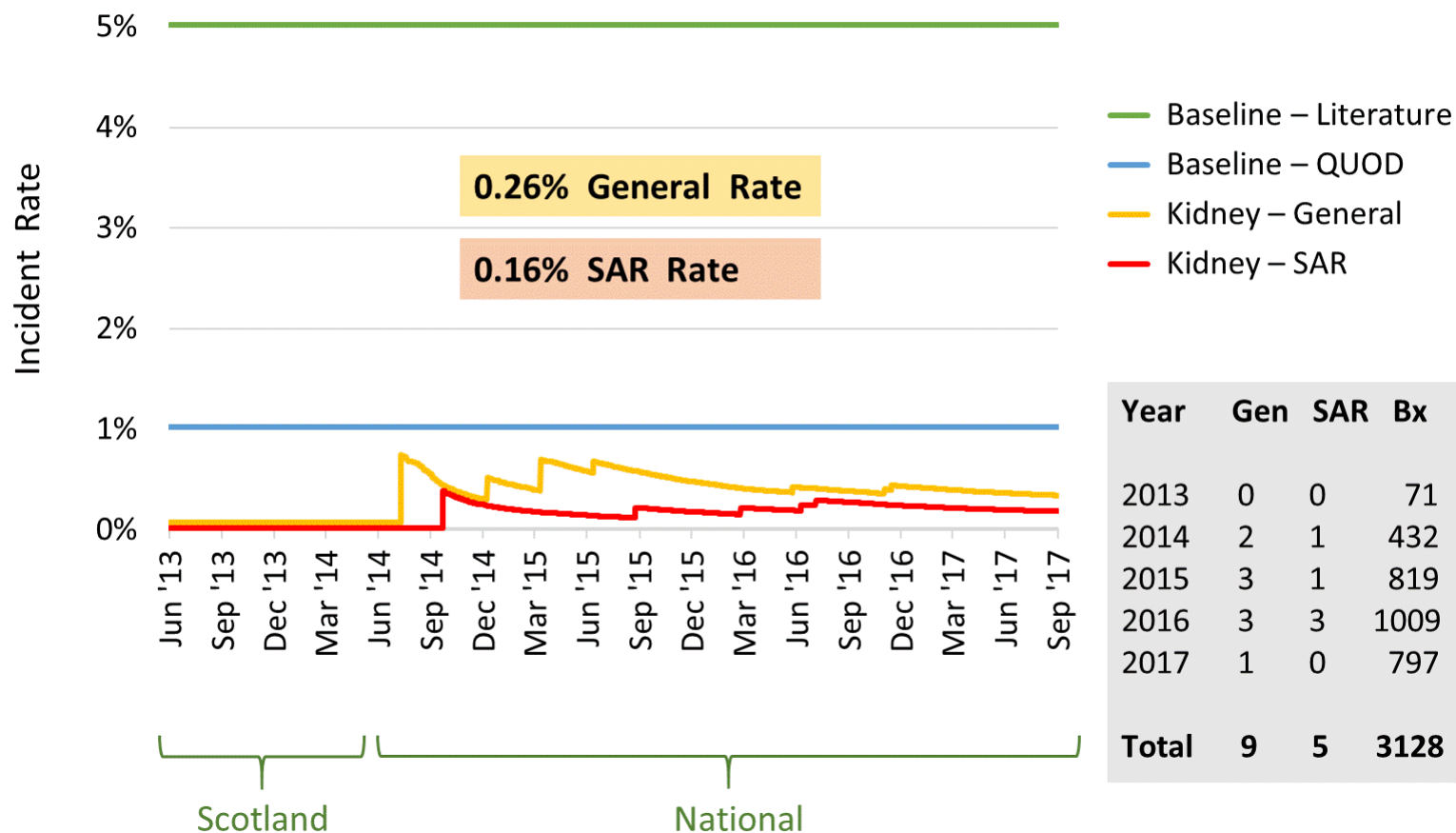
Note 2 – DB4 and DU4 samples are expected to be collected only for DBD donors.
For these samples, sum of EC and EM equals the number of DBD donors,
and sum of NN and NC equals the number of DCD donors.

Note 3 – DB1/2/3 and DU2/3 are expected to be collected for all donors.

