Critical Care Medicine
Orientation to the Match

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Of interest to the APCCMPD is the Specialties Matching Service. Twenty-one Fellowship Matches are run throughout the year. The APCCMPD will be joining the Medical Specialties Matching Program, which is the largest Fellowship Match.
Programs must meet one specialty participation criteria to be eligible for the Match. IM-CCM, IM-PUD, IM-PCCM meet the first criteria “Accredited by the ACGME or other entity deemed acceptable to the NRMP.” A program’s NRMP IO (Institutional Official), which is typically their ACGME DIO (Designated Institutional Official), assumes oversight of the program’s participation in the Match. What does that mean? Most institutions have a Graduate Medical Education (GME) office with that DIO as the head. Their oversight will basically consist of activating both the program and the institution for the Match and approving any changes. For example, if you need to increase or decrease your quota, withdraw from the Match, or put any Reversions into the Match, your DIO and GME office will be responsible for that oversight and those approvals. In any given year, you will want to check in with your DIO to let them know whether or not you intend to participate in the Match. After their initial participation, programs are automatically rolled over from one year to the next. A program can decide on joining the Match year-by-year.
Besides the NRMP’s track record of success, here’s a quick reminder of why you should participate:

The Match: Promotes Fairness
NRMP Matches professionalize the recruitment process by creating a level playing field so all participants follow the same rules and adhere to the same deadlines. It eliminates premature decisions based on incomplete information by allowing all offers, acceptances, or rejections to occur at the same time, making sure the processes in place for recruitment at your institution are trainee-centric.

Eliminates Pressure in the Recruiting Process
Applicants and training programs have the opportunity to consider all options, and there is no pressure on programs to extend early offers to get the best candidates. The Match also eliminates problems such as applicants holding onto or reneging on offers in search of better options. Eliminates undue pressure on programs to select applicants before all interviews are complete and make appointments earlier and earlier each year.

Simplifies the Appointment Process
Match participation makes the recruitment and appointment process easy. Using the Registration, Ranking and Results® (R3®) system, programs can quickly and efficiently search applicant eligibility for appointment and enter Rank Order Lists. The R3 system is mobile-friendly so both applicants and programs can manage Match participation from all device types. In addition, applicants can download the Match PRISM® smartphone app to track interviews and interactions with programs.

Produces the “Best Fit” for All Participants
NRMP Matches yield the best outcome because a powerful mathematical algorithm is used to place applicants in their most preferred training program that also prefers them. It creates a
“stable marriage.” “Stable” means that every applicant’s/program’s preferences are optimized. No program or applicant matched with another, would prefer to be with each other. Research on the algorithm used by NRMP was the basis for awarding The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel in 2012.

The mathematical algorithm used by the NRMP to place applicants into residency and fellowship training positions has gained international recognition.

In October 2012, Drs. Alvin E. Roth and Lloyd S. Shapley were awarded The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel for their work in market design and game theory, fields that examine strategic decision making within complex, social institutions. In the early 1960s, Dr. Shapley and his colleague, Dr. David Gale, developed an algorithm that demonstrated how “deferred acceptance” of an offer for marriage could achieve stability and satisfaction of choice among mates. While lacking real-world application, the Gale-Shapley algorithm proved that the “stable marriage” principle of economics could be achieved consistently if individuals or entities were permitted to select alternative options after the most preferred option had been rejected.

In the early 1940s, the U.S. internship and residency selection process had become dysfunctional. The number of available internship positions had grown to exceed the available candidate pool, resulting in “exploding” offers to third-year medical students that allowed them only 24-48 hours to make training decisions so that hospitals would have some assurance that their positions would fill. The NRMP was established in the 1950s at the urging of medical students to address and correct the disorganized and chaotic methods that had evolved within the residency labor market. In 1984, Dr. Roth showed that the NRMP had achieved great success largely because the algorithm it utilized was a version of the Gale-Shapely algorithm.

