Since ceftriaxone was first synthesized in 1978, its efficacy has been demonstrated in a wide range of infections caused by gram-positive and gram-negative aerobic bacteria as well as some anaerobic bacteria.

This workshop has highlighted the efficacy of ceftriaxone when used in a once-daily dosage schedule in various infections. Bradley demonstrated that outpatient therapy with once-daily ceftriaxone administered intramuscularly, or intravenously, through peripheral or central indwelling catheters, can be successful in convalescent children affected by meningitis, periorbital facial cellulitis, sinusitis, arthritis, endocarditis, and other infections due to susceptible organisms.

Using guidelines to identify children at low risk of failure, most patients initially hospitalized may receive a portion of their subsequent parenteral treatment as outpatients. Bradley’s data outlined the impact of this development on antimicrobial strategy and health economics. While the acquisition cost is often used to assess the financial impact of a given antimicrobial regimen, many other factors must also be considered. The cost benefit of antimicrobial usage is rarely documented because the overall cost of therapy is difficult to quantify. The decreased health care costs as well as psychosocial benefits for the child and the parents outlined by Bradley were substantial for the selected low-risk population of children described in his study.

When compared with hospitalization costs, remarkable cost savings were also achieved by Tice in his study of an adult outpatient population treated with parenteral ceftriaxone. In his experience, outpatient therapy with once-daily intramuscular or intravenous ceftriaxone (1 or 2 g) was as effective as hospital therapy. The compliance in his study was excellent. Less than 5% of the patients showed adverse effects that caused them to discontinue ceftriaxone treatment. In all cases the reactions were reversible.

Two papers presented in this workshop examined the subject of once-daily ceftriaxone as empiric therapy for the treatment of pneumonia. Brown demonstrated that ceftriaxone is an effective monotherapy against the majority of likely pathogens in hospitalized patients of all ages. He reminds us that for community-acquired pneumonia in adults, the mortality is 30% for patients over 69 and only 4% in those under 69 years of age.
Brown concluded that ceftriaxone (1 g) once daily is an excellent agent for the empiric management of pneumonia caused by susceptible pathogens. O’Hanley and co-workers assessed the impact of an improved parenteral antibiotic control policy in optimizing therapy for pneumonia patients over 70 years of age, treated in the nursing home setting. A 23% reduction in long-term antibiotic acquisition costs was achieved in his Veterans Administration hospital, without detrimental effect on patients. Intramuscular ceftriaxone was the preferred therapy, as it required a once-a-day administration versus twice a day for cefotaxime.

Jewesson reported on a ceftriaxone-cefotaxime therapeutic interchange programme in a large teaching hospital after a decision analysis model picked ceftriaxone as the preferred third-generation cephalosporin to be employed in the hospital formulary. The study revealed no difference between ceftriaxone and cefotaxime in terms of clinical and microbiological outcome or patient tolerance. However, comparison of daily doses of ceftriaxone (2 g) versus cefotaxime (6 g) revealed that, in terms of acquisition, delivery, laboratory, and complication costs, ceftriaxone was approximately 10–15% less expensive than cefotaxime.

In conclusion, this workshop has affirmed that ceftriaxone now has a well-defined place as an appropriate alternative for the parenteral treatment of a variety of lower respiratory tract infections in paediatric, adult, and geriatric patients. It also offers the advantage of greater convenience over other frequently used parenteral antibiotics. Ceftriaxone appears to be particularly useful as a therapy for convalescent outpatients. However, the specific indications for which ceftriaxone and other third-generation cephalosporins are considered agents of choice are generally still determined by factors as varied as local medical custom, decision of regulatory authorities, and geographical patterns of bacteriological susceptibilities.