QUOD Biopsy and Incident Metrics



Kidney Biopsies



General Incidents:

Clinical incidents – no significant recipient consequences or thought not to be attributable to a QUOD biopsy

Serious Adverse Reactions:

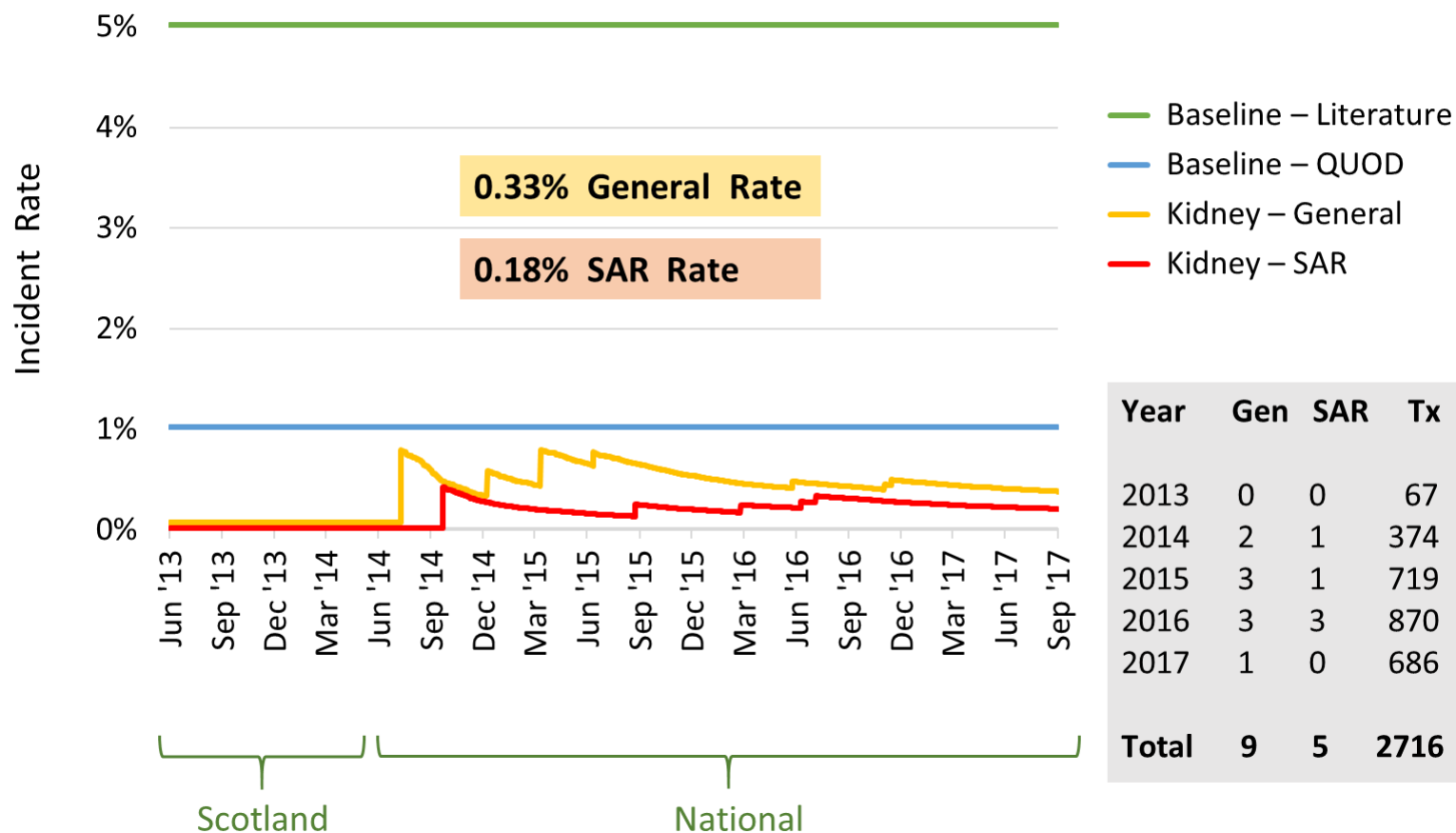
Clinical incidents with recipient consequences – considered as most likely due to a QUOD biopsy

| Year | Gen | SAR | Bx |
|--------------|----------|----------|-------------|
| 2013 | 0 | 0 | 71 |
| 2014 | 2 | 1 | 432 |
| 2015 | 3 | 1 | 819 |
| 2016 | 3 | 3 | 1009 |
| 2017 | 1 | 0 | 797 |
| Total | 9 | 5 | 3128 |

QUOD Biopsy and Incident Metrics



Kidney Biopsies (Tx)



General Incidents:

Clinical incidents – no significant recipient consequences or thought not to be attributable to a QUOD biopsy

Serious Adverse Reactions:

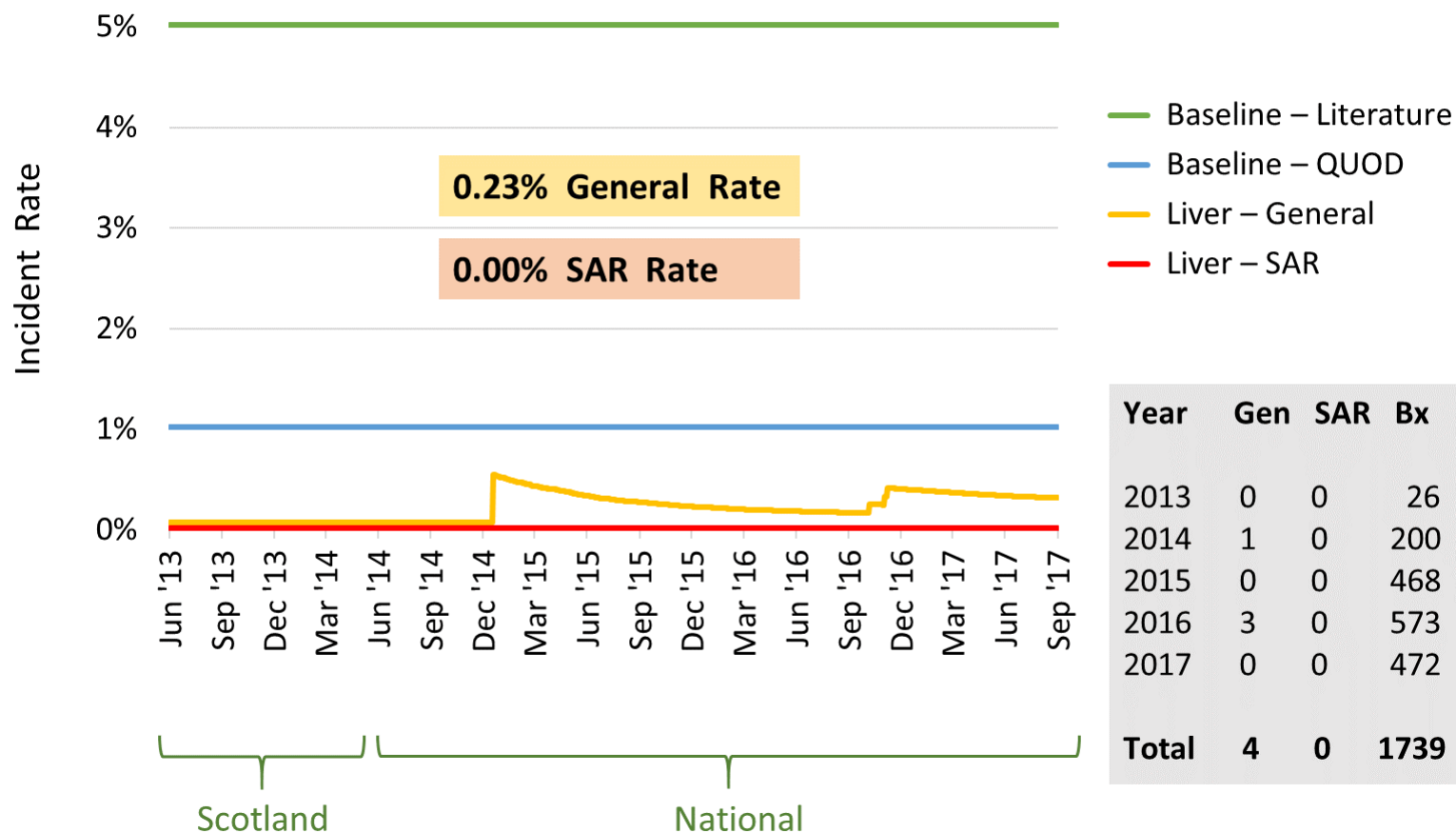
Clinical incidents with recipient consequences – considered as most likely due to a QUOD biopsy

| Year | Gen | SAR | Tx |
|--------------|----------|----------|-------------|
| 2013 | 0 | 0 | 67 |
| 2014 | 2 | 1 | 374 |
| 2015 | 3 | 1 | 719 |
| 2016 | 3 | 3 | 870 |
| 2017 | 1 | 0 | 686 |
| Total | 9 | 5 | 2716 |

QUOD Biopsy and Incident Metrics



Liver Biopsies



General Incidents:

Clinical incidents – no significant recipient consequences or thought not to be attributable to a QUOD biopsy

Serious Adverse Reactions:

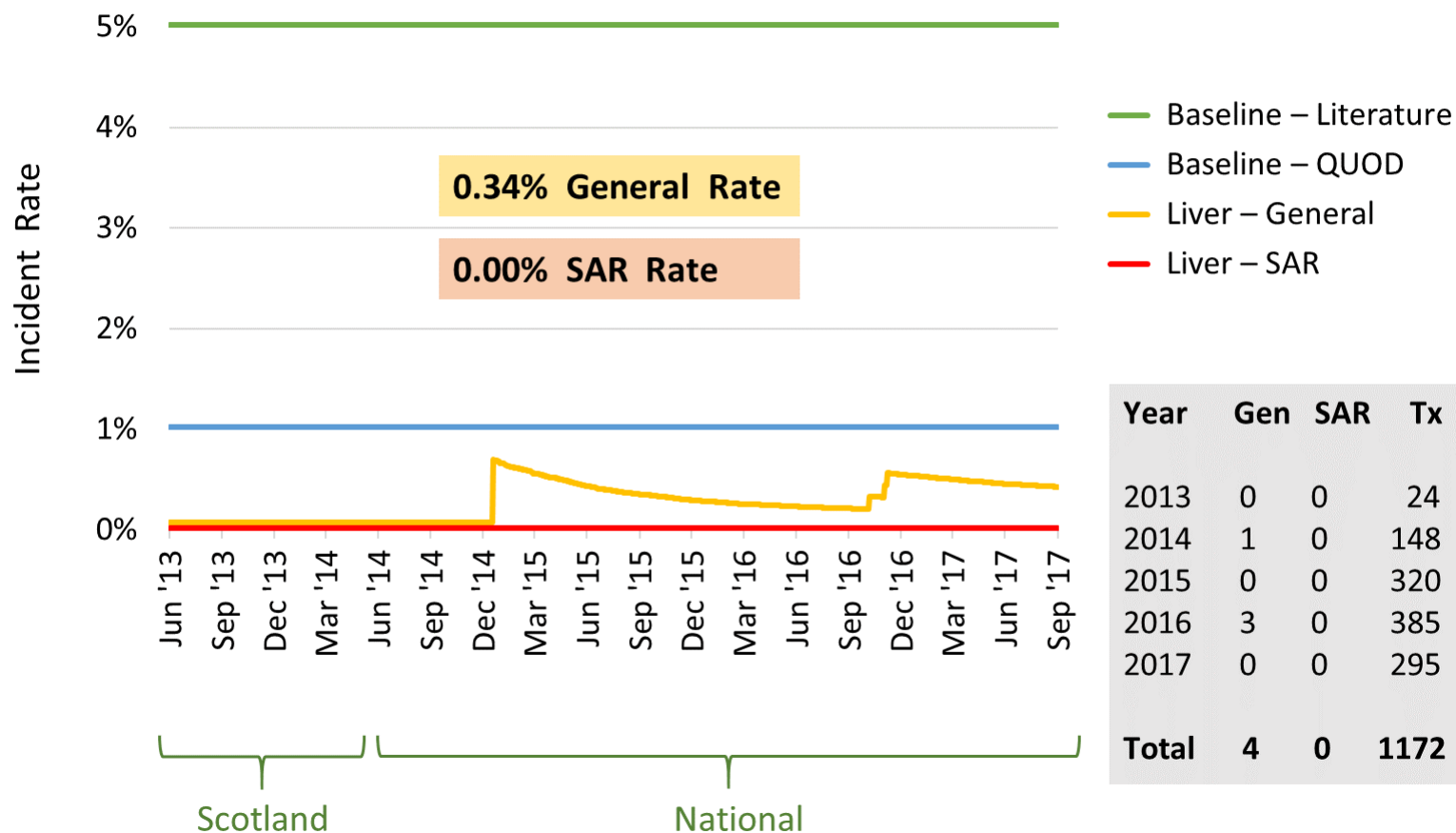
Clinical incidents with recipient consequences – considered as most likely due to a QUOD biopsy

| Year | Gen | SAR | Bx |
|--------------|----------|----------|-------------|
| 2013 | 0 | 0 | 26 |
| 2014 | 1 | 0 | 200 |
| 2015 | 0 | 0 | 468 |
| 2016 | 3 | 0 | 573 |
| 2017 | 0 | 0 | 472 |
| Total | 4 | 0 | 1739 |

QUOD Biopsy and Incident Metrics



Liver Biopsies (Tx)



| Year | Gen | SAR | Tx |
|--------------|----------|----------|-------------|
| 2013 | 0 | 0 | 24 |
| 2014 | 1 | 0 | 148 |
| 2015 | 0 | 0 | 320 |
| 2016 | 3 | 0 | 385 |
| 2017 | 0 | 0 | 295 |
| Total | 4 | 0 | 1172 |

General Incidents:

Clinical incidents – no significant recipient consequences or thought not to be attributable to a QUOD biopsy

Serious Adverse Reactions:

Clinical incidents with recipient consequences – considered as most likely due to a QUOD biopsy