In 1995, the NRMP matching algorithm was re-evaluated to address concerns that it favored residency programs over applicants. The existing algorithm had proposed matches based on the programs’ rank order lists. Research conducted by Dr. Roth and Mr. Elliott Peranson revealed that in a very small number of cases, applicants would match to a higher-ranked program if the algorithm proposed matches based on the applicants’ rank order lists. The NRMP modified the algorithm to make it applicant proposing, and it continues to succeed today in pairing the preferences of applicants and program directors in a manner that produces a “best result” in filling available training positions.
NRMP has produced a video with a sample Match that can better explain how the algorithm works. Let’s take a look.

The NRMP uses a computerized mathematical algorithm to place applicants into residency and fellowship positions. At NRMP, it’s called the Matching Algorithm. It’s used to match applicants to their preferred programs. The Matching Algorithm is applicant-proposing, meaning it initiates placement of an applicant into a program based on the applicant’s Rank Order List and not a program’s Rank Order List. For a match to occur, both the applicant and program must rank each other. Once started, the algorithm attempts to match each applicant to the applicant’s first choice; however, that can’t be guaranteed. The algorithm will try to match the applicant to the second choice, and so on, until the applicant is matched or all choices have been exhausted. Matches are considered tentative because an applicant who is matched to a program at one point in the matching process may be removed from the program later to make space for an applicant ranked higher by the program. For a program to use the Match to its advantage, it should submit a longer Rank Order List and rank applicants in their preferred order. For applicants to use the Match to their advantage, they should rank all acceptable programs where they interviewed, in their preferred order. Data show that applicants with short lists have a higher likelihood of being unmatched. The Match commitment is binding, which means an applicant is obligated to accept the position and begin training if a match occurs and a program is obligated to train the applicant if a match occurs.
If the process cannot match an applicant to his/her most preferred program, the algorithm proceeds down the applicant’s list rank by rank until a tentative match can be made, or until all the choices on that applicant’s list have been considered. If no tentative match can be made, the applicant will go unmatched.

Matches are final when the algorithm completes its cycle through all applicant Rank Order Lists (ROLs) and tentative matches are confirmed.
One of the concerns with having critical care join the Match is that different programs may have different types of training configurations that they want the Match to accommodate. The Match has flexible options to meet the needs of unique specialties and programs, one of which is the ability to build multiple program tracks to accommodate complex programs. For instance, your program may have 6 positions, 4 of which are a 1-year track, but you might also want 2 positions in a 2-year, EM-focused program track. You have the option and ability to take a look at what your positions are, and even what your applicant pool looks like, and decide what training configurations you want for your program.

Tracks should generally be finalized prior to Ranking Opening (September 29, 2021), although you can add tracks, withdraw tracks, or the program as a whole, until the Quota Change Deadline (November 3, 2021). Keep in mind, once ranking opens, applicants will be starting to rank, so any changes to tracks will require you contacting your entire applicant pool to let them know of the changes and the NRMP program codes to rank. If you’re creating different program tracks, each program track will have its own Rank Order List. You should provide applicants the NRMP program code(s) for your program during the interview process so they can create their Rank Order List appropriately, depending on how you decide to create the tracks for your program. For example, some programs may have just one track, some may have 1-year vs. 2-year, or all 1-year positions but with different specialty focuses, or perhaps something like a research track vs. a clinical-educator track.

The number of positions in each track must also be finalized by the Quota Change Deadline (November 3, 2021), which is generally two weeks before the Rank Order List Certification Deadline (November 17, 2021). If you need some time to finalize how many positions you have in each track, you have until the Quota Change Deadline to do that. Please note that the quota for all your tracks combined should equal the total number of fellows your program intends to train for the appointment year.
HOW DOES A REVERSION WORK?

• “Donor” program reverts a specific number of its unfilled positions to a “Receiver” program.
• The matching process first attempts to fill all positions in the Donor program so that positions “revert” to the Receiver program only if they do not fill during the Donor’s matching process.
• Receiver program accepts a designated number of unfilled positions from a Donor program, and reverted positions are added to the Receiver program’s quota only if the Donor program is unable to fill its positions during the matching process.

