Kitchen Design

In residential homes, meals are prepared and shared in the kitchen, which also serves as a gathering place for family and friends. In contrast, food is prepared in a commercial kitchen far way from its final destination in the vast majority of senior living communities. Traditionally, food was placed on trays, with all courses together at one time, and then transported to a large, central dining area. The residents have no sensory involvement in preparing for the meal other than the assumed knowledge that it is “lunch time.” They have not experienced the smells and sounds of food preparation. Residents may not even be hungry; they may not have even eaten at this time previously in their lives. However, all residents must be served at the same time because of the food delivery system.

Adding a residential kitchen to a household (see white paper Care Setting Size and Configuration) of residents can work not only to assist in food preparation, but can help to make the resident feel more at home. As the kitchen is usually the gathering place in residential homes, its placement next to a dining room can evoke pleasant memories of home. For residents with dementia, a care community that most closely resembles the housing they are accustomed to will increase their comfort level. Having a kitchen at their disposal will help to maintain a sense of usefulness and pride that may stem from past food preparation activities.

Functional vs. Faux Kitchen

It is essential that provider organizations determine the meal service system prior to beginning the design process because there are significant space, storage, and transportation needs for different systems. There are fundamentally three options for food service: (1) central kitchen only, in which food is served on trays or
from a steam table in the dining room; (2) Central kitchen with satellite kitchens on households, so food preparation could then be in central kitchen only or mixed with satellite and central (in this scenario, often some part of each meal is prepared in the satellite kitchen, or breakfast could be prepared there); and (3) satellite or household kitchen only, where all food is prepared (or heated) in the household.

First, let’s discuss the central functional kitchen with a façade kitchen on a residential unit. In this scenario, food is prepared in the larger central kitchen, while a designated space in the household appears to be a kitchen, but houses only the necessities of food delivery, such as extra utensils, napkins, and clean up towels. This would eliminate potential food preparation hazards for residents, including burns and cuts. However, the resident has no sensory experience of meal preparation. The smells and textures associated with food preparation work to ready the body for digestion. When food is smelled or handled in preparation for eating, there is an increase in the production of stomach acid. When all food items are stored in a central kitchen, there is limited opportunity to eat a favorite snack between scheduled mealtimes. If a resident has traditionally had breakfast of yogurt and coffee at 10:00am followed by a larger noontime meal, he/she may be uncomfortable with being served a tray full of food at 8:00am and may be unable to access food at 10:00am. Residents may begin to feel they have no control over their food, which can negatively impact feelings of self-worth, especially if they were the primary food preparers in their own home.

Second, let’s discuss a central functioning kitchen with a sister kitchenette in the household. The unit kitchenette should appear as a typical home kitchen and include sinks, cabinets, stove (i.e., depending on local codes), refrigerator, and countertop. The majority of food could be prepared in the central kitchen and then brought to the residents and served family style (i.e., from the same dish), rather than being served on a tray. Residents could lend their skills to meal preparation activities on the units to ready themselves for the meal. Residents could assist with beverage preparation and distribution, ensuring snacks are ready at all times, setting tables, and washing dishes. These activities can help residents feel more in tune with the dining experience and maintain their self-worth.
Finally, there could be fully functional kitchens in each resident household that are responsible for the entire meal service. Staff, sometimes with assistance from residents, could prepare meals. Additional training for staff would be necessary to minimize potential hazards and cross-contamination issues. However, this provides the most familiar routine for the residents. Some residents may feel a sense of purpose if they can participate in creating a good meal for their fellow residents. Significant therapeutic benefits can result from the meaningful activity and challenge of meal preparation.

The design trends over the past five years are clearly moving toward the provision of a fully functional kitchen in each household (or depending on the configuration, shared between two households).

Another design trend involves integrating parts of a typical nursing station with the kitchenette\(^7\). The counters of the unit kitchen serve part-time as the staff workstation. Some cabinets are accessed only by the staff and contain charts and medications. If a centralized kitchen/workstation is designed, the staff could have a full view of the residents in the dining area or multipurpose room. In most cases, this does not replace the need for a separate, enclosed work room for staff.

**Design Details for Useable Kitchens**

**Accessibility: Counters and Cabinets**

As mentioned above, the kitchen on the household can be a source of light snacks to full meal preparation. When counters are provided at two heights (e.g., 30” and 36”) a resident in a wheelchair can more easily participate in kitchen activities\(^8\). Ensure that there is enough open space below the lower counter area to allow people in wheelchairs to get close enough. Residents can then fold napkins, arrange beverages for pick up, or engage in other useful tasks. Upper cabinets should be lowered several inches to accommodate the decreased range of motion associated with typical aging\(^9\). Cohen and Weisman state adjustments in shelf heights to be a maximum 5’7” for standing and 4’3” for people in wheelchairs\(^10\).
Kitchen cabinetry can have many different uses. Some locking cabinets should be provided to protect residents from dangerous items. These cabinets could also be used for medication storage if the kitchen is also used as a nursing station. If the door of the cabinet contains a see-through panel, the resident can easily see what is in the cabinet and rummaging behavior may be reduced\(^\text{(11)}\). Pulls are preferred over knobs because they are easier to grasp and manipulate. Consider pullout drawers in base cabinets that will frequently be used by residents.

**Safety: Appliances**

Appliances are central to the theme of kitchen, but should be selected for both safety and usability. Use refrigerators that have side-by-side doors so that residents in wheelchairs can access both sides. Faucets should have water temperature controls to prevent scalding. Sinks with open areas underneath for wheelchair users should have insulated sleeves place over hot water pipes to prevent burning legs or feet. Some appliances, such as the stove, may need to have restricted plugs or locking mechanisms to protect residents when they are unsupervised. Master power switches for the stove can be made inaccessible by placing them inside cabinets\(^\text{(12)}\). Alternatively, stovetops can be covered or knobs removed when the residents are in the kitchen unsupervised\(^\text{(13)}\). Smart stoves with induction cook tops can greatly reduce the risk of fire or injury\(^\text{(14)}\). Some small appliances, such as food processors and toaster ovens, should be stored in adjacent locked pantries or in an appliance garage.

**Lighting**

The kitchen area should have consistent, even lighting\(^\text{(15)}\). Natural daylight can provide ambient lighting, but some additional lights will be needed to increase the light level for work surfaces. The kitchen requires high light levels, ranging from 50 to 75 footcandles at the work surface\(^\text{(16)}\). As a rule of thumb, the difference between the darkest and lightest parts of a room should be less than threefold. No area should be three times brighter than the area between fixtures. Avoid recessed down lights because they create glare.
References