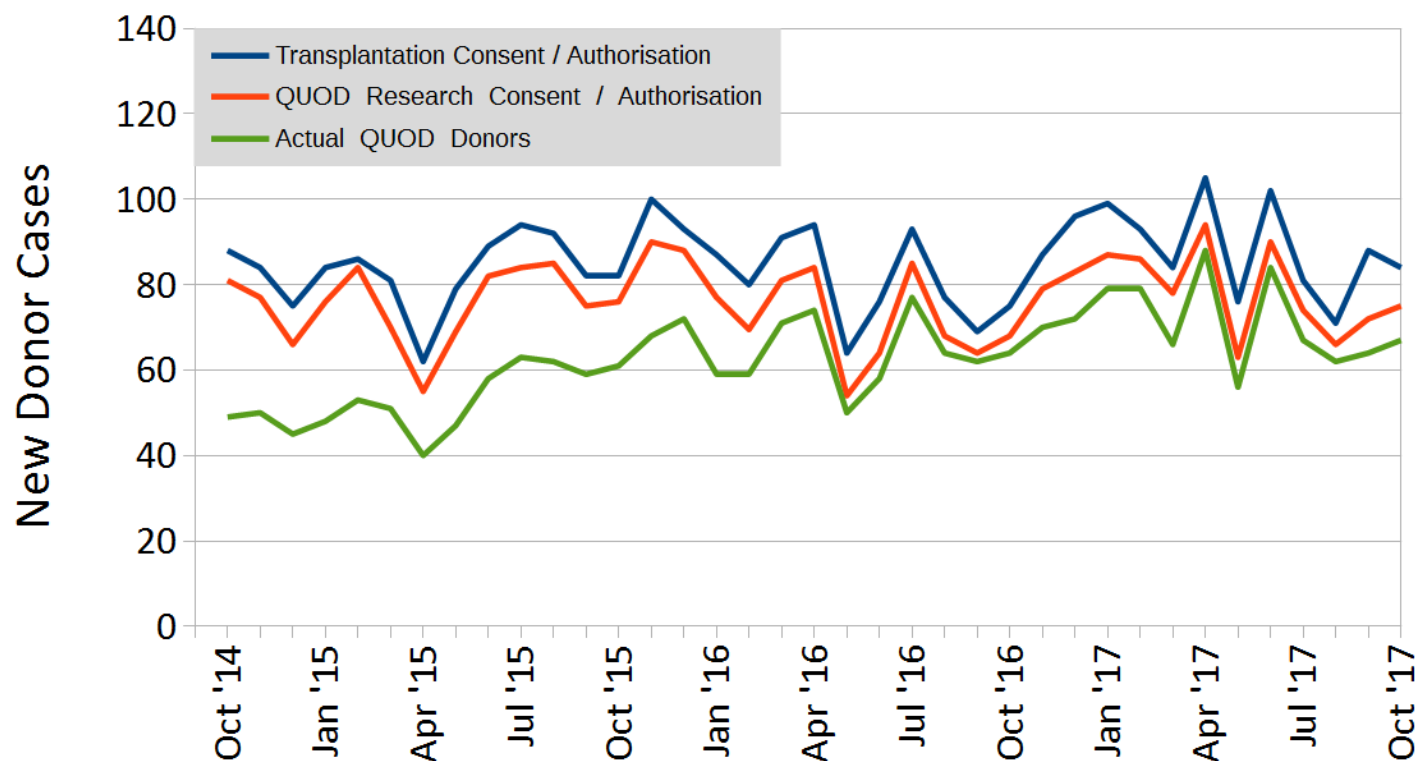
QUOD Biopsy and Incident Metrics



Literature References:

- Peters et al (2017). Acta Radiol. 58(2):240-8.
- Chunduri et al (2015). Semin Dial. 28(2):E11-4.
- Furness et al (2003). Transplantation. 76(6):969-73.
- Cozens et al (1992). Br J Radiol. 65(775):594-7.

Consent for QUOD Research and Actual QUOD Donors — Per Month

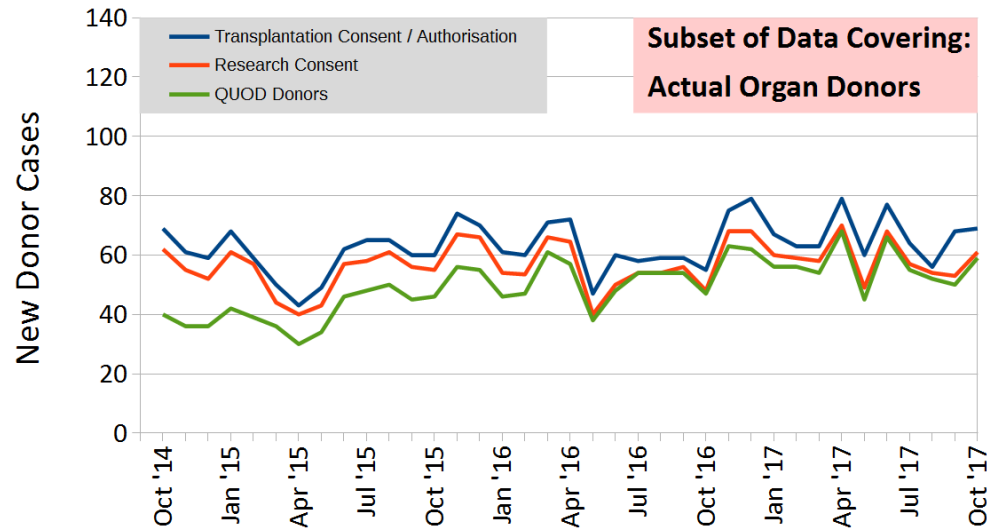


All Donors (Proc + Non)