EXAMPLE 1: Program with 2 tracks, with 2 positions in each track
The Nephrology track is considered the “Donor” track because it’s not expected to be filled, so the Cardiology track becomes the “Receiver” track. If the Nephrology track goes unfilled, that’s when the Reversion happens. In the example, the algorithm fills 1 position in the Nephrology track, and 2 positions in the Cardiology track. The 1 unfilled Nephrology track position “reverts” to the Cardiology track and the algorithm tries to fill the new third position using the Cardiology Rank Order List. The Match results are considered complete when both programs are shown as filled or all possibilities on the rank order lists are exhausted, with Nephrology filling 1 position and Cardiology filling 3 positions.

Note: If the position that was reverted from the Nephrology track to the Cardiology track had not filled, the Cardiology track would have been listed as “unfilled” in the List of Unfilled Programs.
Remember that you want to revert positions to the program you think is most likely to fill, or to the training type you most want to offer (i.e., what track had the deepest applicant pool). Reversions can also be set up for other types of tracks like research or clinician-educator tracks.

**EXAMPLE: Program with 3 tracks and 6 positions**

This example shows a 1-year Cardiology track with 1 open position (Donor), a 2-year track with 3 open positions (Donor), and a 1-year General track with 2 open positions (Receiver). The algorithm begins by filling two of the three 2-year track positions, the 1-year Cardiology track does not fill its 1 position, and the 1-year General track fills its 2 positions. The 1 unfilled Cardiology position and remaining unfilled 2-year track position revert to the general 1-year track & algorithm tries to fill those positions using the 1-year track rank list, matching 1 of the reverted positions. The Match results are considered complete when the 2-year tracks shows 2 filled positions, the Cardiology track does not fill, but reverts so it shows as filled, and the 1-year General track shows 3 positions filled and 1 unfilled.
EXAMPLE: Same 6 positions in 3 programs tracks (but this time, the 3 positions in the 2-year track are being Donated to both the 1-year General track and the 1-year Cardiology track).

When you set up Reversions, you have to do two things; 1) you have to tell the system how many positions you want to revert, and 2) in what order you want them to revert. The Donor program sets up their reversions in both the number and order they want them to apply. Once set, the algorithm fills 1 of 3 positions in the 2-year track, 2 positions in the 1-year General track, and 2 positions in the 1-year Cardiology track, leaving 1 reverted 1-year track position unfilled. The Match results are considered complete when the 2-year track shows 1 filled position, the 1-year General track fills its 2 positions with the additional 1 reverted position unfilled, and the 1-year Cardiology track fills its 2 positions.

If you feel that your program tracks are going to be as complicated as this scenario, we suggest you contact the NRMP. Their staff will help you set up your program tracks and any reversions. Reversions can be changed up until the Rank Order List Certification Deadline (November 17, 2021), but the number of positions cannot change.
Please let us know if you are considering reversions and want to talk them through with NRMP staff. We are happy to help you set up additional programs tracks and reversions so that you can make the most of the options available to you.

**Reversions**

**Things to Know:**
- Only the donor program can create the reversion.
- Programs do not have to revert all positions in a track, but they cannot revert more positions than the current program quota.
- Programs can revert positions to multiple receiver programs at the same institution; however **NO Circular Reversions**!
  - Circular reversions in which two programs both donate and receive positions **from each other** cannot be accommodated in the R3 system.
- The Institutional Official must approve all reversions.
- Reversions can be added, changed, or deleted but they must be finalized and approved by the Rank Order List Certification Deadline.
- Programs participating in reversions **must** certify a rank order list.
There are 20 subspecialties in the Medical Specialties Matching Program (MSMP). New for 2021 is Critical Care Medicine, and Sleep Medicine has moved from having their own, separate Match to join the MSMP.
Note: All Match events happen on a Wednesday, so expect a lot of reminder emails from the NRMP on Wednesdays.

