Royal College of Physicians

Setting higher standards

Acute care toolkit 4

Delivering a 12-hour, 7-day consultant presence on the acute medical unit

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Recent reports have highlighted the value of consultant-delivered care in improving outcomes for patients. The Academy of Medical Royal Colleges document *The benefits of consultant-delivered care*[1] emphasises the importance of consultant intervention in the acute setting, where rapid diagnosis, with appropriate investigations and clinical response to the patient's condition, is paramount.[2]

The rapid expansion of the specialty of acute internal medicine (AIM), along with the development of over 225 acute medical units (AMUs) across the UK, has increased the provision of consultant-delivered care for acutely unwell medical patients admitted to hospital. Furthermore, the presence of an acute medicine consultant on the AMU has been shown to be associated with improved outcomes.[3] However, there remain concerns regarding the consultant provision outside of normal working hours.[4]

The Royal College of Physicians (RCP) and Society for Acute Medicine (SAM) recommend that a consultant presence should be maintained on the AMU for a minimum of 12 hours per day, seven days per week.[5,6] This toolkit has been produced by the RCP and SAM to provide guidance and describe working practices to help achieve this.

What is an acute physician?

Most consultants working on AMUs fall into one of three categories:

- physicians who have trained specifically in AIM, with or without dual accreditation in general internal medicine (GIM)
- physicians who have undertaken training in GIM, with or without a specialty other than AIM, whose *predominant* direct clinical care (DCC) commitment is on the AMU
- physicians who have trained in GIM and a medical specialty other than AIM, whose *predominant* DCC is in the specialty, but who provide some non-specialty DCC on the AMU.

For the purposes of this toolkit, consultants in the first two categories will be referred to as 'acute physicians', while the third group will be termed 'specialty/general physicians'. The term 'AMU consultant' will be used to describe a consultant in any of the above categories, working on the AMU.

> A recent study ... identified an association between consultant working patterns involving greater continuity of care, and improved patient outcomes.[11]

Why is 12-hour, 7-day consultant working on the AMU important?

Acute illness is a 7-day problem; patients are just as likely to develop a condition that requires emergency medical admission on a Saturday or Sunday as they are on any weekday.

There is considerable UK and international evidence to suggest that patients admitted to hospital at weekends are more likely to die than those admitted on weekdays, and that mortality in hospitals is higher during the weekend.[7–10]

Although a causal link between reduced consultant availability at weekends and patient outcomes is not clearly established, it is intuitive that patients should expect to receive a high-quality, safe level of care on every day of the week.

A recent study by the RCP identified an association between consultant working patterns involving greater continuity of care, and improved patient outcomes.[11]

- Excess weekend mortality was lower in hospitals in which the consultant worked blocks of two or more consecutive days on the AMU.
- There was a lower 28-day readmission rate in hospitals where the consultant was present on the AMU for more than four hours per day, seven days per week.
- Hospitals in which the consultant undertook twice-daily ward rounds for all AMU patients, and had no other conflicting commitments while on the AMU, had lower adjusted case fatality rates.

What is the current provision of 7-day consultant service on the AMU?

A survey conducted in 2010 by the RCP and the SAM indicated that the provision of consultant-led care at weekends remained limited.[4] In many hospitals, acute physicians predominantly provided a weekday AMU service, with weekend cover often delivered by specialty/general physicians. This situation is evolving as more acute physicians are appointed. However, achieving a 12-hour, 7-day (12/7) consultant presence on the AMU will involve significant challenges:

- Extending the hours of acute physician presence on the AMU into weekends risks compromising weekday service provision.
- A high-quality weekday service needs to be maintained.
- Most units are likely to require additional AMU consultant appointments in order to deliver 12-hour consultant presence seven days a week.
- Maintaining the rate of increase in acute physician posts seen in the last 10 years will be difficult in the current financial climate.

Delivering a 12/7 consultant presence in all AMUs across the UK will usually require integrated working arrangements, shared between acute physicians and specialty/general physicians.

Optimal benefit from 12/7 consultant presence on the AMU will only be fully realised if appropriate support and diagnostic services are provided. A more detailed description of the necessary support services can be found in the SAM and West Midlands Quality Review Service document, *Quality standards for acute medical units*.[12]

Recommendations

- When undertaking clinical duties on the AMU, the consultant should be free from any other specialty, ward or management commitments.
- Individual consultants' duties on the AMU should be for two or more consecutive days; any variation must be specifically designed to optimise continuity of care on the AMU.
- Appropriate diagnostic and support services should be provided seven days per week, to ensure that the full benefits of consultant delivered-care to patients are realised.

