To calculate the cost of cetuximab plus irinotecan, we need to estimate body surface area. Sacco and colleagues[87] calculated the body surface area of 3613 patients receiving chemotherapy for various cancers in the UK in 2005 from the height and weight, using the Dubois and Dubois method:[89] body surface area ($m^2$) = 0.007184 × weight (kg)$^{0.425}$ × height (cm)$^{0.725}$.

Appendix S3 of Sacco and colleagues,[87] freely available online, gives the body surface areas of 291 men receiving palliative chemotherapy for colon cancer. We calculate the mean and standard deviation of these as 1.93 and 0.19 respectively. Similarly, we calculate the mean and standard deviation of the body surface areas of 151 women receiving palliative chemotherapy for colon cancer as 1.68 and 0.18 respectively. Next, we follow the methodology described in the example calculations in Appendix S1 of Sacco and colleagues[87] to calculate the mean dosage for men and women independently, allowing for wastage of drugs due to fixed vial sizes. The mean dose for all patients, assuming 66% men and 34% women, is calculated as the average of the male and females doses weighted by 66% and 34% respectively.

Next, to calculate the cost of panitumumab, we need to estimate weight. Appendix S3 of Sacco and colleagues[87] does not give the weights but Sacco provided us with the weight data that were used to calculate body surface area. We calculate the mean and standard deviation of the weights of the 291 men as 79.8 kg and 15.0 kg respectively. Similarly, we calculate the mean and standard deviation of the weights of the 151 women receiving palliative chemotherapy for colon cancer as 65.3 kg and 14.0 kg respectively. Next, we again follow the methodology described in the example calculations in Appendix S1 of Sacco and colleagues[87] to calculate the mean dosage for men and women independently, allowing for wastage of drugs due to fixed vial sizes. The mean dose for all patients, assuming 66% men and 34% women, is calculated as the average of the male and females doses weighted by the 66% and 34% respectively.

### *Pharmacy drug preparation costs*

All drugs require preparation by a hospital pharmacist. Kate Copland, a hospital pharmacist from the Royal Devon & Exeter Hospital (Exeter, Devon), cited in personal communication (2011) that the preparation times per infusion of bevacizumab, irinotecan and cetuximab are equal (*Table 66*). We assume that the same schedule applies to panitumumab.

**TABLE 66** Hospital pharmacy preparation tasks per infusion of bevacizumab, irinotecan and cetuximab

| Task | | Time | Staff grade | Average annual salary[a] |
|---|---|---|---|---|
| 1 | Clinical check of prescription | 10 minutes | Band 7 | £36,000 |
| 2 | Producing batch sheets and labels | 5 minutes | Band 4 | £20,000 |
| 3 | Assembly of ingredients | 5 minutes | Band 4 | £20,000 |
| 4 | Checking in of batch | 5 minutes | Band 4–8c | £38,071 |
| 5 | Decontamination of ingredients | 5 minutes | Band 2–4 | £17,333 |
| 6 | Drug reconstitution and labelling of product | 15 minutes | Band 2–4 | £17,333 |
| 7 | Final check of batch | 5 minutes | Band 6–8c | £44,400 |
| 8 | Documentation control | 10 minutes | Band 2–4 | £17,333 |

a Taken from NHS terms and conditions of service handbook, Annex C, table 13.[91]

Using the information in *Table 66*, the length of the average working week (37.5) and number of days of holiday per year (38 days), we calculate the total cost of the preparation of one infusion as £15.