On Match Day: Programs who do not fill will be placed on the List of Unfilled Programs that’s available at 12:00 PM (ET) on Match Day when results are released to applicants who did not match. Additionally, unfilled programs have access to the List of Unmatched Applicants so they can reach out directly to them if interested. At this point, the NRMP is out of the Match process for the appointment year. There is no Supplemental Offer and Acceptance Program (SOAP) process for the fellowship matches. After the Match results have been released, it is up to the programs how they choose to fill any unfilled positions.
Initially, programs will be loaded into NRMP’s R3 system based on the information provided by APCCMPD. **You do not need to fill out a new program form from the NRMP website, you will just need to respond to whatever survey or data collection effort is undertaken by the APCCMPD.** In subsequent years, programs who participated in the Match will be rolled over into the next Match, and any new programs will reach out to NRMP directly and complete a new program form to join the Match.

A **Match Participation Agreement** is signed every year in which the program participates in the Match.
To participate in a Match, users must create a unique Username and Password that affords them access to the R3 system. This information belongs to the individual, not the institution, program, or medical school, and it is a violation of the Match Participation Agreement if a user allows another individual to use personal login credentials to access the R3 system. **When the Match opens you will receive an email that has a “token link,” which you will click on to create a Username and Password.**

The R3 system can be accessed directly at https://r3.nrmp.org/viewLoginPage or by clicking the orange “LOGIN/REGISTER” button at the top of the page.
After creating your account, you will electronically agree to the NRMP’s **Match Participation Agreement** by entering your password to consent. This agreement creates a binding commitment that says “if you Match to an applicant you are obligated to train that applicant,” in addition to outlining the other rules of the Match. The applicant also signs the **Match Participation Agreement** relating to their obligation to be trained by the matched program.
Ignore dates and specialties shown above—these are screenshots from a test version of the database.

The Match Home Page shows the program track(s) set up for your program and is where you will manage information related to each track. When naming tracks initially, they will be named with the specialty. Once you have determined any training emphasis, tracks can be named based on the tracks as you would like applicants to be able to rank them. However, the NRMP has standard abbreviations they use for certain things, such as 1-year and 2-year, and may abbreviate them automatically in their system. Note the orange “I” icon highlighted at the top of the page. This is where you can click to take advantage of NRMP’s help guides and support resources.
This screen shows where you can manage your program information. It’s where you can change your quota, which will initially be preloaded with information collected from your program’s response to APCCMPD’s survey. This page is also where you would create any Reversions.
Once **Ranking opens on September 29, 2021**, you will then see the Rank Order List tab shown on the screenshot. **Keep in mind that if you have multiple program tracks you will need to create multiple Rank Order Lists.** You can put the same applicant on multiple Rank Order Lists.
To add applicants to a Rank Order List, there’s a Find & Add Applicants function. You can also add them by NRMP ID or AAMC ID.
Once you are done with your Rank Order Lists, and prior to the Rank Order List Certification Deadline (November 17, 2021), you must have certified your Rank Order Lists using the Orange “Certify List” button. **Program Coordinators can enter Rank Order Lists but they cannot certify them. Program Directors must certify them.** By entering your password you are certifying that these are the applicants you want NRMP to try and match to, and that you intend to train all applicants that are matched to your program.
1. Both of those can be done in the R3 system. There are also support guides and resources available within the system using the Orange “I” icon.
2. Contact NRMP for complicated programs.
3. Yes, the NRMP encourages programs to participate in the Match even if they have an internal applicant. As long as the program ranks the applicant first, and the applicant ranks the program first, it will be a guaranteed match. Programs are allowed to tell an applicant that they intend to rank them first but are not allowed to ask the applicant their ranking intentions. The Match is a trainee-centric approach that allows the applicant to look outside your program.
4. Programs who do not fill will be placed on the List of Unfilled Programs that’s available at 12:00 PM (ET) on Match Day when results are released to applicants who did not match. Additionally, unfilled programs have access to the List of Unmatched Applicants so they can reach out directly to them if interested. At this point, the NRMP is out of the Match process for the appointment year. There is no Supplemental Offer and Acceptance Program (SOAP) process for the fellowship matches. After the Match results have been released, it is up to the programs how they choose to fill any unfilled positions.
5. For applicants who do not intend to honor their Match commitment, the NRMP has a Waiver process. Applicants and programs are not authorized to release each other from their binding commitment. Waivers can be requested for:
   - Unanticipated Serious and Extreme Hardship
   - Change of Specialty or Subspecialty (must be received by December 15, 2021)
   - Ineligibility (e.g., delayed graduation, credentialing or visa issues)
   - Deferral