What should a consultant do while present on the AMU?

The core duty of a consultant on the AMU is to ensure senior review and implementation of a management plan for all patients admitted in an emergency. Quality standards from the Society for Acute Medicine[12] and RCP acute care toolkit recommendations[13] require all patients to undergo consultant review within 14 hours of arrival. During the period of consultant presence on the AMU, the time to consultant review should be considerably shorter (within six to eight hours),[13] with provision for immediate consultant review for patients whose clinical condition warrants this.

In line with the recommendations of the RCP Acute Medicine Task Force,[2] all patients on the AMU should be reviewed by a consultant twice daily, with the support of the relevant specialty team and support services as needed.

Benefits of early consultant review include:

- initiating treatment or escalation to higher-dependency care for patients who are critically unwell or deteriorating
- establishing a ceiling of care and resuscitation status for patients as appropriate
- identifying patients suitable for early discharge from hospital
- ensuring that the most appropriate investigations are undertaken, particularly in the case of complex imaging
- supervision and training of clinical staff.

Other consultant activities on the AMU may include:

- rapid assessment / admission-avoidance clinics
- supervision of ambulatory care facilities and follow-up of patients following early discharge
- bedside teaching of junior doctors, nurses and medical students, including provision of workplace-based assessments
- supervision or provision of complex practical procedures (eg lumbar puncture, intercostal drainage, central venous cannulation).

Recommendations

- During the period of consultant presence on AMU, all newly admitted patients should be seen within six to eight hours, with the provision for immediate review as required according to illness severity.
- A newly admitted patient must be seen by a consultant within 14 hours after arrival on AMU.
- All patients in the AMU should be reviewed twice each day by the AMU consultant or appropriate specialty team.

At what times should AMU consultants start and finish work on the AMU?

Start time

Early-morning discharges are crucial to maintaining patient flow on an AMU. Furthermore, in order to provide feedback on care provided overnight, consultant review of patients should involve the junior doctor responsible for the patient's initial assessment and support. Fulfilling the requirement that all patients should be reviewed by a consultant within 14 hours after arrival will also require early-morning assessment for those who were admitted the previous evening.

Consultant working on AMU should therefore start no later than 8am.

Finish time

Given a start time of 8am, a 12-hour consultant presence would usually finish at 8pm, but patterns of patient arrival may justify more extended evening working. If local referral and arrival patterns indicate that large numbers of patients arrive on the AMU after 8pm, a consultant presence until 10pm will allow a clear management plan to be in place for the night team. This will contribute to safer handover of care and enable the consultant to be involved directly, as highlighted in the RCP's *Acute care toolkit 1: handover*.[14] Extended working on the AMU will require more than one consultant shift per day, with overlap to enable handover. An individual consultant's working day should not exceed 12 hours.

Recommendations

- Consultant presence on the AMU should start no later than 8am.
- Duration of an individual consultant's presence on the AMU should usually be between eight and 12 hours.
- Extended evening working until 10pm should be considered, depending on local patterns of patient referral and arrival.

How many consultants are required on the AMU each day?

The number of consultants required to deliver the service on a day-to-day basis will vary, depending on a number of factors on the AMU, including:

- the number of new admissions / patient contacts per day
- the number of beds
- the acuity of the beds, particularly whether there are beds designated for patients with higher levels of dependency (eg Level 2, high-dependency beds)
- the input of specialty teams to continual care of patients on the AMU
- other scheduled AMU clinical activities as listed above.

This document reinforces previous recommendations that each new patient contact is likely to equate to 15 minutes of consultant time.[15] This includes review of the patient and investigation results, administration, and time with relatives/carers. It is recognised that some patients with complex needs may require longer, but this should be offset by less complex cases.

Considering the recommendation that each patient remaining on the AMU is reviewed twice each day, the duration of the second consultant contact would usually be considerably shorter. Working patterns which optimise continuity will further improve efficient use of consultant time.

One consultant undertaking a 12-hour day should expect to carry out no more than 45 patient contacts (including some second reviews), or 35 contacts during an eight-hour period, allowing for appropriate break times.

Table 1 provides a guide to the minimum numbers of consultants required to provide senior review of patients on the AMU during the period of consultant presence. Calculations have not taken account of other AMU consultant activities, as listed above.