Cases in Sep '17:

84 Tx Consent / Auth
75 Res. Consent / Auth
67 Actual QUOD Donors

* Research consent data for Jan-Mar '16 was imputed due to unavailability from records

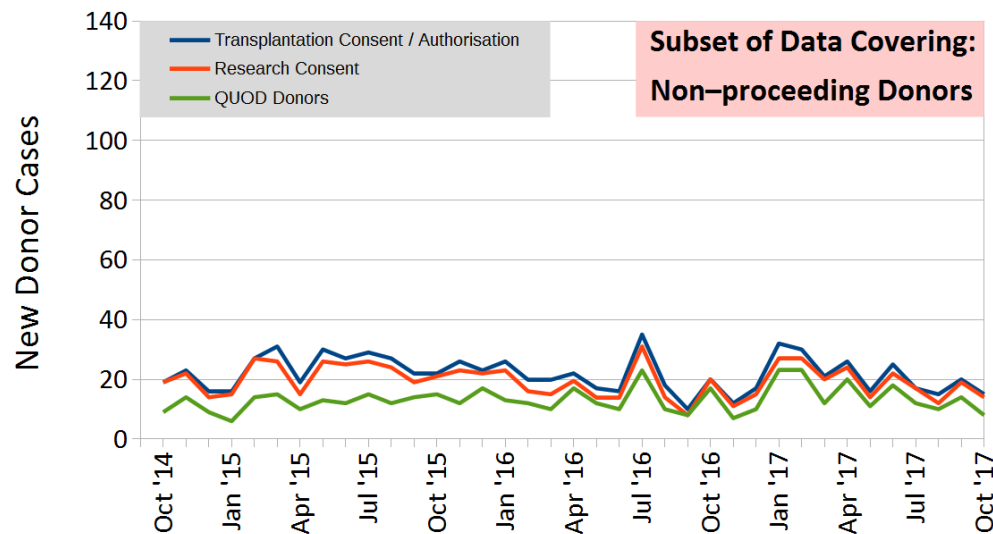


* Research consent data for Jan-Mar '16 was imputed due to unavailability from records

Actual Organ Donors

Cases in Sep '17:

69 Tx Consent / Auth
61 Res. Consent / Auth
59 Actual QUOD Donors



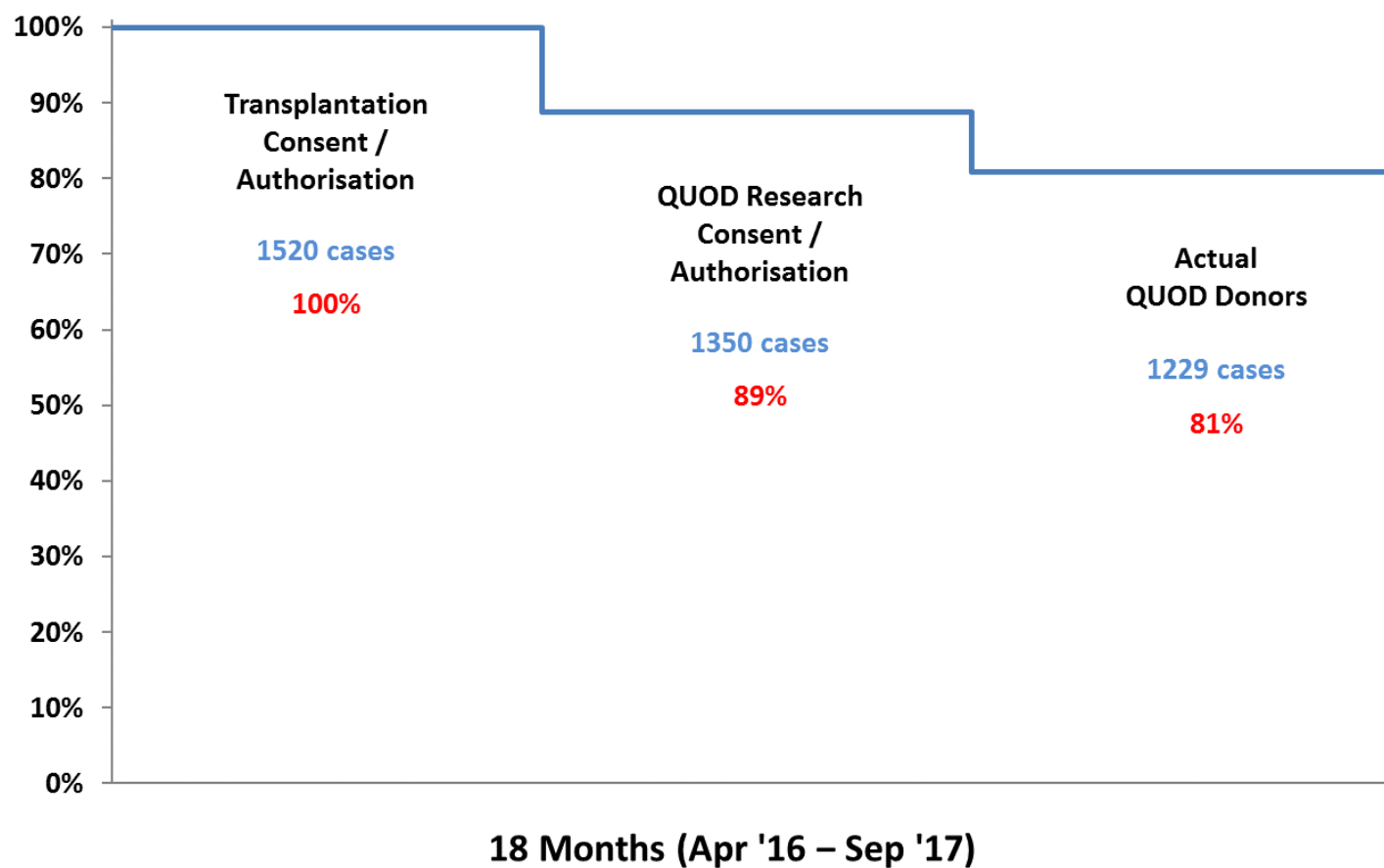
* Research consent data for Jan-Mar '16 was imputed due to unavailability from records

Non-proceeding Donors

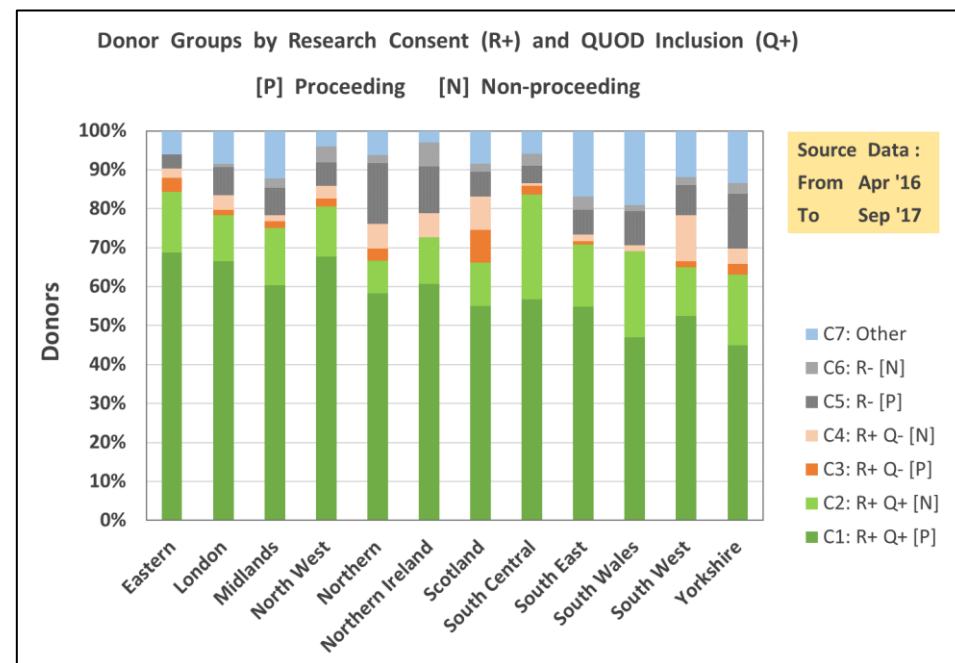
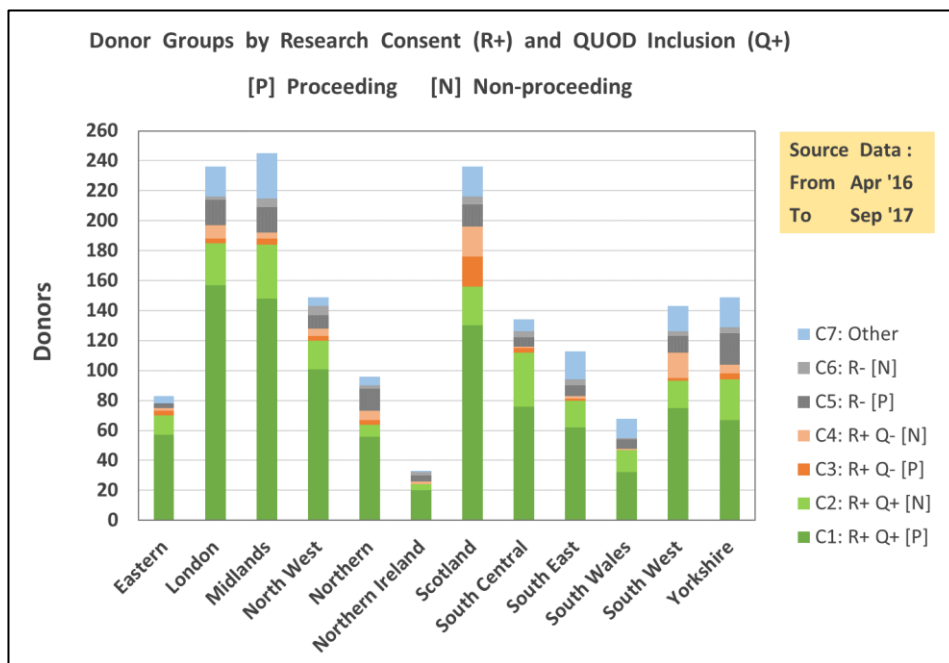
Cases in Sep '17:

15 Tx Consent / Auth
14 Res. Consent / Auth
8 Actual QUOD Donors

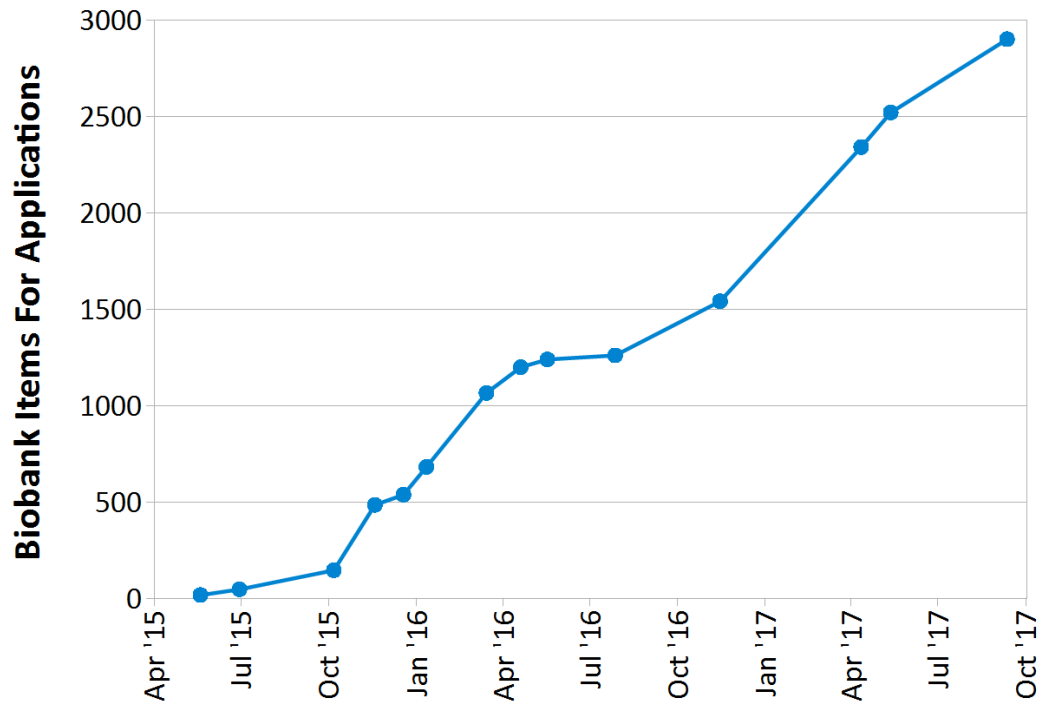
Consent for QUOD Research and Actual QUOD Donors — Step Chart



Consent for QUOD Research and Actual QUOD Donors — Per SNOD Team



QUOD Samples Issued to Applications



NRG(17)28

- Latest issued samples (Sep'17) : RAP028 (Khorsandi), RAP030 (Brennan)
- Samples were issued to 14 research applications, as complete or phased sample sets
- Issued samples account to 1% of QUOD biobank items, while covering 15% of donors
- Further samples will be allocated and issued to 13 approved research applications