Applicants, Program Directors, or Institutional Officials may contact the NRMP to request a Waiver. Waivers in the case of an applicant backing out of their Match commitment are granted as quickly as possible so the program can proceed with filling the position. Programs cannot discuss or offer the position to another applicant absent a Waiver from the NRMP. The
determination to grant or deny a waiver request lies in the sole discretion of the NRMP.
As part of the MSMP, the Institution Registration fee of $250.00 is per Match. If your institution already participates in the MSMP they already pay the $250.00 per Match. From there, Program Registration (per track) is $60.00 and there is an additional $60.00 fee per Matched applicant. There is no cost to the sponsoring organization. Those fees are billed to your Institutional Official, not the Program Director, at the conclusion of the Match.
## Match Policy

- **Binding Commitment**: The Match creates a binding commitment between the program and the applicant. The ranking of applicants by a program and the ranking of programs by an applicant establishes a binding commitment to offer or to accept a position if a match results. All Match participants must electronically sign the [Match Participation Agreement](#) as part of the registration process. The Agreement is designed to ensure a fair and equitable matching process by establishing rules all participants must follow.

- **Complete, Timely, and Accurate Information**: Must be provided by Program Directors to your applicants in writing, prior to the **Rank Order List Certification Deadline (November 17, 2021)**. This includes a copy of the contract an applicant would be expected to sign, and all institutional policies regarding eligibility for appointment to a position. *(Section 4.6)* The NRMP will not grant you a Waiver if an applicant has not met your requirements if you didn’t do your due diligence in making sure your applicant meets your requirements. Applicants also have the same requirement to provide complete, timely and accurate information on their applications and any other materials they provide to programs.

- **Restrictions on Persuasion**: Program staff are prohibited from asking applicants to reveal their ranking preferences or the names, specialties, geographic locations, or other identifying information about programs to which they have or may apply. *(Section 6.2)* Keep in mind you are not ranking your applicants on whether or not they will rank you, you are ranking them on how well they will fit with your program. The NRMP encourages you to limit questions about other programs to protect and respect an applicant’s right to privacy. You can ask applicants about information provided in their application, including why the applicant prefers your program or specialty, or your particular tracks. Where else an applicant is applying is not considered a primary determinant of the applicant’s fit in a program.

- **Match Waivers**: All Waiver requests are reviewed on an individual basis. In addition to
hardship requests, programs can also submit Waiver requests for program closure, loss of accreditation, applicant ineligibility, etc. Policy resources are available on the NRMP website, including waiver and violation case studies, FAQs, and policy highlight videos, to name a few.

• The **All in Policy**: The All in Policy is voluntary for fellowship specialties. If a Match sponsor voluntarily implements the All In Policy, a program in the subspecialty that participates in the Match must register and attempt to fill all their positions in the Match. Therefore, if a program puts one of their positions in the Match, they must put all of their positions in the Match. A program would not, for example, be able to put one position into the Match and fill another outside the Match. **Not sure if Critical Care has made a decision about this.**

Policy resources are available on the NRMP website, including Waiver and violation case studies, FAQs, and policy highlights videos.
The Match also Produces Data and Reports to Inform Workforce Planning