Larger units with more admissions may require more than one consultant working simultaneously on the AMU, with a suitable division of duties between them, to ensure the balance between intensity and duration of the shift. This model of care, where two or more consultants work 'in parallel', is preferred to shorter, consecutive shifts requiring multiple handovers and less continuity of care. Parallel working, for example on a Saturday morning, may offer particular benefits to continuity of care where an acute physician familiar with patients admitted on the previous day(s) overlaps with an incoming specialty/general physician, rostered to provide AMU consultant cover.

Larger units may require more than one consultant working simultaneously on the AMU

Table 1 Minimum numbers of AMU consultants required, according to size of unit and numbers of patient contacts per day

Approximate number of beds on AMU	Number of admissions per 24 hours	Approx number of patient contacts 8am–8pm*	Number of consultant equivalents required on the AMU 8am–8pm†
≤30	≤ 25	≤55	1–1.5‡
30–50	25–44	55–89	1.5–2
51–70	45–60	90–135	2–3
>70	>60	>135	>3

* see Appendix 1 on RCP website for example calculation
† These numbers should be considered a *minimum* standard and may need to be augmented by other factors, including dependency levels n the AMU and the numbers or experience of junior medical staff
‡ 1 consultant working for 12 hours = 1 consultant equivalent; consultant presence may be augmented with the addition of shorter, overlapping shifts

Recommendations

- Calculation of numbers of consultants required on the AMU should be based on anticipated number of patient contacts during the core hours of service (see Appendix 1 on RCP website)
- Greater numbers of consultants may be required in larger or high-volume units, or those managing patients with greater dependency.

How should overnight consultant cover be provided for the AMU?

Most hospitals currently provide a non-resident consultant physician on-call rota overnight.[4] The likelihood of the consultant being woken for telephone advice or to return to the hospital will depend on a number of factors, including: seniority of the overnight AMU team, the size of unit, dependency levels of patients on the AMU, and the range of specialty physicians on call. The impact of disturbed sleep during an on-call period is reflected in the intensity payment, but should also be reflected in the daytime work pattern.

If there is a high expectation of direct clinical involvement for the consultant at night, the consultant rota may have to be modified to optimise patient safety. This may include a shift pattern so that the consultant responsible for daytime care is not expected to provide direct clinical care overnight. It is recognised that local circumstances will dictate how the best continuity for patient care will be achieved.

This toolkit makes recommendations and describes working practices to achieve a 12/7 consultant presence on the AMU. Achieving a 24-hour, 7-day consultant presence would require considerably larger numbers of AMU consultants. Some organisations are already working towards this goal but this will be difficult to achieve in the foreseeable future, given manpower and financial constraints.

How should a 12-hour, 7-day consultant on-site rota be designed for the AMU?

Consultant working patterns should be designed to enhance continuity of patient care. Wherever possible, the consultant who performs the initial review of the patient after arrival on the AMU should review the results of investigations and/or response to treatment. For example, the consultant undertaking morning review of existing patients on the AMU should be the consultant who was involved in their initial management the previous day.

In addition, the following factors should be considered in the design of 12-hour, 7-day consultant rotas:

- the number of direct clinical care programmed activities (DCCPAs) required per week (see Appendix 2 on RCP website)
- the potential impact of disturbed sleep on daytime working, requiring more than one consultant to share the weekend duties
- the long-term sustainability of the rota pattern.

Involvement of a minimum of 10 consultants in the weekend rota should ensure a sustainable frequency of weekend working, even if the weekend working arrangements are shared between two consultants. For smaller units, it may be possible to operate a rota with fewer than 10 consultants if there is a comprehensive arrangement in place to provide days off in lieu.

Arrangements whereby weekend working is shared between an acute physician and specialty/general physician can have mutual

benefits; this can provide opportunities for sharing of clinical expertise as well as knowledge of the systems and organisational structure of the AMU.

Examples of rotas involving 10 consultants participating in a 7-day service are provided in Appendix 3 on the RCP website. Hybrid rotas involving a mixture of acute physicians and specialty/general physicians will require variations from these models. Integration of GIM/specialist consultants into the rota may help enable an additional daytime consultant presence on the AMU.

Appendices

The three appendices to this toolkit can be found alongside the online version of the document, at **www.rcplondon.ac.uk/act4**.

