ELECTIVE (SSC5a) REPORT (1200 words)

A report that addresses the above four objectives should be written below. Your Elective supervisor will assess this.

The healthcare systems in the US and the UK differ significantly. They represent the extremes of healthcare with the American system boasting the largest private sector system compared to the British, which has one of the largest public systems in the world.

Based on personal experiences, as a brit having lived and worked in the US healthcare system for a month, I can provide anecdotes and experiences to the healthcare systems in both countries. For those unfamiliar with the UK system, it is nationalized and offers universal healthcare coverage to all, regardless of social class or income. The National Health Service or NHS for short, is funded directly through general income tax. It is automatic funding system where a certain percentage of a resident's salary is allocated to the NHS, with taxes usually around the 20% range, but higher for those who have a higher income. However, this is not the case in the US, which has a relatively complicated healthcare system with a variety of insurance companies each offering a plethora of different plans and coverage. In addition to this, each plan has varying degree of coverage which means that sometimes, patients must pay specialists additional fees even if they are covered.

With the specific emphasis on hypertension, it was clear to see many differences between British and American guidelines, but other the hand there were also many similarities which emphasizes that certain aspects of hypertension management are nationalized across the world.

Primary differences between American and European Guidelines for Hypertension	
Classification of BP status and definition of hypertension	Despite their similarities, the two guidelines take a different position in several key areas. The most apparent is in the classification of hypertension. In the European guidelines, hypertension is defined as a BP ≥140/90 mm Hg while the Americans choose a lower threshold of BP ≥130/80 mm Hg. American guidelines classify Stage 1 hypertension as SBP ≥130-139 mm Hg or DBP ≥80-89 mm Hg while the Europeans define this as high normal BP (130-139/85-89 mm Hg). ACC/AHA defines Stage 2 hypertension as BP ≥140/90 mm Hg while the Europeans continue to classify this as Stage 1 (140-159/90-99 mm Hg)
BP targets in older adults (age > 65)	Unlike the 2017 ACC/AHA recommendation for similar BP targets across all age groups (except age ≥65 years where the ACC/AHA guidelines recommend target of SBP <130 mmHg), the ESC/ESH guidelines have taken a more restrained stance on BP thresholds for older adults. The 2013 ESC/ESH guidelines endorsed a BP target of <150/90 mm Hg for adults ≥65 years old. The 2018 committee recognized the importance of more aggressive BP control for all populations, including older cohorts, and supported lowering the threshold to <140/80 mm Hg for this group. Consistent with the ACC/AHA recommendations, there is acknowledgment of the difference between biological versus chronological age and the importance of assessing other factors, such as frailty and tolerability of treatment, to guide BP management in this population.
Drug treatment strategies	There is consensus on pharmacologic hypertension management between American and European guidelines. Antihypertensive therapy recommendations for specific disease states including CAD, CKD, and HF-rEF are nearly identical. The Europeans still include beta-blockers among the first line options for hypertension management while American guidelines specify their primary use only for patients with ischemic heart disease or HF-rEF.

Similarities between American and Europeans Guidelines for Hypertension	
Lifestyle modifications	When comparing both the guidelines, it is clear to see that they both put a considerable degree of emphasis on primary interventions to prevent and treat hypertension. The ACC/AHA and ESC/ESH hypertension guidelines stress the importance of weight optimization, heart healthy diet (e.g., DASH), sodium restriction, physical activity with a structured exercise program, abstinence from or moderation of alcohol consumption and smoking cessation as strategies to optimize BP (Class 1, evidence level A). Both these guidelines mentioned how effective primary interventions could delay or even prevent the need for pharmacological therapy to be included in patient's treatment plan
Pharmacotherapy for BP management	American and European hypertension guidelines recommend initial BP treatment based on four major classes of pharmacotherapies including ACE inhibitors (ACEi), angiotensin receptor blockers (ARBs), calcium channel blockers (CCBs), and thiazide/thiazide-like diuretics. Beta-blockers are recommended in select patients, such as those with heart failure with reduced ejection fraction (HF-rEF) or myocardial infarction. Combination therapy is recommended by both guidelines for stage 2 hypertension, average SBP/DBP >20/10 mm Hg above BP target
Emphasis on accuracy of BP measurement	Both guidelines recommend office blood pressure (BP) measurement on repeated visits and ambulatory blood pressure monitoring (ABPM) or home blood pressure monitoring (HBPM) to confirm the diagnosis of hypertension (Class I). ABPM uses a device worn on the patient's arm to record BP at 15- or 30-minute intervals for 24 to 48 hours during routine daily activities and sleep. HBPM is a self-monitoring tool where patients use commercially available instruments to measure and record their BPs. There is consensus that ABPM and HBPM provide a greater number of BP measurements than conventional office BPs and reflect conditions that are more representative of daily life.

However, when looking at the larger picture, there was a considerable number of differences that I noticed during my rotation in Miami. One such glaring difference was the practice of defensive medicine. It is reported that around 60-90% of doctors in the US practice defensive medicine, which is the practice of ordering unnecessary tests, procedures, and other medical care to reduce the threat of malpractice liability. There are a considerable number of doctors who believe in this principle, which is costing the US healthcare system approximately an additional 50 billion dollars annually. For example, one specific anecdote provided by my attending, was a life experience where he had an ankle sprain and headed to ED, where a doctor requested a CT head just so that they didn't miss anything. When comparing this scenario in the UK, I feel there is a stricter use of resources, that are usually reserved to the patients who need it the most. Moreover, this could stem from the fact that there is a much lower risk of litigation in the UK compared to the US. In the American system studies have shown that the reason why certain doctors have been sued is due to poor bedside manner and deficiencies in the patient-doctor relationship, however, the doctors still have ingrained idea that this is not the case and instead ordering more tests would rectify this issue. This as a result adds an increased amount of pressure to a job that already has a partnership with stress, which could lead to further mistakes taking place. Just the cost of becoming a doctor is much higher in the US compared to the UK, the cost of practicing medicine is also higher due to high malpractice insurance costs as well as costs from risk of getting fined or having one's license revoked.

Overall, both healthcare systems have their own advantages and drawbacks, and in terms of cardiovascular health both strive to improve health of the population with varying guidelines. However, the British system has far less variation and treatment guidelines especially for hypertension follow a more structured approach compared to the US guidelines, which is more trial and error. In addition, the risk of litigation heavily affects patient's care by physicians which is largely different to the UK healthcare system.