A Results and Data for the Specialties Matching Service book is created for each appointment year. This includes the number of applicants, number of positions offered, number of programs, number of Matches, percentages filled, etc. Once the specialty has gone through a few matching cycles, this trend data can be useful to understand recruitment and workforce trends.
The NRMP offers video resources and support guides for everything in their system, as well as support from their staff.
Q: Can candidates choose two different tracks in the same program, for example someone who is qualified for a 1-year track but would be OK with a 2-year track also rank both tracks?  
A: Yes, applicants can rank all of your tracks. However, they’re only going to have one match, so it depends on the order in which they rank them. It’s important to remember every track you create has its own Rank Order List. In the end, the NRMP, and the algorithm itself, doesn’t care what your program’s training actually looks like. For the purpose of the Match, they’re Program Codes and are treated just like any other program codes.

Q: Thinking of a research track example, if we decide that no one we interviewed would meet the needs of a track, can we assign “0” positions to that track? This would obviously occur late in the game.  
A: No, you cannot have a quota of zero, but you can request to withdraw the track. That’s why the Quota Change Deadline (November 3, 2021) is two weeks prior to the Rank Order List Certification Deadline (November 17, 2021). What you would do is request to withdraw that track, then increase your quota in the other track because you’re still going to want to fill that position in your regular track.

Q: Can a program decide on joining the Match year-by-year?  
A: Yes.

Q: If we assign a 1-year track and the candidate decides to go elsewhere, what happens to that position?  
A: It depends whether or not you have Reversions, or whether you leave that position unreverted and it just doesn’t fill. The idea behind Reversions is that if you are setting up multiple training tracks and you have a certain number of positions, but you’re afraid one of your tracks won’t fill, you have the ability to revert or “donate” the positions in one program track to another program track during the matching process.
Q: When you do a Reversion, can this be two-sided (for example, if one track does not fill, will it revert to the other)?
A: No, they cannot revert to each other because that would put the algorithm into a loop because it’s going through the entire Rank Order List. Remember the algorithm is going through every possible combination to make the best Match possible. When looking at Reversions, you generally want to revert the program (Donor) you think is least likely to fill, and the track where you have a more robust applicant pool becomes the “Receiver.”

Q: If you have a candidate that’s applying for both pulmonary/critical care medicine and critical care medicine, can you block the same candidate from applying to both tracks?
A: No. Remember, you control your Rank Order List and a Match can only occur if both the applicant and the program rank each other on a particular program track. Therefore, if you prefer a candidate for one track over another, you would rank them accordingly under each track, or in only one of the tracks. The only way the applicant would be able to match is if you ranked them in one (or both) of your tracks, regardless of whether or not they ranked both of your tracks.

Q: If I have several potential Reversions, can I only donate one of them if I want?
A: Yes.

Q: If we get positions filled through Reversions does that mean we will get the least preferred candidates? We just want to fill our three positions with the best candidates, it doesn’t really matter if it’s 1- or 2-year candidates.
A: No. For example, you could have already matched to your top two candidates on your Rank Order List and then thereverted position gets added and the algorithm is going to keep trying to fill the now reverted position(s) using the rest of the Receiver program’s Rank Order List from the next available applicant. That doesn’t mean it’s your least-preferred candidates, it just means it couldn’t fill from your other track’s Rank Order List.

Q: Some programs have “integrated fellowship training” in renal critical care, cardiology critical care, and palliative critical care. This sounds like it’s simultaneous training, rather than separate. How does that work within the Match?
A: It depends on whether the training is simultaneous or separate. Generally, the position should be placed in the Match under the program/specialty where the complement is in the ACGME for the appointment year. If they are positions under the ACGME program code for CCM, then they should fall under CCM for the Match. If the training is simultaneous, then you may consider applicants matching to the specialty that comes first in the training. If it’s simultaneous training, the NRMP considers it one applicant and one training track, even though it might integrate other specialties. How you train them once they are matched to your program does not matter to NRMP.
Contact the NRMP so their staff can help you set up any complicated program tracks. To help applicants rank appropriately and correctly, not only should you provide information about which tracks are which, and how you might be breaking apart your training, you should also provide them the unique Program Code for each track.