Appendix 1 Example calculation of numbers of patient contacts per day

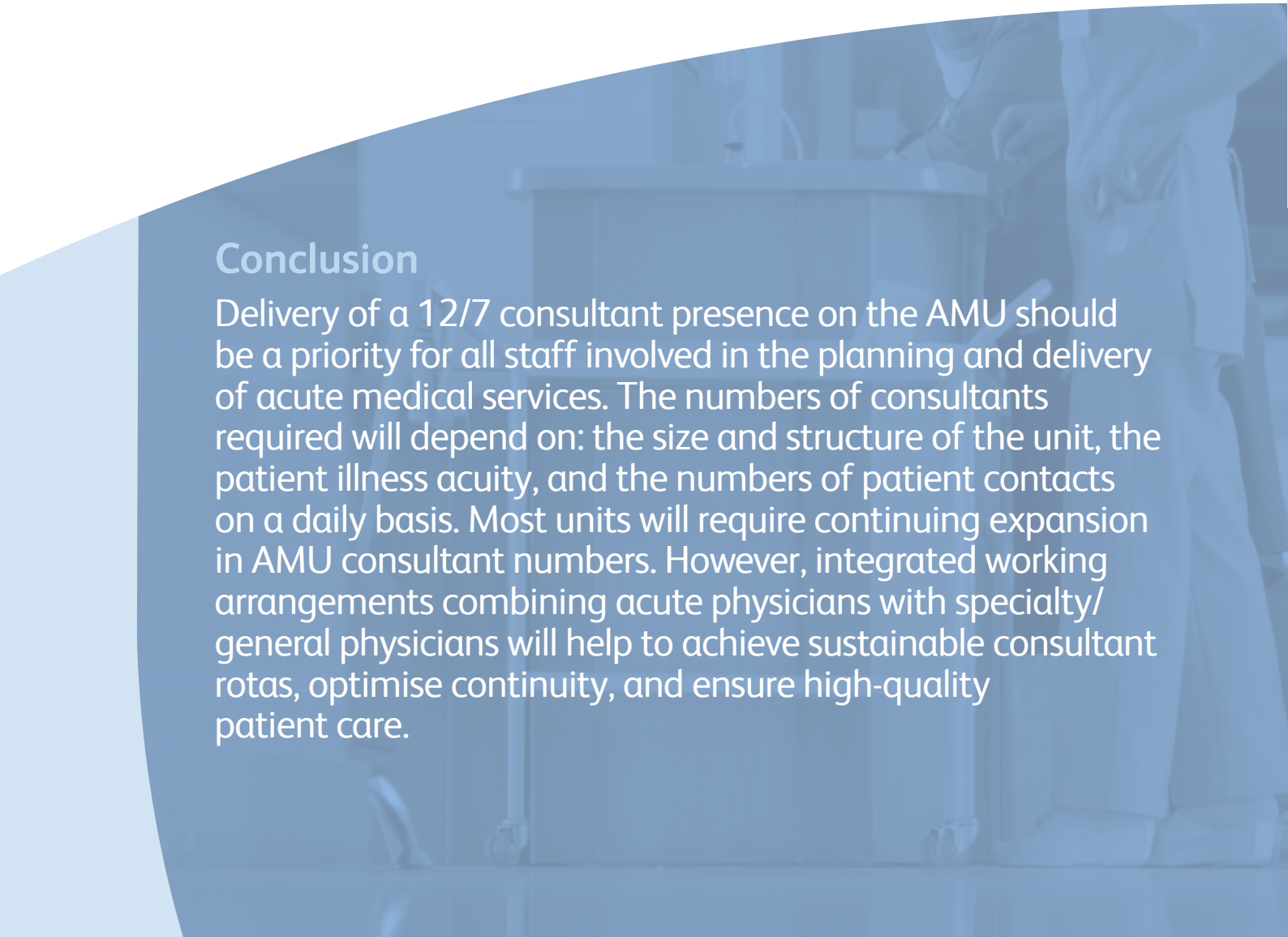
Appendix 2 Calculation of programmed activities for direct clinical care on the AMU

Appendix 3 Example rotas

This is the fourth in a series of acute care toolkits published by the RCP

> *Acute care toolkit 1: Handover* was published in May 2011.
> *Acute care toolkit 2: High-quality acute care* was published in October 2011.
> *Acute care toolkit 3: Acute medical care for frail older people* was published in March 2012.

The toolkits can be accessed online at www.rcplondon.ac.uk/resources/acute-care-toolkits



Conclusion

Delivery of a 12/7 consultant presence on the AMU should be a priority for all staff involved in the planning and delivery of acute medical services. The numbers of consultants required will depend on: the size and structure of the unit, the patient illness acuity, and the numbers of patient contacts on a daily basis. Most units will require continuing expansion in AMU consultant numbers. However, integrated working arrangements combining acute physicians with specialty/general physicians will help to achieve sustainable consultant rotas, optimise continuity, and ensure high-quality patient care.

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