

RSL/AF

28th February 1979.

Dr. S. Waiter,
Department of Health and Social Security,
Hannibal House,
Elephant and Castle,
London SE1 6TL.

Dear Sheila,

I enclose two copies of a report which incorporates most of the data on display at BPL for the JMCCL. Dr. Tovey expressed interest in this approach and would probably go along with my idea that from now on regions providing additional fresh plasma would receive the whole product in return according to the gross theoretical yield figure. It is a simple matter to sit down and calculate the regional cost of plasma collection to provide this extra FFP and set against this the alternative expenditure incurred by purchase of the equivalent amount of commercial factor VIII and purified albumin.

I made the point at our meeting that I was most surprised that, knowing of the extreme variability in quality of regional plasma, regions had never been invited to come to BPL to discuss this problem and the ways and means of solving it. This I now propose to do.

I look forward to receiving your views.

Yours sincerely,

Dictated by Dr. R.S. Lane
and signed in his absence.

65/65

848

FACTOR VIII RECOVERY (IN iu/litre OF PLASMA FRACTIONATED) DURING PERIOD

JANUARY 1977 TO DECEMBER 1978

The results shown in the tables are the calculated yields from each of the RTC's FFP. The two year period was split into three, eight month periods. The results of the first two periods have already been supplied but are included here for completion of the overall study.

The three periods therefore were:-

- (i) 20.1.77. (HL 1279) to 23.8.77. (HL 1368)
- (ii) 24.8.77. (HL 1369) to 25.4.78. (HL 1463)
- (iii) 27.4.78. (HL 1464) to 14.12.78. (HL 1555)

A second set of tables is shown with the yields for 1977 and 1978, and the total yield for the two year period itself.

All yield calculations were performed as follows:-

No. of assayed units/vial x No. of vials filled (corr. for volume)
Plasma Vol (litres)

GROSS YIELD FIGURES IN iu/litre OF PLASMA
FOR PERIOD JAN 1977 TO DEC 1978

TABLE 1

CENTRE	YIELD $\pm$ SD (iu/litre)	No. of batches	COMMENTS
A	253.2 $\pm$ 23.7	(20)	CPD 6 hr/18 hr
B	249.4 $\pm$ 22.9	(20)	CPD 6 hr
C	236.6 $\pm$ 16.8	(7)	
D	229.1 $\pm$ 1.7	(4)	
E	226.1 $\pm$ 20.7	(30)	CPD 18/24 hr
F	222.8 $\pm$ 20.8	(18)	
G	219.0 $\pm$ 15.7	(15)	
H	219.0 $\pm$ 21.0	(27)	CPD 12/24
I	214.2 $\pm$ 19.3	(11)	
J	212.4 $\pm$ 19.9	(5)	
K	183.3 $\pm$ 14.9	(4)	
L	229.4	(1)	

65/66

TABLE 2

GROSS YIELD FIGURES FOR 1977 & 1978
(iu/L plasma) - (No. of batches in parenthesis)

CENTRE	YIELD $\pm$ S.D. (iu/litre) 1977		CENTRE	YIELD $\pm$ S.D. (iu/litre) 1978	
A	251.8 $\pm$ 28.7	(9)	A	254.4 $\pm$ 20.1	(11)
B	238.9 $\pm$ 20.0	(5)	B	252.8 $\pm$ 23.3	(15)
C	233.8 $\pm$ 22.1	(4)	C	240.5 $\pm$ 8.8	(3)
D	230.3	(3)	H	228.3 $\pm$ 17.8	(13)
F	229 $\pm$ 19.8	(10)	M	227.9	(1)
E	224.9 $\pm$ 17.8	(13)	E	227.0 $\pm$ 23.1	(17)
J	220.0 $\pm$ 6.6	(3)	Mixed	220.4 $\pm$ 21.3	(45)
G	218.4 $\pm$ 15.7	(7)	Centre		
I	211.7 $\pm$ 23.5	(5)	G	219.5 $\pm$ 16.8	(8)
H	210.3 $\pm$ 20.5	(14)	I	216.3 $\pm$ 17.0	(6)
K	183.3 $\pm$ 14.9	(4)	F	214.9 $\pm$ 20.5	(8)
			J	201.0	(2)

TABLE 3

Results for three consecutive 8-month periods:

- (i) January - August 1977
- (ii) August 1977 - April 1978
- (iii) May 1978 - December 1978

