1. Use of VAC therapy to treat wounds

1.1 Wounds that fail to heal cause significant morbidity and mortality.
1.2 Treating wounds costs the NHS more than £1 billion each year.1
1.3 Current practice in treating wounds primarily involves dressings.
1.4 VAC therapy promotes wound healing by applying topical negative pressure across a foam dressing to remove excess interstitial fluid, to improve blood flow to the wound and to re-establish normal lymphatic circulation.
1.5 VAC therapy can be used to manage patients with chronic wounds (e.g. pressure ulcers), acute and traumatic wounds (e.g. amputations, partial thickness burns), subacute wounds, meshed grafts and flaps. It can be used to complement surgical procedures or as an alternative non-surgical wound healing technique.2
1.6 There is currently only one manufacturer for VAC devices which are available worldwide. The manufacturer offers rental or purchase options for VAC devices.3 In addition, there are ongoing costs of disposables (i.e. dressings, canisters) for VAC therapy. For example, it is recommended that dressings should be changed every 48 hours for adults with non-infected wounds and daily in children, and VAC canisters and tubing should be changed when full or at least weekly.3

2. Issues for service development or review

2.1 The manufacturer does not recommend VAC therapy as first-line treatment for chronic wounds and advises that it should only be considered after appropriate modern wound dressings have failed.2
2.2 VAC therapy is contraindicated in wound malignancy, untreated osteomyelitis and necrotic tissue with eschar present. Some VAC devices are contraindicated in fistulas to organ or body cavities and non-enteric and unexplored fistulas, but the manufacturer's guidelines for each device should be consulted prior to use. VAC dressings should not be placed over exposed vessels or organs. VAC therapy should be used cautiously in patients with active bleeding, patients with difficult wound haemostasis and in patients on anticoagulants.4
2.3 There is limited trial-based evidence of the clinical effectiveness of VAC therapy in healing wounds. VAC therapy may have greater efficacy in healing chronic wounds compared with saline gauze dressings, but this finding is based on two small, randomised controlled trials (RCTs).1 A Cochrane review states that this evidence should be interpreted with caution due to flawed trial methodology.1 Additionally, saline gauze dressings are not standard treatment for wounds in Scotland.
2.4 There is a lack of evidence of the effectiveness of VAC therapy compared with newer alternatives in wound healing (e.g. hydrocolloid dressings).
2.5 There is limited evidence regarding adverse events associated with VAC therapy.2, 3
2.6 There is a paucity of independent data on the cost effectiveness of VAC therapy.
2.7 With the exception of the manufacturer’s guidance, no standards or guidelines specifically related to the use of VAC therapy in healing wounds have been identified.

3. Further research

3.1 A Cochrane review1 suggests that a trial to evaluate the extent to which VAC therapy contributes to wound healing be undertaken in which the control dressing is the same as the one used for VAC therapy but without application of topical negative pressure.
3.2 There is also a need for prospective, adequately powered, well-designed, multicentre RCTs comparing the clinical and cost effectiveness of VAC therapy with current standard care in wound healing. Such RCTs should include appropriate outcome measures such as healing rates, healing times, quality of life and costs.