CENTRE (No. of batches in parentheses)	PERIOD (i) Mean iu/L plasma	PERIOD (ii) Mean iu/L plasma	PERIOD (iii) Mean iu/L plasma	LEAGUE POSITION IN (iii)
F	220.1 (5)	229.1 (8)	215.5 (5)	
K	183.3	-	-	
J	220.0 (3)	-	201.0 (2)	
C	234.8 (4)	236.8 (2)	247.9 (1)	* not placed insuff. data
A	240.1 (5)	262.3 (7)	253.5 (8)	1st
E	226.6 (11)	202.5 (6)	236.5 (13)	3rd
G	218.4 (7)	190.1 (1)	223.7 (7)	
H	205.7 (10)	227.1 (8)	226.4 (9)	
B	244.6 (4)	262.4 (5)	245.9 (11)	2nd
L	229.4 (1)	-	-	
M	230.3 (3)	227.9 (1)	-	
I	215.6 (4)	209.7 (3)	216.1 (4)	

65/67

TABLE 4

FRESH FROZEN PLASMA DELIVERED TO ELSTREE 1978

CENTRE	1.	2.	3.
	Total gross units of F.VIII obtained from plasma sent in 1978 based on Table 1 yields (iu x 10 ⁻³)	No. of 250 iu vials from previous column's figures	1978 Actual returns to RTCs based on agreed distribution list
F	1100.4	4402	3720
K	630.0	2520	3600
J	923.9	3696	3240
C	690.4	2762	1320
A	1484.3	5937	4320
E	1948.5	7794	4440
G	1444.7	5779	6600
N	A good proportion of FFP is modified -very poor yields	-	4680
H	1627.0	6508	4440
B	2398.2	9593	5640
L	390.9	1564	960
M	916.9	3668	5280
I	900.3	3601	1800
	TOTAL	57824	50040

SUMMARY

Production yield figures are given for 1977; 1978; 1977 and 1978; and three consecutive eight-month periods from January 1977 to December 1978.

Table 1 The top two league positions are held by A and B, both CPD centres, the vast majority of FFP from these centres being 6 hr plasma. E would have been much higher up but for a processing episode during 1977 and early 1978 (see also Table 3). K comes bottom with a very poor yield on those batches processed.

Although deliveries from C are small, their FFP yields are encouraging.

Table 2 In both periods (1977 and 1978) A and B again are clear leaders in yield of F.VIII per litre of plasma processed.

Other comments:- (1) F FFP has declined in quality in 1978
 (2) H has undoubtedly increased in quality during 1978
 (3) J batches processed in 1978 (numbering two only) both gave low yields compared to those in 1977.

65/68

Table 3

- (i) The most important comment here is that E after changing to CPD have shown some increase in yield. The yield figures are not as high as A or B, and this may be due to the fact that E are sending only 18 hr FFP.
- (ii) H FFP has shown an improvement during the latter part of 1977 and through 1978. This coincides with an increase in the use of CPD as anticoagulant at this centre.

Table 4

This table shows for any centre, the comparison between the theoretical gross yield returns obtained from the volume of FFP sent to Elstree, and the actual returns of 250 iu (nominal) vials during 1978.

Thus: for the FFP sent to Elstree, K's low delivery volume and poor yields combine to give a theoretical return of 2520 x 250 iu (normal) vials. This compares to K receiving 3600 vials under the existing distribution programme.

At the other end of the scale, B receive only 5640 vials compared to a theoretical return of 9593 vials!

N have a particular problem with their "modified" plasma (often 50% of normal deliveries). A rough estimate for their gross theoretical yield return would be of the order of 1500-2000 vials. Clearly, their actual return of nearly 5000 vials is far in excess of this. They are, however, a special case.

The gross returns do not take into account the losses one would get from tests, rejects, etc. i.e. the net returns would be 3-5% lower.

NOTES

Input to BPL in 1978 was 67178 litres of plasma (373,211 donations at 180 ml per donation).

Maximum production in BPL could be 124800^l per annum (693,333 donations) with present site and machinery, a factor increase from today of 1.86x.

This would be reflected in a theoretical gross return of 107422 x 250 iu vials (= 26.855 million units of F.VIII).

An increase of 86% on the 1978 actual returns would give a total distribution of 92959 vials of F.VIII. Two centres, C and I, already send sufficient FFP to meet a pro-rata return on those figures. Even a 50% increase in the F.VIII to the RTCs for distribution would allow centres C, A, E, H, B, L, I to have a pro-rata return today without any further increase in their FFP.

N. Pettet,
27.2.79.

NP/AH.

65/69